



BP OIL

BP Oil Company
Environmental Resources Management
Building 13, Suite N
295 SW 41st Street
Renton, Washington 98056-4931
(206) 251-0887

April 26, 1995

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

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

95 APR 27 AM 9:24
ENVIRONMENTAL
PROTECTION

Dear Mr. Hiett:

Attached please find our GROUNDWATER MONITORING AND SAMPLING REPORT DATED March 10, 1995 for the above referenced facility.

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:aa msaord\ERM11102

cc: Ms. Jennifer Eberle, Alameda County Health Care Services Agency
1131 Harbor Bay Parkway Room 250, Oakland CA 94621

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

Site File

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-076-03-002

BP OIL CO.
ENVIRONMENTAL DEPT.
REGION OFFICE

Prepared for:

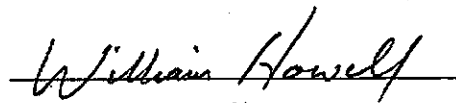
**BP Oil Company
Environmental Resources Management
295 S.W. 41st Street
Building 13, Suite N
Renton, Washington**


Prepared by:

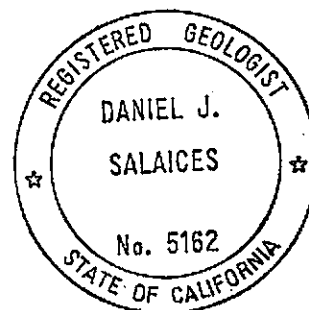
**Alisto Engineering Group
1777 Oakland Boulevard, Suite 200
Walnut Creek, California**

March 10, 1995

ENVIRONMENTAL
PROTECTION
95 APR 27 AM 9:24


**William Howell
Project Manager**


**Dan Salaices
Registered Geologist**



GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-076-03-002

March 10, 1995

INTRODUCTION

This report presents the results and findings of the January 10, 1995 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 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, and electrical conductivity. 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.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)	DO (ppm)	LAB
MW-1	11/04/89	90.20	13.21	76.99	ND<500	ND<50	3.4	0.6	ND<0.3	ND<0.3	ND<5000	--	0.9	--	SAL
MW-1	11/11/89	90.20	13.32	76.88	--	--	--	--	--	--	--	--	--	--	--
MW-1	04/03/90	90.20	12.48	77.74	820	--	64	1.9	23	34	--	--	--	--	ANA
MW-1	07/30/90	90.20	12.92	77.29	190	ND<50	11	ND<5.0	ND<5.0	ND<5.0	ND<5000	--	ND	--	ANA
MW-1	11/20/90	90.20	14.08	76.12	60	79	2.4	ND<0.3	ND<0.3	ND<0.3	ND<5000	--	4.0	--	SAL
MW-1	03/01/91	90.20	13.61	76.59	ND<100	ND<1000	0.9	ND<0.3	ND<0.3	0.3	14000	--	ND	--	SAL
MW-1	08/18/91	90.20	15.74	74.46	370	ND<50	35	0.73	6.4	5.6	ND<5000	--	1.4	--	SEQ
MW-1	11/13/91	90.20	14.08	76.12	60	ND<50	0.68	ND<0.3	ND<0.3	ND<0.3	ND<5000	--	1.0	--	SEQ
MW-1	02/24/92	90.20	12.62	77.68	140	100	3.9	0.66	1.2	3.8	ND<5000	--	1.7	--	SEQ
MW-1	05/19/92	90.20	11.90	78.40	4200	910	440	21	250	37	ND<5000	--	ND	--	SEQ
MW-1	06/17/92	90.20	12.01	76.19	4000	560	350	14	150	17	ND<5000	--	ND	--	SEQ
MW-1	07/22/92	90.20	12.42	77.78	4000	--	ND<5.0	19	210	61	--	--	--	--	ANA
MW-1	08/14/92	90.20	12.75	77.45	2400	1700	330	20	150	47	ND<5000	--	ND<2.5	--	SEQ
MW-1	11/11/92	90.20	13.89	76.51	260	82	30	3.4	7.6	6.8	ND<5000	--	ND<2.5	--	ANA
MW-1	06/07/93	90.20	10.93	79.27	3400	440	98	11	21	7.8	--	6.2	0.9	--	PACE
QC-1 (c)	06/07/93	--	--	--	3700	--	120	12	26	9.5	--	--	--	--	PACE
MW-1	12/02/93	90.20	12.72	77.48	1100	120	8.3	3.6	0.6	1.5	ND<5000	2.6	1.8	--	PACE
MW-1	06/22/94	90.20	11.91	78.39	2100	ND<50	82	3.8	2.2	17	ND<5000	2.3	3.3	3.2	PACE
QC-1 (c)	06/22/94	--	--	--	2100	--	30	3.2	2.0	16	--	--	--	--	PACE
MW-1	01/10/95	90.20	10.97	79.23	ND<500	420	120	ND<5	ND<5	ND<10	--	ND<1	1	3.9	ATI
QC-1 (c)	01/10/95	--	--	--	ND<500	--	120	ND<5	5	ND<10	--	--	--	--	ATI
MW-2	11/04/89	87.91	15.84	72.07	ND<500	--	6.6	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	SAL
MW-2	11/11/89	87.91	14.75	73.16	--	--	--	--	--	--	--	--	--	--	--
MW-2	04/03/90	87.91	15.25	72.66	ND<500	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	ANA
MW-2	07/30/90	87.91	15.59	72.32	61	--	6.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	ANA
MW-2	11/20/90	87.91	17.81	70.10	ND<50	--	0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	SAL
MW-2	03/01/91	87.91	17.11	70.80	ND<100	--	0.4	ND<0.3	ND<0.3	ND<0.3	--	--	4.0	--	SAL
MW-2	08/18/91	87.91	17.97	69.94	ND<30	--	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	SEQ
MW-2	11/13/91	87.91	16.78	71.15	39	--	0.32	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	SEQ
MW-2	02/24/92	87.91	15.07	72.84	ND<50	--	ND<0.5	ND<0.5	ND<0.5	0.58	--	--	16	--	SEQ
MW-2	05/19/92	87.91	14.70	73.21	ND<50	--	0.56	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	SEQ
MW-2	07/22/92	87.91	15.60	72.31	90	--	1.3	0.6	0.9	1.9	--	--	--	--	ANA
MW-2	08/14/92	87.91	15.88	72.03	--	--	--	--	--	--	--	--	--	--	--
MW-2	11/11/92	87.91	16.19	71.72	82	--	2.8	ND<0.5	ND<0.5	0.9	--	--	--	--	ANA
QC-1 (c)	11/11/92	--	--	--	85	--	3.2	ND<0.5	ND<0.5	1.0	--	--	--	--	ANA
MW-2	06/07/93	87.91	14.42	73.49	1200	--	14	2.8	1.9	1.7	--	--	--	--	PACE
MW-2	12/02/93	87.91	14.94	72.97	790	--	3.4	0.5	10	ND<0.5	--	--	--	--	PACE
QC-1 (c)	12/02/93	--	--	--	2100	--	32	3.8	2.2	17.00	--	2.3	--	--	PACE
MW-2	06/22/94	87.91	14.25	73.66	110	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	3.9	PACE
MW-2	01/10/95	87.91	15.84	74.27	ND<50	--	ND<0.5	ND<0.5	0.6	1	--	--	--	4.3	ATI

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)	DO (ppm)	LAB
MW-3	11/04/89	87.02	16.40	71.62	ND<500	--	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	SAL
MW-3	11/11/89	87.02	14.10	72.92	--	--	--	--	--	--	--	--	--	--	--
MW-3	04/03/90	87.02	13.90	73.12	ND<100	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	ANA
MW-3	07/30/90	87.02	13.77	73.25	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	--	--	--	ANA
MW-3	11/20/90	87.02	14.67	72.35	ND<50	--	0.3	0.8	0.4	1.5	--	--	--	--	SAL
MW-3	03/01/91	87.02	16.22	71.80	ND<100	--	0.4	ND<0.3	ND<0.3	ND<0.3	--	--	ND	--	SAL
MW-3	08/19/91	87.02	13.15	73.87	ND<30	--	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	SEQ
MW-3	11/13/91	87.02	16.66	71.36	ND<30	--	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	--	--	--	SEQ
MW-3	02/24/92	87.02	15.01	72.01	ND<50	--	0.65	1.4	0.66	4.4	--	--	ND	--	SEQ
MW-3	05/19/92	87.02	15.52	71.50	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	SEQ
MW-3	07/22/92	87.02	15.63	71.39	ND<50	ND<50	ND<0.6	ND<0.5	ND<0.5	ND<0.5	ND<5000	--	ND<0.50	--	ANA
MW-3	08/14/92	87.02	13.57	73.45	--	--	--	--	--	--	--	--	--	--	--
MW-3	11/11/92	87.02	14.13	72.89	ND<50	--	ND<0.5	0.7	ND<0.5	1.3	--	--	--	--	ANA
MW-3	06/07/93	87.02	12.13	74.89	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
MW-3	12/02/93	87.02	13.29	73.73	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
MW-3	06/22/94	87.02	12.78	74.24	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	2.9	PACE
MW-3	01/10/95	87.02	12.01	75.01	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	--	--	--	3.8	ATI
QC-2 (d)	11/11/92	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	ANA
QC-2 (d)	06/07/93	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
QC-2 (d)	12/02/93	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
QC-2 (d)	06/22/94	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
QC-2 (d)	01/10/95	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<1	--	--	--	--	ATI

ABBREVIATIONS:

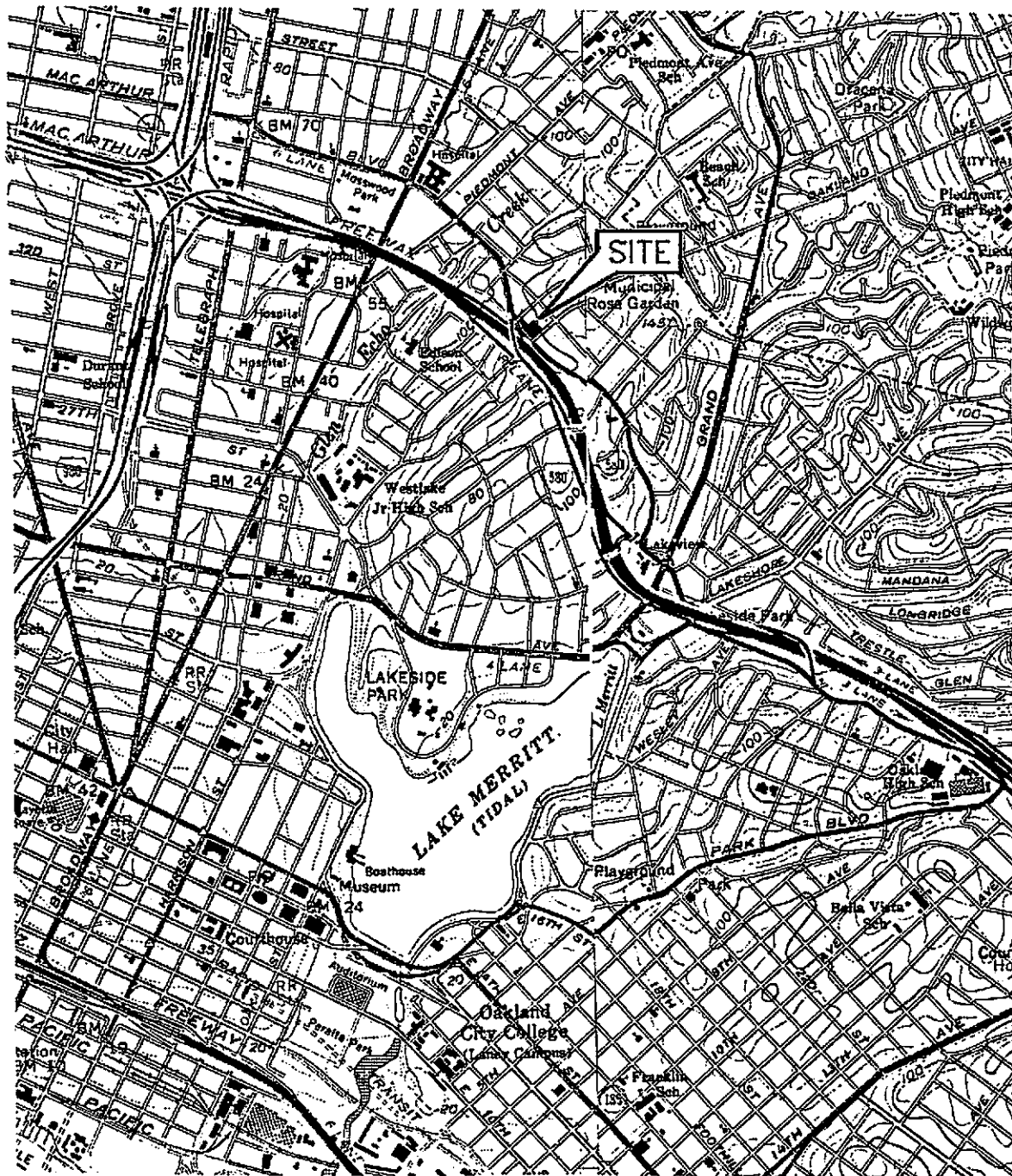
TPH-G Total petroleum hydrocarbons as gasoline
 TPH-D Total petroleum hydrocarbons as diesel
 B Benzene
 T Toluene
 E Ethylbenzene
 X Total xylenes
 TOG Total oil and grease
 1,1-DCA 1,1-Dichloroethane
 1,2-DCA 1,2-Dichloroethane
 DO Dissolved oxygen
 ug/L Micrograms per liter
 ppm Parts per million
 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.

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) Travel blank.

? I don't see the analysis result for this HUC analysis. Is this a mistake?

E:10-076-3-2



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

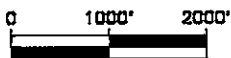
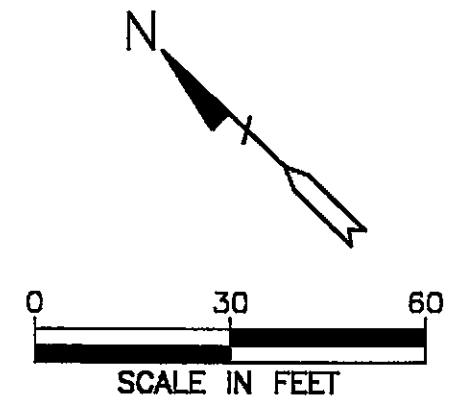
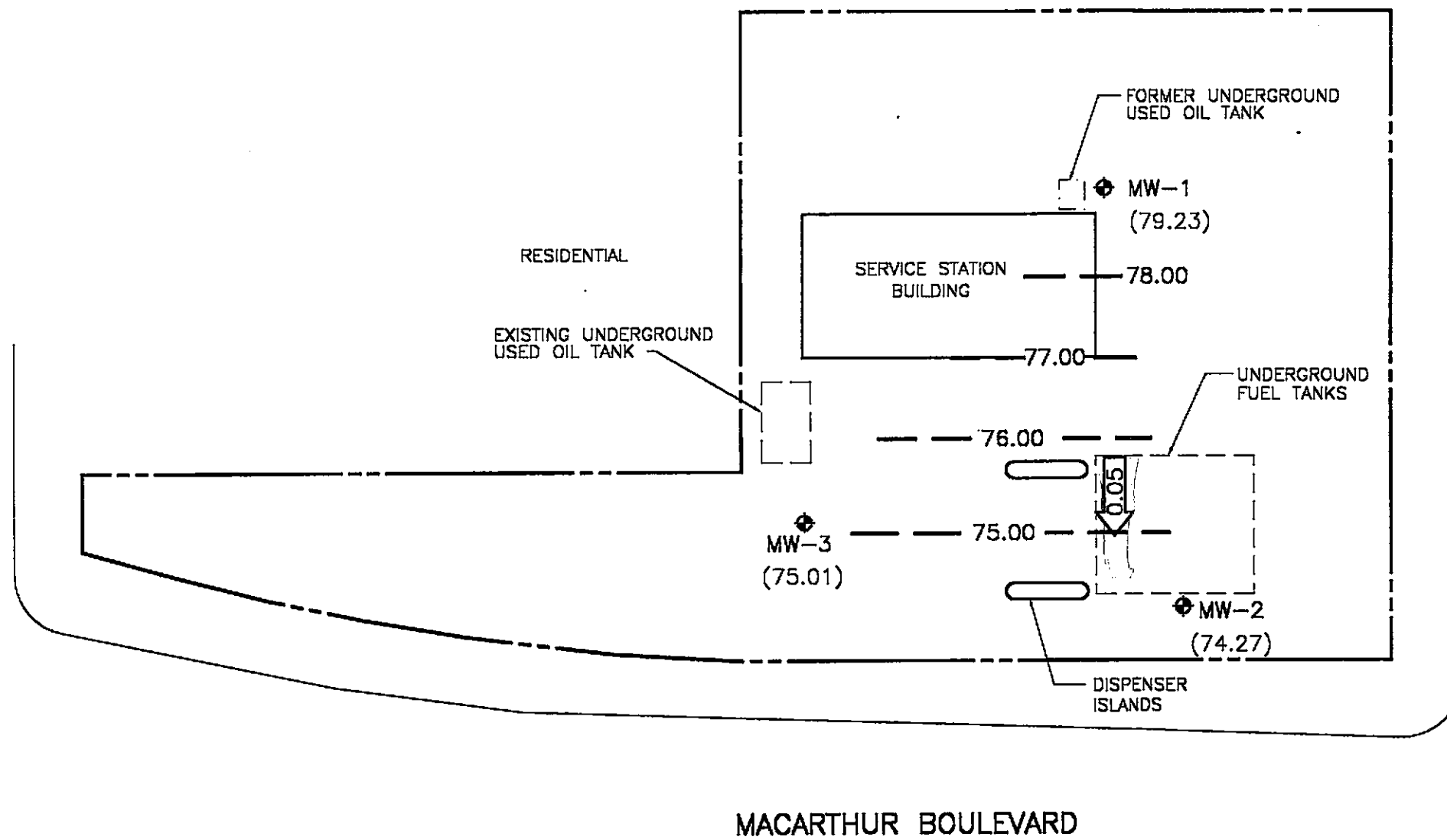


FIGURE 1
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11102
 100 MACARTHUR BOULEVARD
 OAKLAND, CALIFORNIA
 PROJECT NO. 10-076

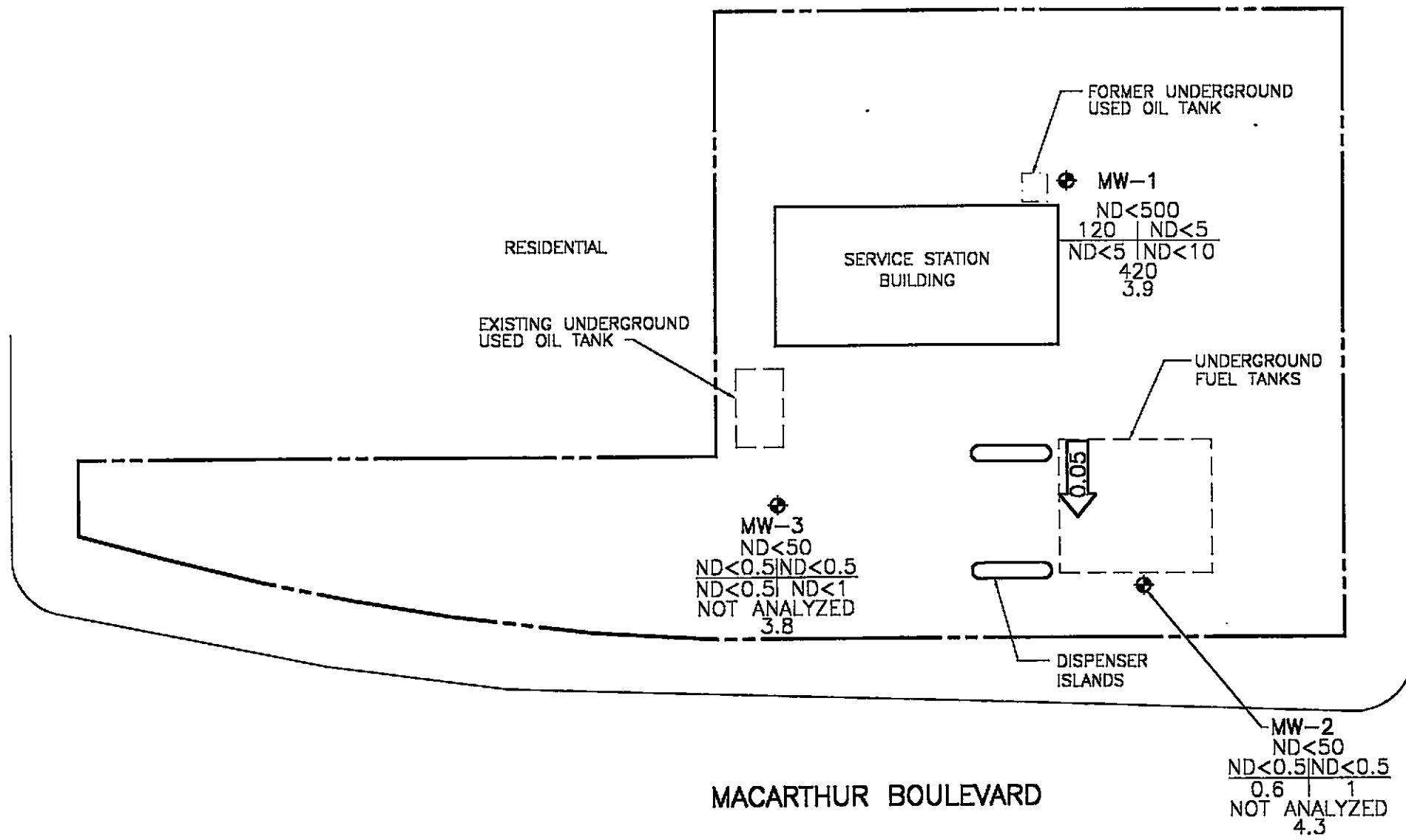


ALISTO ENGINEERING GROUP
 WALNUT CREEK, CALIFORNIA



- LEGEND**
- ⊕ GROUNDWATER MONITORING WELL
 - (75.01) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
 - 75.00 - 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 10, 1995
 BP OIL SERVICE STATION NO. 11102
 100 MACARTHUR BOULEVARD
 OAKLAND, CALIFORNIA
 PROJECT NO. 10-076



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
- ← 0.05 → CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3
CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER
JANUARY 10, 1995
 BP OIL SERVICE STATION NO. 11102
 100 MACARTHUR BOULEVARD
 OAKLAND, CALIFORNIA
 PROJECT NO. 10-076

10-076-3-3-95

APPENDIX A
WATER SAMPLING FIELD SURVEY FORMS

ALISTO ENGINEERING GROUP GROUNDWATER MONITORING

Client: BP
 Alisto Project No: 10-076-03
 Service Station No: 11102

Date: 1/10/95
 Field Personnel: UB
 Site Address: Oakland, CA

FIELD ACTIVITY:

- Groundwater Monitoring
- Groundwater Sampling
- Well Development

QUALITY CONTROL SAMPLES:

- QC-1 Sample Duplicate (Well ID) (3-4)
- QC-2 Trip Blank (S-5)
- QC-3 Rinsate Blank

Well ID	Well Diam	Order Measured/ Sampled	Total Depth	Depth to Water	Depth to Product	Product Thickness	Comments
MW-1	4"	3	23.20	10.97	∅	∅	S-3
MW-2	↓	2	24.80	13.64	↓	↓	S-2
MW-3	↓	1	23.60	12.01	↓	↓	S-1

Notes:

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP

Groundwater Sampling

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

Date: 1/10/95 Project No. 10-076-03
Day: Tues Station No. 11102
Weather: Rain Address Oakland, CA
SAMPLER: UB

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-3	12.01	4"	OK	Ø	Ø	7	1210	66.9	7.11	1100	3.7	<input type="checkbox"/> EPA 801
Total Depth - Water Level =						15		66.2	6.92	1070		<input checked="" type="checkbox"/> TPH-G/BTEX <u>HCL</u>
23.60-12.01=11.59x.65=7.53x3=						23	1230	65.3	6.84	1040	3.8	<input type="checkbox"/> TPH Diesel
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Baller(s) <input type="checkbox"/> Sys Port												<input type="checkbox"/> TOG 5520
Comments:												Time Sampled
												1240 / S-1
MW-2	13.64	4"	OK	Ø	Ø	7	1300	66.2	6.92	2170	4.1	<input type="checkbox"/> EPA 801
Total Depth - Water Level =						15		65.7	6.87	2110		<input checked="" type="checkbox"/> TPH-G/BTEX <u>HCL</u>
24.80-13.64=11.16x.65=7.25x3=						22	1322	65.1	6.79	2100	4.3	<input type="checkbox"/> TPH Diesel
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Baller(s) <input type="checkbox"/> Sys Port												<input type="checkbox"/> TOG 5520
Comments:												Time Sampled
												1330 / S-2
MW-1	10.97	4"	OK	Ø	Ø	8	1345	65.9	6.92	1460	3.7	<input checked="" type="checkbox"/> EPA 801 <u>HCL</u>
Total Depth - Water Level =						16		65.1	6.81	1390		<input checked="" type="checkbox"/> TPH-G/BTEX <u>HCL</u>
23.20-10.97=12.23x.65=7.95x3=						24	1410	64.8	6.74	1380	3.9	<input checked="" type="checkbox"/> TPH Diesel
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Baller(s) <input type="checkbox"/> Sys Port												<input checked="" type="checkbox"/> TOG 5520
Comments: <u>QC-1 Dup taken from this well</u>												Time Sampled
												1430 / S-3
												<input type="checkbox"/> EPA 801
Total Depth - Water Level =												<input type="checkbox"/> TPH-G/BTEX
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Baller(s) <input type="checkbox"/> Sys Port												<input type="checkbox"/> TPH Diesel
Comments:												<input type="checkbox"/> TOG 5520
												Time Sampled
												<input type="checkbox"/> EPA 801
Total Depth - Water Level =												<input type="checkbox"/> TPH-G/BTEX
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Baller(s) <input type="checkbox"/> Sys Port												<input type="checkbox"/> TPH Diesel
Comments:												<input type="checkbox"/> TOG 5520
												Time Sampled

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

"FINAL REPORT FORMAT - SINGLE"

Accession: 501294
 Client: BP OIL COMPANY
 Project Number: 10-076-03/002
 Project Name: BP SITE NUMBER 11102
 Project Location: OAKLAND
 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: 10-JAN-95 N/S
 Client Sample Id: S-1 Received Date: 13-JAN-95
 Batch: ETW015 Extraction Date: N/A
 Blank: A Dry Weight %: N/A Analysis Date: 18-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	112	63-135	
ANALYST	INITIALS	KKS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 501294
 Client: BP OIL COMPANY
 Project Number: 10-076-03/002
 Project Name: BP SITE NUMBER 11102
 Project Location: OAKLAND
 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: 10-JAN-95 N/S
 Client Sample Id: S-2 Received Date: 13-JAN-95
 Batch: ETW016 Extraction Date: N/A
 Blank: B Dry Weight %: N/A Analysis Date: 19-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	ND	0.5	
TOLUENE	UG/L	ND	0.5	
ETHYLBENZENE	UG/L	0.6	0.5	
KYLENES (TOTAL)	UG/L	1	1	
TOTAL PETROLEUM HYDROCARBON	MG/L	ND	0.050	
TRIFLUOROTOLUENE (PID)	%REC/SURR	103	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	95	63-135	
ANALYST	INITIALS	KKS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 501294
 Client: BP OIL COMPANY
 Project Number: 10-076-03/002
 Project Name: BP SITE NUMBER 11102
 Project Location: OAKLAND
 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 Sample Date/Time: 10-JAN-95 N/S
 Client Sample Id: S-3 Received Date: 13-JAN-95
 Batch: ETW015 Extraction Date: N/A
 Blank: A Dry Weight %: N/A Analysis Date: 18-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	120	5	
TOLUENE	UG/L	ND	5	
ETHYLBENZENE	UG/L	ND	5	
XYLENES (TOTAL)	UG/L	ND	10	
TOTAL PETROLEUM HYDROCARBON	MG/L	ND	0.5	
TRIFLUOROTOLUENE (PID)	%REC/SURR	100	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	78	63-135	
ANALYST	INITIALS	KKS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 501294
 Client: BP OIL COMPANY
 Project Number: 10-076-03/002
 Project Name: BP SITE NUMBER 11102
 Project Location: OAKLAND
 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: 10-JAN-95 N/S
 Client Sample Id: S-4 Received Date: 13-JAN-95
 Batch: ETW015 Extraction Date: N/A
 Blank: A Dry Weight %: N/A Analysis Date: 19-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
BENZENE	UG/L	120	5	
TOLUENE	UG/L	ND	5	
ETHYLBENZENE	UG/L	5	5	
XYLENES (TOTAL)	UG/L	ND	10	
TOTAL PETROLEUM HYDROCARBON	MG/L	ND	0.5	
TRIFLUOROTOLUENE (PID)	%REC/SURR	97	63-135	
TRIFLUOROTOLUENE (FID)	%REC/SURR	112	63-135	
ANALYST	INITIALS	KKS		

Comments:

"FINAL REPORT FORMAT - SINGLE"

Accession: 501294
 Client: BP OIL COMPANY
 Project Number: 10-076-03/002
 Project Name: BP SITE NUMBER 11102
 Project Location: OAKLAND
 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: 10-JAN-95 N/S
 Client Sample Id: S-5 Received Date: 13-JAN-95
 Batch: ETW015 Extraction Date: N/A
 Blank: A Dry Weight %: N/A Analysis Date: 19-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	119	63-135	
ANALYST	INITIALS	KKS		

Comments:

"Method Report Summary"

Accession Number: 501294
Client: BP OIL COMPANY
Project Number: 10-076-03/002
Project Name: BP SITE NUMBER 11102
Project Location: OAKLAND
Test: BETX AND TPH C6-C10 RANGE

Client Sample Id:	Parameter:	Unit:	Result:
S-2	ETHYLBENZENE	UG/L	0.6
	XYLENES (TOTAL)	UG/L	1
S-3	BENZENE	UG/L	120
S-4	BENZENE	UG/L	120
	ETHYLBENZENE	UG/L	5

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

"FINAL REPORT FORMAT - SINGLE"

Accession: 501294
 Client: BP OIL COMPANY
 Project Number: 10-076-03/002
 Project Name: BP SITE NUMBER 11102
 Project Location: OAKLAND
 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: 003
 Client Sample Id: S-3
 Sample Date/Time: 10-JAN-95 N/S
 Received Date: 13-JAN-95
 Batch: LUW010
 Blank: B
 Dry Weight %: N/A
 Extraction Date: N/A
 Analysis Date: 23-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	
CHLOROETHANE	UG/L	ND	5	
2-CHLOROETHYLVINYLEETHER	UG/L	ND	5	
CHLOROFORM	UG/L	ND	2	
CHLOROMETHANE	UG/L	ND	5	
DIBROMOCHLOROMETHANE	UG/L	ND	5	
1,2-DICHLOROETHANE	UG/L	ND	2	
1,3-DICHLOROETHANE	UG/L	ND	2	
1,4-DICHLOROETHANE	UG/L	ND	2	
DICHLORODIFLUOROMETHANE	UG/L	ND	5	
1,1-DICHLOROETHANE	UG/L	ND	1	
1,2-DICHLOROETHANE	UG/L	1	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	85	75-137	
ANALYST	INITIALS	JA		

Comments:

"Method Report Summary"

Accession Number: 501294
Client: BP OIL COMPANY
Project Number: 10-076-03/002
Project Name: BP SITE NUMBER 11102
Project Location: OAKLAND
Test: HALOGENATED VOLATILES (601)

Client Sample Id:	Parameter:	Unit:	Result:
S-3	1,2-DICHLOROETHANE	UG/L	1

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.
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ND = NOT DETECTED ABOVE REPORTING LIMIT.

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MCW-MARIE CLAUDIA WALTON
SB-SHARON BRADDOCK
PL-PAUL LESCHENSKY
KF-KAROLE FERGUSON
SC-SCOTT CLARK
AM-AMANDA MCCRAY

Analysis Report

Analysis: BETX AND TPH C6-C10 RANGE

Accession: 501294
Client: BP OIL COMPANY
Project Number: 10-076-03/002
Project Name: BP SITE NUMBER 11102
Project Location: OAKLAND
Department: GC/VOA

"FINAL REPORT FORMAT - SINGLE"

Accession: 501294
 Client: BP OIL COMPANY
 Project Number: 10-076-03/002
 Project Name: BP SITE NUMBER 11102
 Project Location: OAKLAND
 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:	003	Sample Date/Time:	10-JAN-95	N/S
Client Sample Id:	S-3	Received Date:	13-JAN-95	
Batch: FPW009		Extraction Date:	16-JAN-95	
Blank: A	Dry Weight %:	N/A	Analysis Date:	17-JAN-95

Parameter:	Units:	Results:	Rpt Lmts:	Q:
TOTAL PETROLEUM HYDROCARBON	UG/L	420	50	
ORTHO TER PHENYL	%REC/SURR	130	37-140	
ANALYST	INITIALS	SJF		

Comments:

"Method Report Summary"

Accession Number: 501294
Client: BP OIL COMPANY
Project Number: 10-076-03/002
Project Name: BP SITE NUMBER 11102
Project Location: OAKLAND
Test: DRO\PETRO. HYDROCARBON RANGE C10-C28

Client Sample Id:	Parameter:	Unit:	Result:
S-3	TOTAL PETROLEUM HYDROCARBON	UG/L	420

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

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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



501294

CHAIN OF CUSTODY

No. 052535 Page 1 of 1

CONSULTANT'S NAME Alisto Engineering		ADDRESS 1777 Oakland Blvd #200		CITY Walnut Creek	STATE CA	ZIP CODE 94596
BP SITE NUMBER 11102	BP CORNER ADDRESS/CITY Oakland			CONSULTANT PROJECT NUMBER 10-076-03/002		
CONSULTANT PROJECT MANAGER B. Howell		PHONE NUMBER (510) 295-1650	FAX NUMBER 295-1823		CONSULTANT CONTRACT NUMBER F991725	
BP CONTACT Scott Hooton	BP ADDRESS Renton, WA		PHONE NUMBER (904) 474-1001	FAX NO.		
LAB CONTACT Diana Spence	LABORATORY ADDRESS Perseida, FL		PHONE NUMBER (904) 474-1001	FAX NO.		
SAMPLED BY (Please Print Name) Larry Buenavente		SAMPLED BY (Signature) <i>[Signature]</i>		SHIPMENT DATE		SHIPMENT METHOD Fed Express

TAT: 24 Hours 48 Hours 1 Week Standard 2 Weeks

ANALYSIS REQUIRED

AIRBILL NUMBER

SAMPLE DESCRIPTION	COLLECTION DATE	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE	T-PH-U	B-X-E	T-PH-D	601	10550									COMMENTS	
	COLLECTION TIME		NO.	TYPE (VOL.)	LAB SAMPLE #															
S-1	1/10/95	W	3	HCL		X														
S-2	↓	↓	3	U093		↓														
S-3	↓	↓	6			↓		X	X	X										
S-4	↓	↓	2			↓														
S-5	↓	↓	2			↓														

RELINQUISHED BY / AFFILIATION <i>[Signature]</i>	DATE 1/11/95	TIME	ACCEPTED BY / AFFILIATION <i>[Signature]</i> / ATI	DATE 1/13/95	TIME 10:33	ADDITIONAL COMMENTS
-----------------------------------------------------	------------------------	------	-------------------------------------------------------	------------------------	----------------------	---------------------