BP OIL

BP Oil Company
Environmental Resources Management
Building 13, Suite N
295 SW 41st Street
Renton, Washington 98055-4931
(206) 251-0667

February 28, 1995

Mr. Ed So
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland CA 94612

RE: **BP OIL FACILITY #11126**
1700 Powell Street
Emeryville, California

Dear Mr. So:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED March 22, 1995** for the above referenced facility.

Please note that we have selected a contractor to perform a groundwater pumping test and soil vapor extraction test. You will receive a workplan in the near future.

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

Respectfully,

Scott T. Hooton
Environmental Resources Management
Group Leader

STH:mu msword\ERM11126

cc: Ms. Susan Hugo, Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Room 250, Oakland, CA 94502-6577

Mr. Brady Nagle, Alisto Engineering Group, 1777 Oakland Blvd., Suite 200, Walnut Creek, CA 94596

Mr. Larry Silva, TOSCO Northwest, 601 Union Street, Suite 2500, Seattle WA 98101

Site File

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11126
1700 Powell Street
Emeryville, California

Project No. 10-061-04-001

Prepared for:

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

Prepared by:

Alisto Engineering Group
1777 Oakland Boulevard, Suite 200
Walnut Creek, California

March 22, 1995

Brady Nagle
Project Manager

Dan Salaices
Registered Geologist

REGISTERED GEOLOGIST
DANIEL J.
SALAICES
No. 5162
STATE OF CALIFORNIA

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11126
1700 Powell Street
Emeryville, California

Project No. 10-061-04-001

March 22, 1995

INTRODUCTION

This report presents the results and findings of the January 13, 1995 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11126, 1700 Powell Street, Emeryville, California. A site vicinity map is shown in 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 in Figure 2. The results of groundwater analysis are shown in 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. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	TOG (ug/L)	HVOC (ug/L)	DO (ppm)	LAB
MW-1	11/04/92	7.76	4.96	---	2.80	5300	---	1100	480	ND<0.5	1500	---	---	---	PACE
MW-1	10/12/93	7.76	5.26	---	2.50	3600	---	970	71	100	550	---	---	---	PACE
MW-1	02/15/94	7.76	4.98	---	2.78	17000	---	4200	510	360	1600	---	---	3.9	PACE
MW-1	05/11/94	7.76	4.55	---	3.21	5500	---	2900	37	56	64	---	---	8.0	PACE
MW-1	08/01/94	7.76	5.51	---	2.25	15000	---	3600	740	510	2800	---	---	2.9	PACE
QC-1 (c)	08/01/94	8.56	---	---	---	16000	---	3600	750	510	2800	---	---	---	PACE
MW-1	10/18/94	7.76	5.11	---	2.65	16000	---	1800	61	160	890	---	---	2.9	PACE
QC-1 (c)	10/18/94	---	---	---	---	16000	---	1900	64	170	950	---	---	---	PACE
MW-1	01/13/95	7.76	3.05	---	4.71	220	---	7	ND<0.5	1	23	---	---	6.6	ATI
QC-1 (c)	01/13/95	---	---	---	---	590	---	88	0.7	ND<0.5	55	---	---	---	ATI
MW-2	11/04/92	8.56	5.88	---	2.68	12000	---	3900	1300	ND<0.5	2300	---	---	---	PACE
QC-1 (c)	11/04/92	8.56	5.88	---	2.68	12000	---	3200	980	ND<0.5	1900	---	---	---	PACE
MW-2	10/12/93	8.56	6.29	---	2.27	4500	---	3400	180	230	940	---	---	---	PACE
MW-2	02/15/94	8.56	5.56	---	3.00	2000	---	430	270	28	390	---	---	4.0	PACE
QC-1 (c)	02/15/94	8.56	5.56	---	3.00	1800	---	290	160	14	250	---	---	---	PACE
MW-2	05/11/94	8.56	5.17	---	3.39	14000	---	3900	1200	440	1900	---	---	8.9	PACE
QC-1 (c)	05/11/94	8.56	---	---	---	15000	---	5600	1500	470	2000	---	---	---	PACE
MW-2	08/01/94	8.56	5.43	---	3.13	8200	---	3000	420	230	680	---	---	2.6	PACE
MW-2	10/18/94	8.56	5.71	---	2.85	9000	---	2000	140	150	420	---	---	7.2	PACE
MW-2	01/13/95	8.56	4.67	---	3.89	7900	---	2200	42	ND<5	770	---	---	6.8	ATI
MW-3	11/04/92	8.25	6.38	---	1.87	200	690	1.6	ND<0.5	ND<0.5	1.1	ND<5000	ND (d)	---	PACE
MW-3	10/12/93	8.25	5.84	---	2.41	270	2100	5.0	0.7	ND<0.5	2.6	ND<5000	ND (d)	---	PACE
QC-1 (c)	10/12/93	8.25	5.84	---	2.41	150	---	5.6	0.6	ND<0.5	1.6	---	---	---	PACE
MW-3	02/15/94	8.25	6.60	---	1.65	140	2.3	5.7	ND<0.5	ND<0.5	ND<0.5	90	ND (d)	3.9	PACE
MW-3	05/11/94	8.25	5.86	---	2.39	190	2500	2.7	1.9	ND<0.5	1.9	ND<5000	ND (d)	9.2	PACE
MW-3	08/01/94	8.25	6.13	---	2.12	120	1300	1.3	ND<0.5	0.5	1.1	ND<5000	ND (d)	2.9	PACE
MW-3	10/18/94	8.25	6.39	---	1.86	100	2200	2.3	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND (d)	3.6	PACE
MW-3	01/13/95	8.25	5.47	---	2.78	ND<50	970	0.8	ND<0.5	ND<0.5	ND<1	---	ND (d)	7.7	ATI
MW-4	11/04/92	8.12	6.66	---	1.46	340	---	4.5	ND<0.5	4.3	ND<0.5	---	---	---	PACE
MW-4	10/12/93	8.12	6.87	---	1.25	160	---	5.8	1.4	0.8	2.7	---	---	---	PACE
MW-4	02/15/94	8.12	6.61	---	1.51	110	---	4.4	0.7	ND<0.5	2.5	---	---	4.3	PACE
MW-4	05/11/94	8.12	5.89	---	2.23	120	---	0.5	0.8	ND<0.5	ND<0.5	---	---	9.3	PACE
MW-4	08/01/94	8.12	6.87	---	1.25	140	---	0.7	2.0	5.2	15	---	---	3.3	PACE
MW-4	10/18/94	8.12	6.62	---	1.50	140	---	3.5	ND<0.5	0.5	ND<0.5	---	---	3.0	PACE
MW-4	01/13/95	8.12	7.27	---	0.85	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	7.9	ATI
MW-5	10/12/93	7.69	6.01	---	1.68	---	---	---	---	---	---	---	---	---	---
MW-5	10/13/93	---	---	---	---	2300	---	160	10	ND<0.5	26	---	---	---	PACE
MW-5	02/15/94	7.69	5.74	---	1.95	5100	---	710	16	33	35	---	---	4.0	PACE
MW-5	05/11/94	7.69	5.28	---	2.41	11000	---	1100	39	110	57	---	---	8.0	PACE
MW-5	08/01/94	7.69	5.84	---	1.85	9000	---	730	35	61	41	---	---	2.6	PACE
MW-5	10/18/94	7.69	6.01	---	1.68	7800	---	330	30	27	27	---	---	5.6	PACE
MW-5	01/13/95	7.69	4.74	---	2.95	ND<500	---	290	6	ND<5	18	---	---	6.8	ATI

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/L)	TPH-D (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	TOG (ug/L)	HVOC (ug/L)	DO (ppm)	LAB
MW-6	10/12/93	8.52	6.59	---	1.93	63	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-6	02/15/94	8.52	6.31	---	2.21	68	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	3.1	PACE
MW-6	05/11/94	8.52	6.15	---	2.37	68	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	8.7	PACE
MW-6	08/01/94	8.52	6.46	---	2.06	91	---	ND<0.5	ND<0.5	ND<0.5	0.6	---	---	2.4	PACE
MW-6	10/18/94	8.52	6.72	---	1.80	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	6.0	PACE
MW-6	01/13/95	8.52	5.95	---	2.57	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	7.0	ATI
MW-7	10/12/93	7.61	6.14	---	1.47	ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.7	---	---	---	PACE
MW-7	02/15/94	7.61	5.88	---	1.73	78	---	ND<0.5	ND<0.5	ND<0.5	0.6	---	---	4.0	PACE
MW-7	05/11/94	7.61	5.76	---	1.85	70	---	ND<0.5	ND<0.5	ND<0.5	0.9	---	---	9.1	PACE
MW-7	08/01/94	7.61	5.97	---	1.64	77	---	ND<0.5	ND<0.5	ND<0.5	0.5	---	---	2.5	PACE
MW-7	10/18/94	7.61	6.24	---	1.37	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	6.3	PACE
MW-7	01/13/95	7.61	5.39	---	2.22	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	8.2	ATI
MW-8	10/12/93	8.60	5.86	---	2.74	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-8	02/15/94	8.60	5.50	---	3.10	380	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	3.3	PACE
MW-8	05/11/94	8.60	5.09	---	3.51	330	---	ND<0.5	1.2	ND<0.5	1.9	---	---	8.5	PACE
MW-8	08/01/94	8.60	5.20	---	3.40	260	---	ND<0.5	1.2	2.9	5.8	---	---	2.3	PACE
MW-8	10/18/94	8.60	5.70	---	2.90	82	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	6.4	PACE
MW-8	01/13/95	8.60	4.96	---	3.64	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	6.9	ATI
MW-9 (e)	10/12/93	8.08	5.66	0.08	2.48	---	---	---	---	---	---	---	---	---	---
MW-9 (e)	02/15/94	8.08	5.32	0.05	2.80	---	---	---	---	---	---	---	---	---	---
MW-9 (e)	05/11/94	8.08	5.57	---	2.51	---	---	---	---	---	---	---	---	---	---
MW-9 (e)	08/01/94	8.08	6.25	---	1.83	---	---	---	---	---	---	---	---	---	---
MW-9 (e)	10/18/94	8.08	5.59	0.13	2.59	---	---	---	---	---	---	---	---	---	---
MW-9 (e)	01/13/95	8.08	4.42	0.14	3.77	---	---	---	---	---	---	---	---	---	---
QC-2 (f)	11/05/92	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	10/12/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	02/15/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	05/11/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	08/01/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	10/18/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	01/13/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	ATI

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
HVOC	Halogenated volatile organic compounds
DO	Dissolved oxygen
ug/L	Micrograms per liter
ppb	Parts per billion
ppm	Parts per million
ND	Not detected above reported detection limit
---	Not analyzed/applicable/measurable
PACE	Pace, Inc.
ATI	Analytical Technologies, Inc.

NOTES:

(a) Top of casing elevations surveyed relative to an established benchmark with an elevation of 8.11 feet above mean sea level.

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

(c) Blind duplicate.

(d) Detection limits vary; see laboratory report.

(e) Well not sampled due to presence of free product. Groundwater elevation adjusted assuming a specific gravity of 0.75 for free product.

(f) Travel blank.

SOURCE:
USGS MAP, OAKLAND WEST QUADRANGLE, CALIFORNIA. 7.5 MINUTE SERIES. 1959. PHOTOREVISED 1980.

N

0 1000' 2000'

FIGURE 1

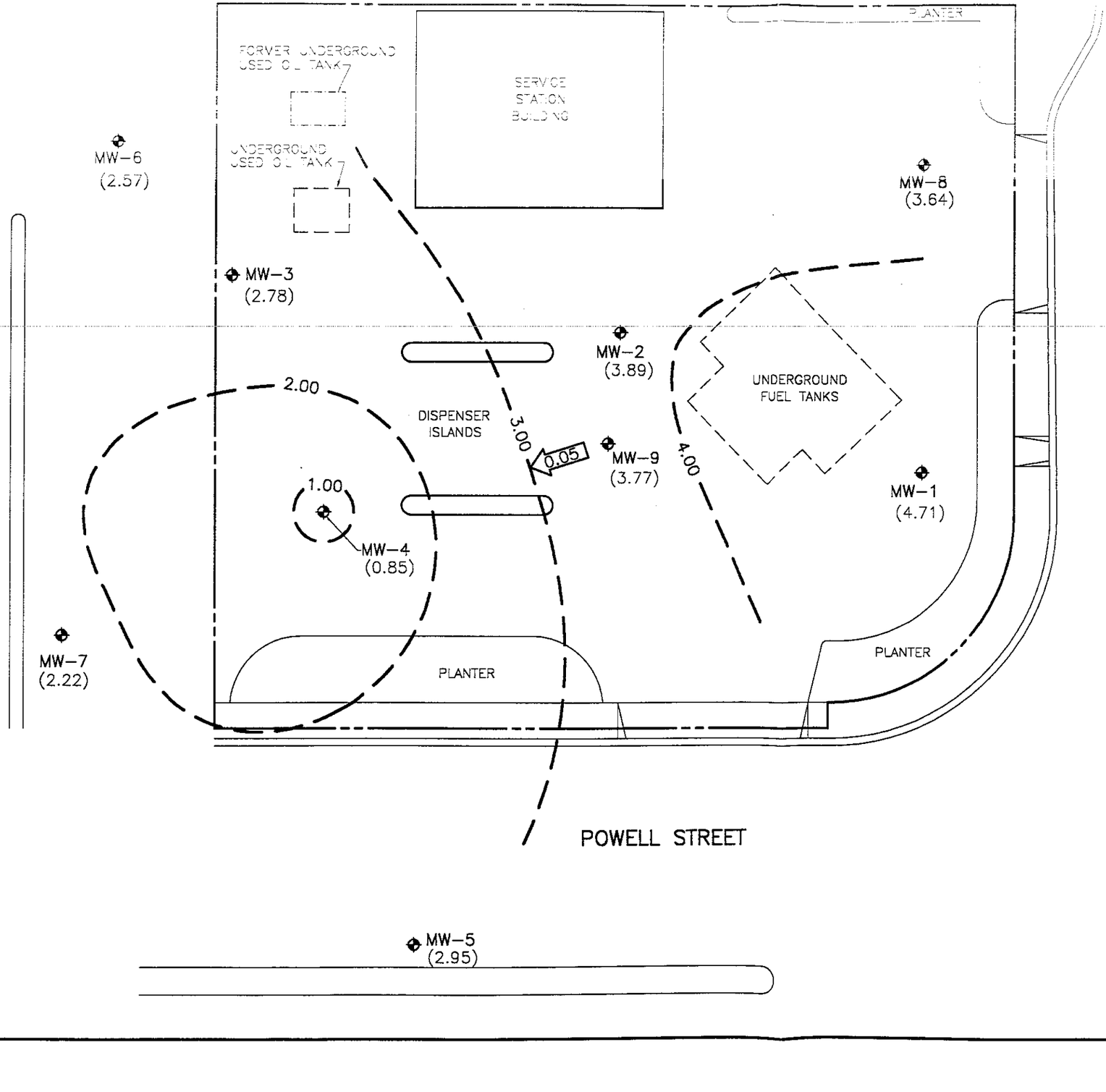
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA

PROJECT NO. 10-061

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10061B---.DWG 12-30-93 RKW 1=1



N

0 20 40

SCALE IN FEET

LEGEND

- ◆ GROUNDWATER MONITORING WELL
- (2.22) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 2.00 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL—1.00 FOOT)
- 0.05 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

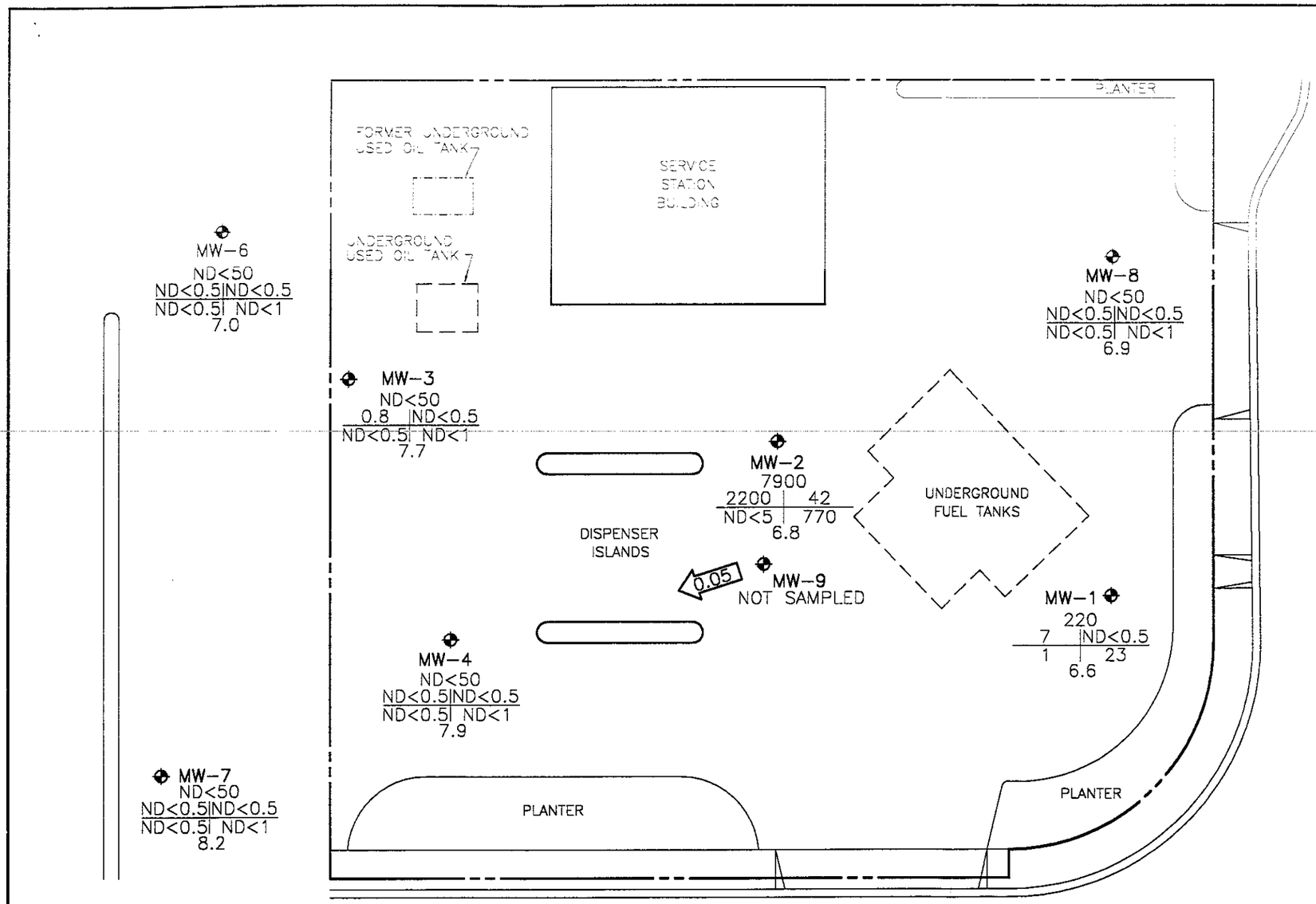
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

JANUARY 13, 1995

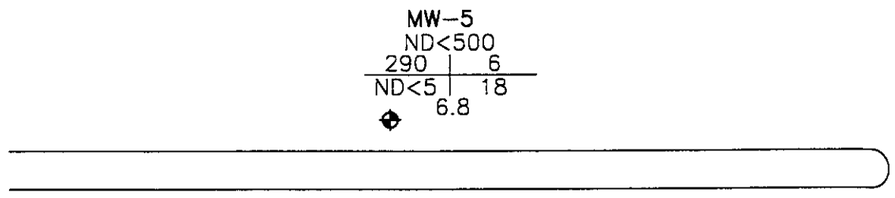
BP OIL SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA

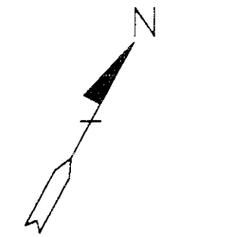
PROJECT NO. 10-061

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



POWELL STREET





LEGEND

⊕	GROUNDWATER MONITORING WELL
TPH-G / B | T / E | X / 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
DO	DISSOLVED OXYGEN
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
⟵ 0.05	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

JANUARY 13, 1995

BP OIL SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA

PROJECT NO. 10-061

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10061C-WDWG 3-13-95 RKW 1-20

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO ENGINEERING GROUP

1777 OAKLAND BLVD, STE 200
WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

Field Report / Sampling Data Sheet

04-001

⊗ Groundwater Sampling

Date: 1/13/94 Project No. 10-061-85-004
Day: M T W Th (F) Facility No. 1126
Barometric pres. 761 Temp. ____ Address Emeryville, CA
SAMPLER: DX

Well ID	SAMPLE #	WATER / time	Well ID	SAMPLE #	WATER / time	Well ID	SAMPLE	WATER / time
MW-5	S-1	4.74 / 1220	MW-8	S-6	4.96 / 1116			
MW-7	S-2	5.39 / 1103	MW-2	S-7	4.67 / 1120			
MW-6	S-3	5.95 / 1106	MW-1	S-8	3.05 / 1126			
MW-3	S-4	5.47 / 1109	*MW-9	not	4.42 / 1131			
MW-4	S-5	7.27 / 1112						

FIELD INSTRUMENT CALIBRATION DATA

Ph METER Hach 4.00 ✓ 7.00 ✓ 10.00 ____ TIME 1202 TEMPERATURE COMPENSATED (Y) N
TURBIDI METER ____ 5.0 NTU STANDARD ____ OTHER ____ Jim DO meter 0 soln 0.6 @ 1215
CONDUCTIVITY METER Hach 10,000 ✓ OTHER ____

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.	
MW-5	4.74	2"	OK	Φ	Y (N)	1.5	1225	63.2	7.56	0.50	8.0	O EPA 601 ____
Total Depth - Water Level =	x Well Vol. Factor =	x #vol. to Purge =	PurgeVol.			3	1228	63.3	7.92	0.49		⊗ TPH-G/BTEX Hach
13.70 - 4.74 = 8.96	x .16 = 1.44	x3 = 4.30				4.50	1230	63.3	7.97	0.47	10.8	O TPH Diesel ____
Purge Method: ⊗ Surface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port												O TOG 5520 ____
Comments:												Time/Sample 1233 / S-1

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.	
MW-7	5.39	2"	OK	Φ	Y (N)	1.5	1250	64.9	7.78	1.02	7.9	O EPA 601 ____
Total Depth - Water Level =	x Well Vol. Factor =	x #vol. to Purge =	PurgeVol.			3	1253	65.1	8.11	1.06		⊗ TPH-G/BTEX Hach
13.72 - 5.39 = 8.33	x .16 = 1.33	x3 = 3.99				4	1255	65.4	8.17	1.09	8.2	O TPH Diesel ____
Purge Method: ⊗ Surface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port												O TOG 5520 ____
Comments:												Time/ Sample 1360 / S-2

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.	
MW-6	5.95	2"	OK	Φ	Y (N)	1	1309	64.3	7.95	1.18	7.6	⊗ EPA 601 Hach DC
Total Depth - Water Level =	x Well Vol. Factor =	x #vol. to Purge =	PurgeVol.			2	1310	64.9	7.95	1.11		⊗ TPH G/BTEX Hach
13.25 - 5.95 = 7.30	x .16 = 1.17	x3 = 3.50				3.5	1312	65.3	7.95	1.11	7.0	⊗ TPH Diesel ____ DC
Purge Method: ⊗ Surface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port												⊗ TOG 5520 ____ DC
Comments:												Time /Sample 1315 / S-3

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1777 OAKLAND BLVD, STE 200
WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

⊗ Groundwater Sampling

Date: 1/13/94 Project No. 10-061-03.004
Day: Fr. Station No. 11126
Weather: Raining Address Emeryville, CA
SAMPLER: DJC

MW-3

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
MW-3	5.47	2"	OK	Ø	Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
12.08 - 5.47 = 6.61 x .16 = 1.06 x 3 = 3.17

Purge Method: ⊗Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1	1330	64.5	8.10	1.35	8.2
2	1332	64.1	8.11	1.42	
3.25	1333	63.9	8.14	1.42	7.7

⊗ EPA 601 Hcl
⊗ TPH-G/BTEX Hcl
⊗ TPH Diesel —
⊗ TOG 5520 —
Time Sampled: 1336 / S-4

MW-4

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
MW-4	7.27	2"	OK	Ø	Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
11.06 - 7.27 = 3.79 x .16 = 0.61 x 3 = 1.81

Purge Method: ⊗Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1	1353	64.6	1.42	8.49	8.3
1.5	1354	64.0	1.43	8.19	
2	1355	63.7	1.43	8.13	7.9

⊗ EPA 601 —
⊗ TPH-G/BTEX Hcl
O TPH Diesel —
O TOG 5520 —
Time Sampled: 1400 / S-5

MW-2

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
MW-2	4.96	2"	OK	Ø	Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
~~11.85~~ 13.65 - 4.96 = 8.69 x .16 = 1.39 x 3 = 4.17

Purge Method: ⊗Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1.5	1415	64.6	8.10	0.87	7.1
3	1417	64.2	8.41	0.80	
4.25	1418	63.9	8.52	0.79	6.9

⊗ EPA 601 —
⊗ TPH-G/BTEX Hcl
O TPH Diesel —
O TOG 5520 —
Time Sampled: 1422 / S-6

MW-1

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
MW-1	4.67	2"	OK	Ø	Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
11.83 - 4.67 = 7.16 x .16 = 1.15 x 3 = 3.44

Purge Method: ⊗Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1	1432	64.2	8.02	0.81	7.0
2	1434	65.0	7.93	0.81	
3.5	1436	65.1	7.87	0.81	6.8

⊗ EPA 601 —
⊗ TPH-G/BTEX Hcl
O TPH Diesel —
O TOG 5520 —
Time Sampled: 1440 / S-7

MW-5

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
MW-5	3.05	2"			

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
11.62 - 3.05 = 8.57 x .16 = 1.37 x 3 = 4.11

Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments: QC-1 from this well (S-9)

Gal.	Time	Temp °F	pH	E.C.	D.O.
1.5	1450	63.9	8.16	0.85	7.2
3	1453	64.6	7.92	0.82	
4.25	1455	64.9	7.80	0.81	6.6

⊗ EPA 601 —
⊗ TPH-G/BTEX Hcl
O TPH Diesel —
O TOG 5520 —
Time Sampled: 1502 / S-8

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1777 OAKLAND BLVD, STE 200
WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

○ Groundwater Sampling

Date: 1/13/94 Project No. 10-061-03-004
Day: Fr. Station No. 11126
Weather: Raining Address Emeryville, CA
SAMPLER: DC

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp °F	pH	E.C.	D.O.	
MW-9	4.42	4"	replace	4.28	.14							○ EPA 601 ___
Total Depth - Water Level =	x Well Vol. Factor =	x#vol. to Purge =	PurgeVol.									○ TPH-G/BTEX ___
												○ TPH Diesel ___
												○ TOG 5520 ___
												Time Sampled
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSye Port												
Comments: not sampled due to Free product												

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp °F	pH	E.C.	D.O.	
												○ EPA 601 ___
Total Depth - Water Level =	x Well Vol. Factor =	x#vol. to Purge =	PurgeVol.									○ TPH-G/BTEX ___
												○ TPH Diesel ___
												○ TOG 5520 ___
												Time Sampled
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSye Port												
Comments:												

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp °F	pH	E.C.	D.O.	
												○ EPA 601 ___
Total Depth - Water Level =	x Well Vol. Factor =	x#vol. to Purge =	PurgeVol.									○ TPH-G/BTEX ___
												○ TPH Diesel ___
												○ TOG 5520 ___
												Time Sampled
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSye Port												
Comments:												

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

Analytical**Technologies,**Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

SIGNATURE PAGE

Reviewed by: Melissa L Pope
ATI Project Manager

Client: BP OIL COMPANY
RENTON, WASHINGTON

Project Name: BP SITE #11126
Project Number: 10-061-03-004
Project Location: 1700 POWELL ST., EMERYVILLE, CA
Accession Number: 501436

Project Manager: BILL HOWELL (ALISTO, CA), SCOTT HOOTON (BP OIL)
Sampled By: DAVID CUSACK

THIS IS A REVISED REPORT: February 28, 1995

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Analysis Report

Analysis: BETX AND TPH C6-C10 RANGE

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Department:	GC/VOA

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Test:	BETX AND TPH C6-C10 RANGE
Analysis Method:	5030/8020/8015/SW 846, 3rd Edition, Sep. 1986 and Rev. 1, July 1992
Extraction Method:	N/A
Matrix:	WATER
QC Level:	N

Lab Id:	001	Sample Date/Time:	13-JAN-95 1233
Client Sample Id:	S-1 1233	Received Date:	18-JAN-95
Batch: ETW022		Extraction Date:	N/A
Blank: B	Dry Weight %: N/A	Analysis Date:	27-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	290	5	
TOLUENE	UG/L	6	5	
ETHYLBENZENE	UG/L	ND	5	
XYLENES (TOTAL)	UG/L	18	10	
TOTAL PETROLEUM HYDROCARBON	MG/L	ND	0.5	
TRIFLUOROTOLUENE (PID)	%REC/SURR	93	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	109	63-135	
ANALYST	INITIALS	KKS		

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Test:	BETX AND TPH C6-C10 RANGE
Analysis Method:	5030/8020/8015/SW 846, 3rd Edition, Sep. 1986 and Rev. 1, July 1992
Extraction Method:	N/A
Matrix:	WATER
QC Level:	N

Lab Id: 002 Sample Date/Time: 13-JAN-95 1300
Client Sample Id: S-2 1300 Received Date: 18-JAN-95

Batch: ETW023 Extraction Date: N/A
Blank: A Dry Weight %: N/A Analysis Date: 28-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	0.5	
TOLUENE	UG/L	ND	0.5	
ETHYLBENZENE	UG/L	ND	0.5	
XYLENES (TOTAL)	UG/L	ND	1	
TOTAL PETROLEUM HYDROCARBON	MG/L	ND	0.050	
TRIFLUOROTOLUENE (PID)	%REC/SURR	75	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	77	63-135	
ANALYST	INITIALS	KKS		

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 501436
Client: BP OIL COMPANY
Project Number: 10-061-03-004
Project Name: BP SITE #11126
Project Location: 1700 POWELL ST., EMERYVILLE, CA
Test: BETX AND TPH C6-C10 RANGE
Analysis Method: 5030/8020/8015/SW 846, 3rd Edition, Sep. 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 003
Client Sample Id: S-3 1315
Sample Date/Time: 13-JAN-95 1315
Received Date: 18-JAN-95

Batch: ETW022
Blank: A
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	0.5	
TOLUENE	UG/L	ND	0.5	
ETHYLBENZENE	UG/L	ND	0.5	
XYLENES (TOTAL)	UG/L	ND	1	
TOTAL PETROLEUM HYDROCARBON	MG/L	ND	0.050	
TRIFLUOROTOLUENE (PID)	%REC/SURR	98	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	103	63-135	
ANALYST	INITIALS	SB		

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Test:	BETX AND TPH C6-C10 RANGE
Analysis Method:	5030/8020/8015/SW 846, 3rd Edition, Sep. 1986 and Rev. 1, July 1992
Extraction Method:	N/A
Matrix:	WATER
QC Level:	N

Lab Id:	004	Sample Date/Time:	13-JAN-95 1336
Client Sample Id:	S-4 1336	Received Date:	18-JAN-95
Batch: ETW022		Extraction Date:	N/A
Blank: A	Dry Weight %: N/A	Analysis Date:	27-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	0.8	0.5	
TOLUENE	UG/L	ND	0.5	
ETHYLBENZENE	UG/L	ND	0.5	
XYLENES (TOTAL)	UG/L	ND	1	
TOTAL PETROLEUM HYDROCARBON	MG/L	ND	0.050	
TRIFLUOROTOLUENE (PID)	%REC/SURR	90	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	97	63-135	
ANALYST	INITIALS	SB		

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Test:	BETX AND TPH C6-C10 RANGE
Analysis Method:	5030/8020/8015/SW 846, 3rd Edition, Sep. 1986 and Rev. 1, July 1992
Extraction Method:	N/A
Matrix:	WATER
QC Level:	N

Lab Id: 005 Sample Date/Time: 13-JAN-95 1400
Client Sample Id: S-5 1400 Received Date: 18-JAN-95

Batch: ETW022 Extraction Date: N/A
Blank: B Dry Weight %: N/A Analysis Date: 27-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	0.5	
TOLUENE	UG/L	ND	0.5	
ETHYLBENZENE	UG/L	ND	0.5	
XYLENES (TOTAL)	UG/L	ND	1	
TOTAL PETROLEUM HYDROCARBON	MG/L	ND	0.050	
TRIFLUOROTOLUENE (PID)	%REC/SURR	105	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	114	63-135	
ANALYST	INITIALS	KKS		

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Test:	BETX AND TPH C6-C10 RANGE
Analysis Method:	5030/8020/8015/SW 846, 3rd Edition, Sep. 1986 and Rev. 1, July 1992
Extraction Method:	N/A
Matrix:	WATER
QC Level:	N

Lab Id:	006	Sample Date/Time:	13-JAN-95 1422
Client Sample Id:	S-6 1422	Received Date:	18-JAN-95
Batch: ETW022		Extraction Date:	N/A
Blank: A	Dry Weight %: N/A	Analysis Date:	27-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	0.5	
TOLUENE	UG/L	ND	0.5	
ETHYLBENZENE	UG/L	ND	0.5	
XYLENES (TOTAL)	UG/L	ND	1	
TOTAL PETROLEUM HYDROCARBON	MG/L	ND	0.050	
TRIFLUOROTOLUENE (PID)	%REC/SURR	92	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	92	63-135	
ANALYST	INITIALS	SB		

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 501436
Client: BP OIL COMPANY
Project Number: 10-061-03-004
Project Name: BP SITE #11126
Project Location: 1700 POWELL ST., EMERYVILLE, CA
Test: BETX AND TPH C6-C10 RANGE
Analysis Method: 5030/8020/8015/SW 846, 3rd Edition, Sep. 1986 and Rev. 1, July 1992
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 007
Client Sample Id: S-7 1440
Sample Date/Time: 13-JAN-95 1440
Received Date: 18-JAN-95

Batch: ETW023
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 27-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	2200	5	
TOLUENE	UG/L	42	5	
ETHYLBENZENE	UG/L	ND	5	
XYLENES (TOTAL)	UG/L	770	10	
TOTAL PETROLEUM HYDROCARBON	MG/L	7.9	0.5	
TRIFLUOROTOLUENE (PID)	%REC/SURR	87	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	96	63-135	
ANALYST	INITIALS	KKS		

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Test:	BETX AND TPH C6-C10 RANGE
Analysis Method:	5030/8020/8015/SW 846, 3rd Edition, Sep. 1986 and Rev. 1, July 1992
Extraction Method:	N/A
Matrix:	WATER
QC Level:	N

Lab Id:	008	Sample Date/Time:	13-JAN-95 1502
Client Sample Id:	S-8 1502	Received Date:	18-JAN-95
Batch: ETW022		Extraction Date:	N/A
Blank: B	Dry Weight %: N/A	Analysis Date:	27-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	7	0.5	
TOLUENE	UG/L	ND	0.5	
ETHYLBENZENE	UG/L	1	0.5	
XYLENES (TOTAL)	UG/L	23	1	
TOTAL PETROLEUM HYDROCARBON	MG/L	0.22	0.050	
TRIFLUOROTOLUENE (PID)	%REC/SURR	66	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	63	63-135	
ANALYST	INITIALS	KKS		

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Test:	BETX AND TPH C6-C10 RANGE
Analysis Method:	5030/8020/8015/SW 846, 3rd Edition, Sep. 1986 and Rev. 1, July 1992
Extraction Method:	N/A
Matrix:	WATER
QC Level:	N

Lab Id:	009		Sample Date/Time:	13-JAN-95 N/S
Client Sample Id:	S-9		Received Date:	18-JAN-95
Batch: CAW020			Extraction Date:	N/A
Blank: A	Dry Weight %:	N/A	Analysis Date:	26-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	88	0.5	
TOLUENE	UG/L	0.7	0.5	
ETHYLBENZENE	UG/L	ND	0.5	
XYLENES (TOTAL)	UG/L	55	1	
TOTAL PETROLEUM HYDROCARBON	MG/L	0.59	0.050	
TRIFLUOROTOLUENE (PID)	%REC/SURR	84	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	89	63-135	
ANALYST	INITIALS	SB		

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Test:	BETX AND TPH C6-C10 RANGE
Analysis Method:	5030/8020/8015/SW 846, 3rd Edition, Sep. 1986 and Rev. 1, July 1992
Extraction Method:	N/A
Matrix:	WATER
QC Level:	N

Lab Id:	010	Sample Date/Time:	13-JAN-95 N/S
Client Sample Id:	S-10	Received Date:	18-JAN-95
Batch: CAW020		Extraction Date:	N/A
Blank: A	Dry Weight %: N/A	Analysis Date:	26-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	0.5	
TOLUENE	UG/L	ND	0.5	
ETHYLBENZENE	UG/L	ND	0.5	
XYLENES (TOTAL)	UG/L	ND	1	
TOTAL PETROLEUM HYDROCARBON	MG/L	ND	0.050	
TRIFLUOROTOLUENE (PID)	%REC/SURR	99	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	99	63-135	
ANALYST	INITIALS	SB		

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"Method Report Summary"

Accession Number: 501436
Client: BP OIL COMPANY
Project Number: 10-061-03-004
Project Name: BP SITE #11126
Project Location: 1700 POWELL ST., EMERYVILLE, CA
Test: BETX AND TPH C6-C10 RANGE

Client Sample Id:	Parameter:	Unit:	Result:
S-1 1233	BENZENE	UG/L	290
	TOLUENE	UG/L	6
	XYLENES (TOTAL)	UG/L	18
S-4 1336	BENZENE	UG/L	0.8
S-7 1440	BENZENE	UG/L	2200
	TOLUENE	UG/L	42
	XYLENES (TOTAL)	UG/L	770
	TOTAL PETROLEUM HYDROCARBON	MG/L	7.9
S-8 1502	BENZENE	UG/L	7
	ETHYLBENZENE	UG/L	1
	XYLENES (TOTAL)	UG/L	23
	TOTAL PETROLEUM HYDROCARBON	MG/L	0.22
S-9	BENZENE	UG/L	88
	TOLUENE	UG/L	0.7
	XYLENES (TOTAL)	UG/L	55
	TOTAL PETROLEUM HYDROCARBON	MG/L	0.59

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS
SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.
ORGANIC SOILS ARE REPORTED ON A DRY WEIGHT BASIS.
** COMPOUNDS FLAGGED IN METHOD ARE NOT WITHIN THE FIVE POINT CURVE. THEY ARE SEARCHED FOR QUALITATIVELY.
ND = NOT DETECTED ABOVE REPORTING LIMIT.

SR-SHELLEY REAMSMA
DC-DAVID CELESTIAL
LKD-LEIGH DUVALL
MM-MIKE MCKENZIE
KWS-KENDALL SMITH
KKS-KIMBERLY SMITH
GF-GREG FOOTE
NC-NICOLE CALL
JA-JENNIFER ALEXANDER
PM-PENNY MALOUIN
MCW-MARIE CLAUDIA WALTON
SB-SHARON BRADDOCK
PL-PAUL LESCHENSKY
KF-KAROLE FERGUSON
SC-SCOTT CLARK
AM-AMANDA MCCRAY

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Analysis Report

Analysis: DRO\PETRO. HYDROCARBON RANGE C10-C28

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Department:	SEMI-VOLATILE FUELS

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Test:	DRO\PETRO. HYDROCARBON RANGE C10-C28
Analysis Method:	DRO / 8015 - SW 846, EPA UST Work Group Nov. 1990, Mod. 8015
Extraction Method:	3510/SW-846, 3rd Edition, September 1986 and Revision 1, July 1992
Matrix:	WATER
QC Level:	N

Lab Id:	004		Sample Date/Time:	13-JAN-95 1336
Client Sample Id:	S-4 1336		Received Date:	18-JAN-95
Batch: FPW011			Extraction Date:	20-JAN-95
Blank: A	Dry Weight %:	N/A	Analysis Date:	24-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	970	50	
ORTHO TER PHENYL	%REC/SURR	113	37-140	
ANALYST	INITIALS	SJF		

Comments:

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"Method Report Summary"

Accession Number: 501436
Client: BP OIL COMPANY
Project Number: 10-061-03-004
Project Name: BP SITE #11126
Project Location: 1700 POWELL ST., EMERYVILLE, CA
Test: DRO\PETRO. HYDROCARBON RANGE C10-C28

Client Sample Id:	Parameter:	Unit:	Result:
S-4 1336	TOTAL PETROLEUM HYDROCARBON	UG/L	970

Common notation for Organic reporting

N/S = NOT SUBMITTED
N/A = NOT APPLICABLE
D = DILUTED OUT
UG = MICROGRAMS
UG/L = PARTS PER BILLION.
UG/KG = PARTS PER BILLION.
MG/M3 = MILLIGRAM PER CUBIC METER.
PPMV = PART PER MILLION BY VOLUME.
MG/KG = PARTS PER MILLION.
MG/L = PARTS PER MILLION.
< = LESS THAN DETECTION LIMIT.
* = VALUES OUTSIDE OF QUALITY CONTROL LIMITS

SOURCES FOR CONTROL LIMITS ARE INTERNAL LABORATORY QUALITY ASSURANCE PROGRAM AND REFERENCED METHOD.

ORGANIC SOILS ARE REPORTED ON A DRYWEIGHT BASIS.

ND = NOT DETECTED ABOVE REPORTING LIMIT.

RPT LIMIT = REPORTING LIMITS BASED ON METHOD DETECTION LIMIT STUDIES.

RPD = RELATIVE PERCENT DIFFERENCE (OR DEVIATION)

ATI/GC/FID
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME IONIZATION DETECTOR (FID).

ATI/GC/FIX
ATI GAS CHROMATOGRAPHIC METHOD FOR ANALYSIS OF FIXED GASES EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD) AND FLAME IONIZATION DETECTOR (FID).

ATI/GC/FPD
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH FLAME PHOTOMETRIC DETECTOR (FPD) IN SULFUR-SPECIFIC MODE.

ATI/GC/PID
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH PHOTOIONIZATION DETECTOR (PID).

ATI/GC/TCD
ATI GAS CHROMATOGRAPHIC METHOD EMPLOYING DIRECT INJECTION ON COLUMN WITH THERMAL CONDUCTIVITY DETECTOR (TCD).

LJT = LISA THOMASON
DGH = DARREL HALSELL
TLH = TARA HELTON
KW = KAREN WADSWORTH
MV = MONIQUE VERHEYDEN
SW = STEVE WILHITE
JMP = JACKIE PRICE
SJF = STEVE FILOROMO
PL = PAUL LESCHENSKY
RW = ROBERT WOLFE
BV = BEN VAUGHN
KS = KENDALL SMITH
NC = NICOLE CALL
LKD = LEIGH DUVALL

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Analysis Report

Analysis: HALOGENATED VOLATILES (601)

Accession:	501436
Client:	BP OIL COMPANY
Project Number:	10-061-03-004
Project Name:	BP SITE #11126
Project Location:	1700 POWELL ST., EMERYVILLE, CA
Department:	GC/VOA

ANALYTICAL TECHNOLOGIES, INC. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

"FINAL REPORT FORMAT - SINGLE"

Accession: 501436
Client: BP OIL COMPANY
Project Number: 10-061-03-004
Project Name: BP SITE #11126
Project Location: 1700 POWELL ST., EMERYVILLE, CA
Test: HALOGENATED VOLATILES (601)
Analysis Method: 601 / Federal Register, 40 CFR, Part 136, July 1, 1992
Extraction Method: N/A
Matrix: WATER
QC Level: N

Lab Id: 004
Client Sample Id: S-4 1336
Sample Date/Time: 13-JAN-95 1336
Received Date: 18-JAN-95

Batch: LUW013
Blank: B
Dry Weight %: N/A
Extraction Date: N/A
Analysis Date: 25-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BROMODICHLOROMETHANE	UG/L	ND	1	
BROMOFORM	UG/L	ND	2	
BROMOMETHANE	UG/L	ND	2	
CARBON TETRACHLORIDE	UG/L	ND	1	
CHLOROBENZENE	UG/L	ND	1	
CHLOROETHANE	UG/L	ND	5	
2-CHLOROETHYLVINYLETHER	UG/L	ND	5	
CHLOROFORM	UG/L	ND	2	
CHLOROMETHANE	UG/L	ND	5	
DIBROMOCHLOROMETHANE	UG/L	ND	5	
1,2-DICHLOROBENZENE	UG/L	ND	2	
1,3-DICHLOROBENZENE	UG/L	ND	2	
1,4-DICHLOROBENZENE	UG/L	ND	2	
DICHLORODIFLUOROMETHANE	UG/L	ND	5	
1,1-DICHLOROETHANE	UG/L	ND	1	
1,2-DICHLOROETHANE	UG/L	ND	1	
1,1-DICHLOROETHENE	UG/L	ND	1	
1,2-DICHLOROETHENE (TOTAL)	UG/L	ND	1	
1,2-DICHLOROPROPANE	UG/L	ND	1	
CIS-1,3-DICHLOROPROPENE	UG/L	ND	1	
TRANS-1,3-DICHLOROPROPENE	UG/L	ND	1	
METHYLENE CHLORIDE	UG/L	ND	5	
1,1,2,2-TETRACHLOROETHANE	UG/L	ND	1	
TETRACHLOROETHENE	UG/L	ND	3	
1,1,1-TRICHLOROETHANE	UG/L	ND	1	
1,1,2-TRICHLOROETHANE	UG/L	ND	2	
TRICHLOROETHENE	UG/L	ND	1	
TRICHLOROFLUOROMETHANE	UG/L	ND	2	
VINYL CHLORIDE	UG/L	ND	1	
BROMOFLUOROBENZENE (ELCD)	%REC/SURR	91	75-137	
ANALYST	INITIALS	PM		

Comments:

Common notation for Organic reporting

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UG/KG = PARTS PER BILLION.
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ORGANIC SOILS ARE REPORTED ON A DRY WEIGHT BASIS.
** COMPOUNDS FLAGGED IN METHOD ARE NOT WITHIN THE FIVE POINT CURVE. THEY ARE SEARCHED FOR QUALITATIVELY.
ND = NOT DETECTED ABOVE REPORTING LIMIT.

SR-SHELLEY REAMSMA
DC-DAVID CELESTIAL
LKD-LEIGH DUVALL
MM-MIKE MCKENZIE
KWS-KENDALL SMITH
KKS-KIMBERLY SMITH
GF-GREG FOOTE
NC-NICOLE CALL
JA-JENNIFER ALEXANDER
PM-PENNY MALOUIN
MCW-MARIE CLAUDIA WALTON
SB-SHARON BRADDOCK
PL-PAUL LESCHENSKY
KF-KAROLE FERGUSON
SC-SCOTT CLARK
AM-AMANDA MCCRAY

501436

CHAIN OF CUSTODY

No. 052522 Page 1 of 1

CONSULTANT'S NAME	ADDRESS	CITY	STATE	ZIP CODE
Alisto Engineering	1777 Oakland Blvd, Ste 200	Walnut Creek	CA	94596

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11126	1700 Powell St, Emeryville CA	10-061-02-004

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
Bill Howell	(510) 295 1650	(510) 295 1723	6463058

BP CONTACT	BP ADDRESS	PHONE NUMBER	FAX NO.
Scott Hooton	Renton, WA		

LAB CONTACT	LABORATORY ADDRESS	PHONE NUMBER	FAX NO.
Diana Spence	Pensacola, FL	904-474-1001	

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
David Cusack	Dave Cusack		Courier

TAT: ☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☒ Standard 2 Weeks

AIRBILL NUMBER:

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE / TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE / LAB SAMPLE #	1120 TPH Gas BTEX	Hex 601	— TPH Diesel	— TOG	COMMENTS
	time									
S-1	1233	H2O	2	VOA		X				
S-2	1300									
S-3	1315									
S-4	1336		6	VOA			X	X	X	
S-5	1400		2	VOA						
S-6	1422									
S-7	1440									
S-8	1502									
S-9	—									
S-10	—									

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Dave Cusack Alisto	1/16/95		Barbara A. Williamson	1/18/95	1915

ADDITIONAL COMMENTS

CLV-16722

Distribution: White - Original (with Data)
Yellow - BP
Pink - Lab
Blue - Consultant Field Staff