BP OIL

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

January 25, 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 #11117
7210 Bancroft Avenue
Oakland, CA ~~94621~~ 94605

Dear Mr. So:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED December 14, 1994** 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:mu msword\ERM11117

cc: Mr. Barney Chan, Alameda County Health Care Services Agency
1131 Harbour Bay Parkway, Room 250, Alameda CA 94502-6577

Hydro Environmental Technologies, 2363 Mariner Square Drive, Suite 243, Alameda, CA 94501

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

Mr. Robert K. Barth, Bancroft Oakland Investment Company, 9454 Wilshire Blvd, Suite 901, Beverly Hills, CA 98212

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. 11117
7210 Bancroft Avenue
Oakland, California

Project No. 10-018-03-001

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

Decmeber 14, 1994

Brady Nagle
Project Manager

Al Sevilla, P.E.
Principal

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11117
7210 Bancroft Avenue
Oakland, California

Project No. 10-018-03-001

Decmeber 14, 1994

INTRODUCTION

This report presents the results and findings of the October 13, 1994 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11117, 7210 Bancroft Avenue, 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. 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.

FREE PRODUCT MONITORING AND RECOVERY

A passive product recovery canister has been installed in Monitoring Well MW-2 to recover liquid-phase product. Product thicknesses for this and previous monitoring events are presented in Table 1. The volume of free product recovered from the wells is presented in Table 2.

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. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	Organic Lead (ppb)	DO (ppm)	LAB
MW-1	01/05/92	49.81	33.16	--	16.65	57000	50000	2400	1000	1100	3100	ND	--	--
MW-1	01/10/92	49.81	33.16	--	16.65	--	--	--	--	--	--	--	--	--
MW-1	06/05/92	49.81	29.01	--	20.80	31000	--	2800	2100	800	2300	--	--	--
MW-1	07/24/92	49.80	29.45	--	20.35	--	--	--	--	--	--	--	--	--
MW-1	07/27/92	49.80	29.45	--	20.35	--	--	--	--	--	--	--	--	--
MW-1	09/15/92	49.80	30.53	--	19.27	40000	1200 (c)	3400	3000	1300	3400	--	--	ANA
QC-1 (d)	09/15/92	--	--	--	--	36000	--	3800	3400	1400	3800	--	--	ANA
MW-1	12/15/92	49.80	31.26	--	18.54	27000	1100 (c)	1700	580	700	1900	--	--	ANA
QC-1 (d)	12/15/92	--	--	--	--	22000	--	1500	440	510	1300	--	--	ANA
MW-1	03/15/93	49.80	24.80	--	25.00	17000	580	1700	1200	590	1800	--	--	PACE
QC-1 (d)	03/15/93	--	--	--	--	15000	--	1100	860	440	1400	--	--	PACE
MW-1	06/07/93	49.80	25.01	--	24.79	750	100	0.8	0.8	ND<0.5	ND<0.5	--	--	PACE
QC-1 (d)	06/07/93	--	--	--	--	720	--	0.7	0.7	ND<0.5	ND<0.5	--	--	PACE
MW-1	09/23/93	49.80	28.70	--	21.10	--	--	--	--	--	--	--	--	--
MW-1	09/23/93	--	--	--	--	40000	770	4000	500	920	3000	--	--	PACE
MW-1	12/27/93	49.80	28.66	--	21.14	27000	--	2000	400	940	2600	--	--	PACE
QC-1 (d)	12/27/93	--	--	--	--	21000	--	1700	380	830	2400	--	--	PACE
MW-1	04/05/94	49.80	26.37	--	23.43	27000	--	3400	930	950	2900	--	--	PACE
QC-1 (d)	04/05/94	--	--	--	--	29000	--	3700	1000	1000	3100	--	1.3	PACE
MW-1	07/22/94	49.80	26.54	--	23.26	1700	--	220	2.3	2.0	3.4	--	2.0	PACE
MW-1	10/13/94	49.80	27.46	--	22.34	1200	--	250	21	ND<0.5	3.2	--	2.6	PACE
MW-2	01/05/92	51.07	DRY	--	DRY	--	--	--	--	--	--	--	--	--
MW-2	01/10/92	51.06	DRY	--	DRY	--	--	--	--	--	--	--	--	--
MW-2	06/05/92	51.06	30.05	--	21.01	11000	--	2000	180	490	1900	--	--	--
MW-2	07/24/92	51.07	30.72	--	20.35	--	--	--	--	--	--	--	--	--
MW-2	07/27/92	51.07	30.52	--	20.55	--	--	--	--	--	--	--	--	--
MW-2	09/15/92	51.07	31.56	--	19.51	75000	3200 (c)	2000	6500	2300	13000	--	--	ANA
MW-2	12/15/92	51.07	32.40	--	18.67	34000	1600 (c)	6200	8900	2000	7900	--	--	ANA
MW-2	03/15/93	51.07	26.14	--	24.93	150000	8400	12000	18000	3200	22000	--	--	PACE
MW-2 (e)	06/07/93	51.07	26.38	SHEEN	24.69	--	--	--	--	--	--	--	--	--
MW-2 (e)	09/23/93	51.07	31.43	1.62	21.08	--	--	--	--	--	--	--	--	--
MW-2 (e)	12/27/93	51.07	34.07	1.87	17.80	--	--	--	--	--	--	--	--	--
MW-2 (e)	04/05/94	51.07	30.44	0.80	23.11	--	--	--	--	--	--	--	--	--
MW-2 (e)	07/22/94	51.07	28.51	[illegible]	23.16	--	--	--	--	--	--	--	--	--
MW-2 (e)	10/13/94	51.07	29.33	[illegible]	22.27	--	--	--	--	--	--	--	--	--
MW-3	01/05/92	49.95	33.69	--	16.26	7400	4000	790	23	210	40	ND	--	--
MW-3	01/10/92	50.00	33.74	--	16.26	--	--	--	--	--	--	--	--	--
MW-3	06/05/92	50.00	29.65	--	20.35	2000	--	130	5.3	93	20	--	--	--
MW-3	07/24/92	49.95	30.14	--	19.81	--	--	--	--	--	--	--	--	--
MW-3	07/27/92	49.95	30.14	--	19.81	--	--	--	--	--	--	--	--	--
MW-3	09/15/92	49.95	31.07	--	18.88	450	ND<50	55	3.1	34	7.1	--	--	ANA
MW-3	12/15/92	49.95	31.93	--	18.02	12000	710 (c)	940	ND<50	310	120	--	--	ANA
MW-3	03/15/93	49.95	25.71	--	24.24	ND<50	60	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	PACE
MW-3	06/07/93	49.95	25.80	--	24.15	150	ND<50	3.6	ND<0.5	0.9	1.3	--	--	PACE
MW-3	09/23/93	49.95	29.18	--	20.77	--	--	--	--	--	--	--	--	--
MW-3	09/24/93	--	--	--	--	160	ND<50	8.4	ND<0.5	3.7	1.3	--	--	PACE
MW-3	12/27/93	49.95	29.25	--	20.70	9400	--	1100	48	530	120	--	--	PACE
MW-3	04/05/94	49.95	26.84	--	23.11	7000	--	860	19	330	52	--	2.0	PACE
MW-3	07/22/94	49.95	26.90	--	23.11	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	2.1	PACE
MW-3	10/13/94	49.95	27.83	--	22.12	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	2.6	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	Organic Lead (ppb)	DO (ppm)	LAB
MW-4	07/24/92	50.76	30.02	—	20.74	42000	—	3200	3600	1400	4100	—	—	—
MW-4	07/27/92	50.76	30.02	—	20.74	—	—	—	—	—	—	—	—	—
MW-4	09/15/92	50.76	31.14	—	19.62	55000	1700 (c)	7600	13000	2800	9500	—	—	ANA
MW-4	12/15/92	50.76	31.98	—	18.78	36000	2200 (c)	3700	4700	1200	4000	—	—	ANA
MW-4	03/15/93	50.76	25.34	—	25.42	69000	1200	7600	15000	2500	11000	—	—	PACE
MW-4	06/07/93	50.76	25.67	—	25.09	73000	2500	10000	19000	3400	14000	—	—	PACE
MW-4	09/23/93	50.76	29.37	—	21.39	—	—	—	—	—	—	—	—	—
MW-4	09/24/93	—	—	—	—	68000	5700	11000	2100	8600	990	—	—	PACE
QC-1 (d)	09/24/93	—	—	—	—	59000	—	5300	10000	2200	8400	—	—	PACE
MW-4	12/27/93	50.76	29.40	—	21.36	32000	—	2500	4400	1300	4400	—	—	PACE
MW-4	04/05/94	50.76	27.09	—	23.67	64000	—	6500	14000	1900	9600	—	1.4	PACE
MW-4	07/22/94	50.76	27.33	—	23.43	85000	—	10000	20000	3200	13000	—	0.8	PACE
QC-1 (d)	07/22/94	—	—	—	—	85000	—	11000	21000	3300	14000	—	—	PACE
MW-4	10/13/94	50.76	28.25	—	22.51	51000	—	7100	13000	2100	8900	—	2.9	PACE
QC-1 (d)	10/13/94	—	—	—	—	51000	—	7400	13000	2100	9100	—	—	PACE
MW-6	07/24/92	50.32	30.63	—	19.69	ND	—	1.6	ND	ND	ND	—	—	—
MW-6	07/27/92	50.32	30.63	—	19.69	—	—	—	—	—	—	—	—	—
MW-6	09/15/92	50.32	31.52	—	18.80	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	ANA
MW-6	12/15/92	50.32	32.42	—	17.90	58	ND<50	1.3	ND<0.5	ND<0.5	ND<0.5	—	—	ANA
MW-6	03/15/93	50.32	25.29	—	24.03	ND<50	ND<50	ND<0.5	0.6	ND<0.5	0.7	—	—	PACE
MW-6	06/07/93	50.32	26.33	—	23.99	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	1.5	—	—	PACE
MW-6	09/23/93	50.32	29.64	—	20.68	—	—	—	—	—	—	—	—	—
MW-6	09/24/93	—	—	—	—	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	PACE
MW-6	12/27/93	50.32	29.75	—	20.57	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	PACE
MW-6	04/05/94	50.32	27.26	—	23.06	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	1.7	PACE
MW-6	07/22/94	50.32	27.34	—	22.98	350	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	4.5	PACE
MW-6 (f)	10/13/94	50.32	—	—	—	—	—	—	—	—	—	—	—	—
QC-2 (g)	09/15/92	—	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	ANA
QC-2 (g)	12/15/92	—	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	ANA
QC-2 (g)	03/15/93	—	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	PACE
QC-2 (g)	06/07/93	—	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	PACE
QC-2 (g)	09/24/93	—	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	PACE
QC-2 (g)	12/27/93	—	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	PACE
QC-2 (g)	04/05/94	—	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	PACE
QC-2 (g)	07/22/94	—	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	PACE
QC-2 (g)	10/13/94	—	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	PACE

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
DO	Dissolved oxygen
ppb	Parts per billion
ppm	Parts per million
ND	Not detected above reported detection limit
—	Not analyzed/applicable
ANA	Anametrix, Inc.
PACE	Pace, Inc.

NOTES:

(a) Casing elevations surveyed to the nearest 0.01 foot relative to mean sea level.

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

(c) Concentrations reported as diesel from MW-1, MW-2, and MW-4 are primarily due to the presence of a lighter petroleum product, possibly gasoline or kerosene.

(d) Blind duplicate.

(e) Well not sampled due to presence of free product.

(f) Well inaccessible.

(g) Travel blank.

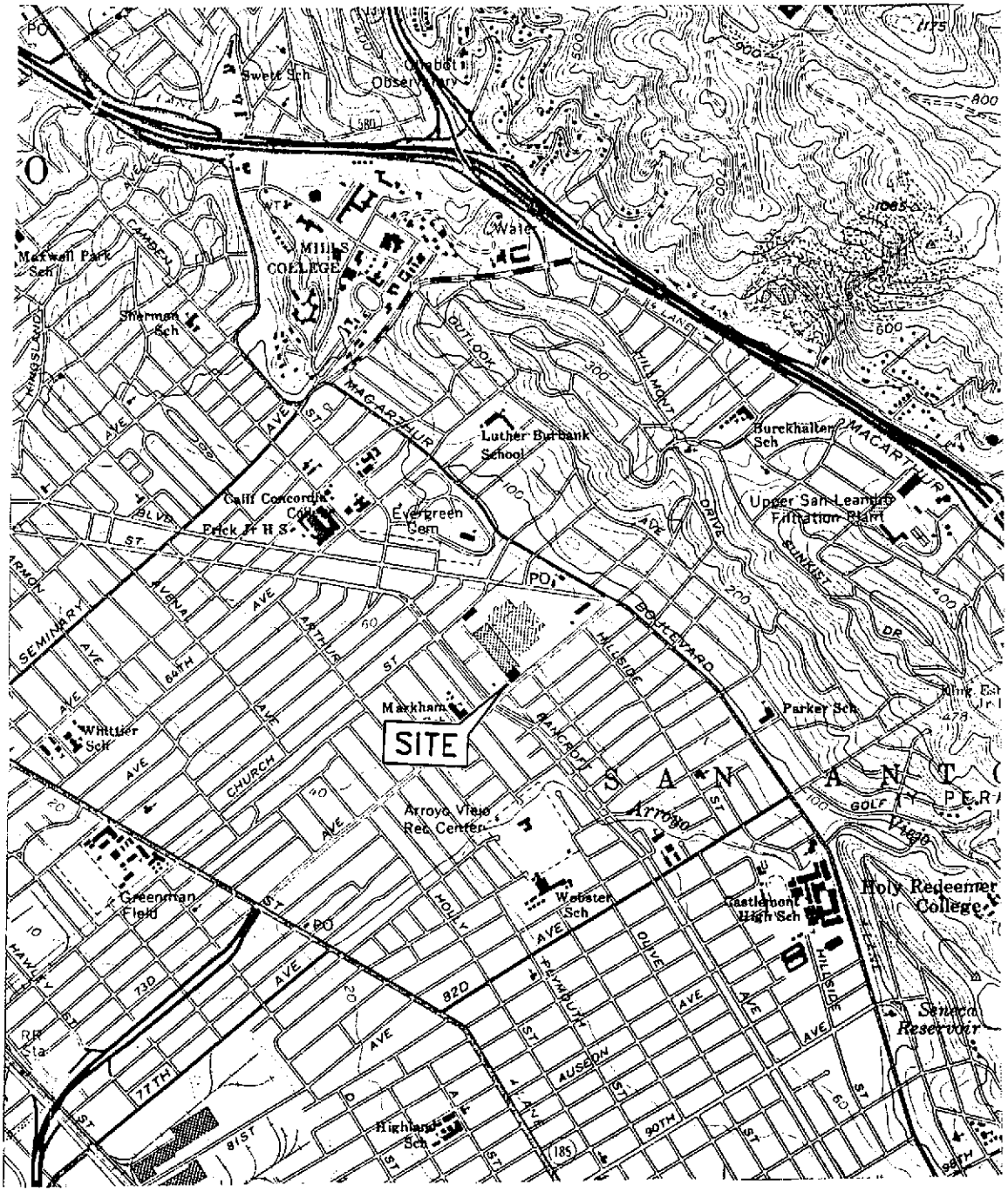
E:\QPRO4\0\10-018-2-3

TABLE 2
PRODUCT REMOVAL STATUS

BP OIL COMPANY SERVICE STATION NO. 11117
7210 BANCROFT STREET, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)
MW-2	02/11/94	0.1	0.1
	02/18/94	0.9	1.0
	02/25/94	0.1	1.1
	03/04/94	0.1	1.2
	03/30/94	2.6	3.8
	04/05/94	4.0	7.8
	04/13/94	0.1	7.9
	04/21/94	0.1	8.0
	04/29/94	0.3	8.3
	05/06/94	0.6	8.9
	05/13/94	0.1	9.0
	05/20/94	1.1	10.1
	05/26/94	2.0	12.1
	06/02/94	1.0	13.1
	06/09/94	1.0	14.1
	06/16/94	1.1	15.2
	06/23/94	0.9	16.1
	06/29/94	0.6	16.7
	07/07/94	0.5	17.2
	07/12/94	1.0	18.2
	07/20/94	0.7	18.9
	07/29/94	1.1	20.0
	08/05/94	0.7	20.7
	08/12/94	0.7	21.4
	08/18/94	0.4	21.8
	09/16/94	0.8	22.6
	09/23/94	0.7	23.3
	10/26/94	0.4	23.7
	11/03/94	1.1	24.8
	11/12/94	0.6	25.4
	11/16/94	0.4	25.8
	11/23/94	0.6	26.4



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

N

FIGURE 1

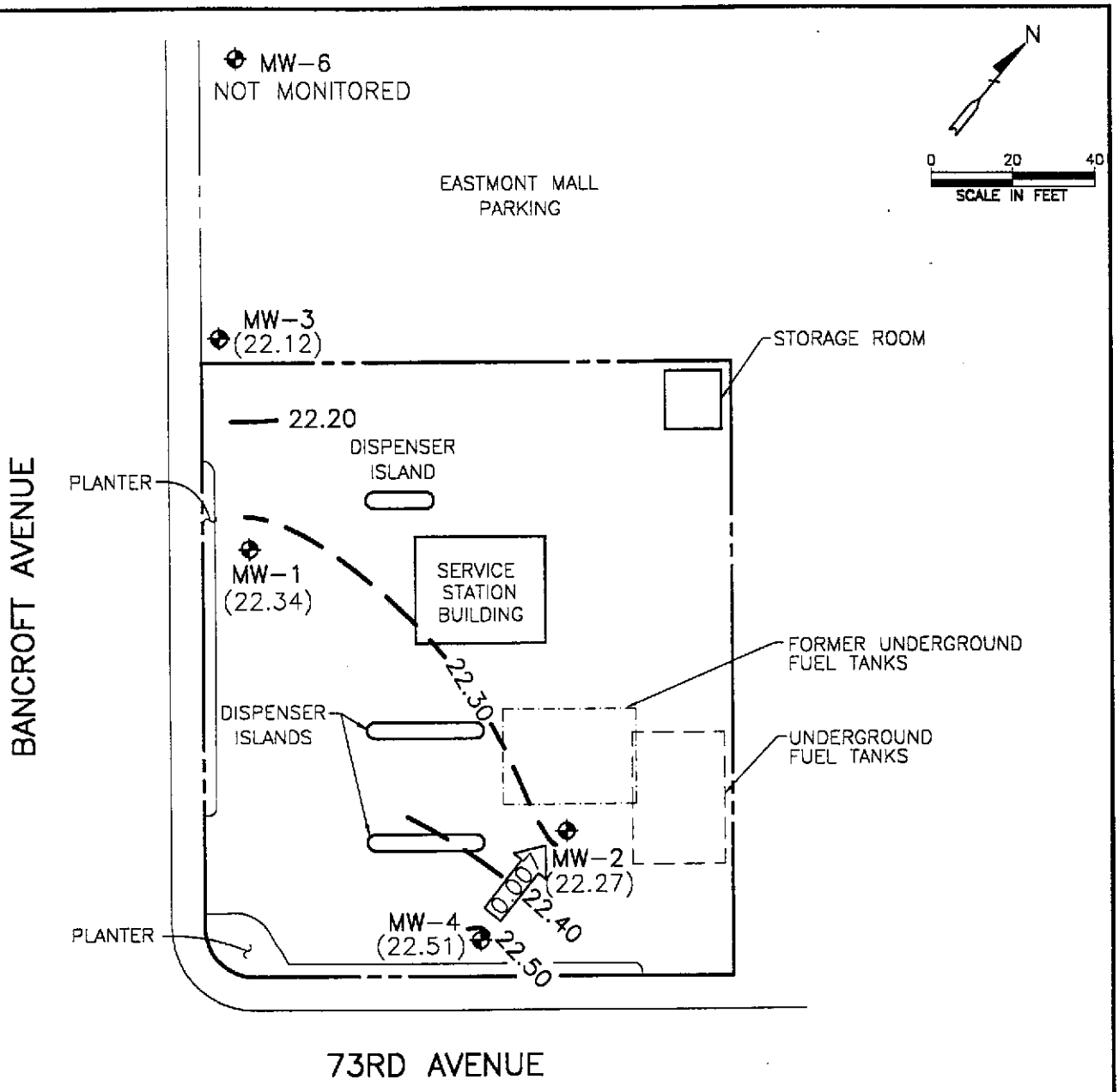
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

PROJECT NO. 10-018

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10018B—.DWG 11-12-93 RMW 1=1



LEGEND

⊕	GROUNDWATER MONITORING WELL
(22.12)	GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
22.20	GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.10 FOOT)
0.007	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

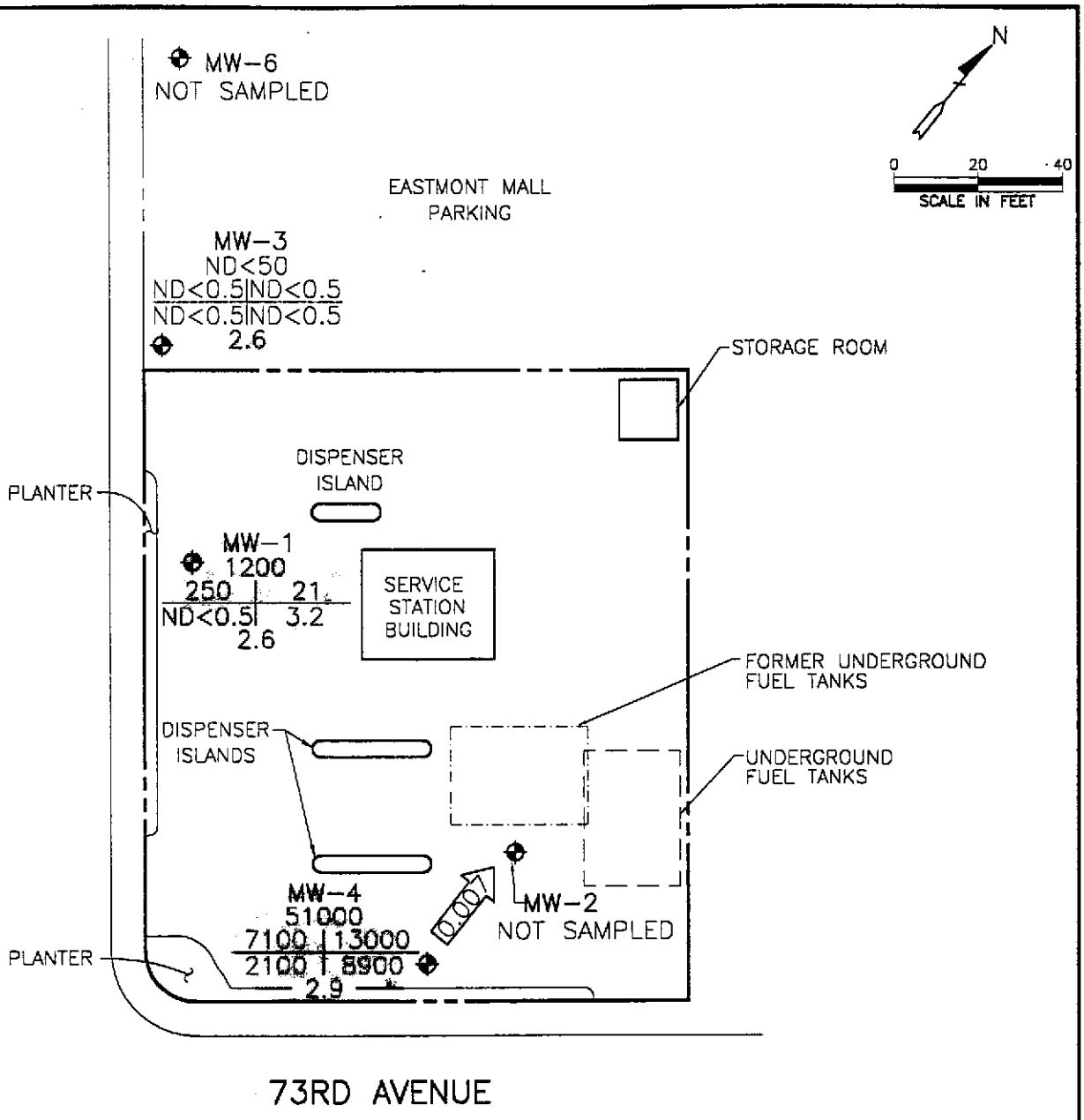
OCTOBER 13, 1994

BP OIL SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

PROJECT NO. 10–018

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

100180-L.DWG 11-7-94 RKW 1=40



LEGEND

◆	GROUNDWATER MONITORING WELL
TPH-G / B | T / E | X / DO	CONCENTRATION OF CONSTITUENTS IN PARTS PER BILLION, 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
⇦ 0.007	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

OCTOBER 13, 1994

BP OIL SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

PROJECT NO. 10-018

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10018F-1.DWG 11-7-94 RKW 1=40

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

X Groundwater Sampling

Barometric pres. _____

Date: 10/13/94 Project No. 10-018-03-001

Day: M T W (Th) F Facility No. 11117

Temp. _____ Address Oakland, Ca

SAMPLER: LKB

Well ID	SAMPLE #	WATER	time	Well ID	SAMPLE #	WATER/	time	Well ID	SAMPLE	WATER / time
MW-1	S-3	27.46		QC-1 (MW-4)	S-5					
MW-2	N/S	29.33		QC-2	S-6					
MW-3	S-1	27.83		MW-?	42.73					
MW-4	S-4	28.25								
MW-6	~~S-2~~	Inaccessible								

FIELD INSTRUMENT CALIBRATION DATA

Ph METER ICM 4.00 4 7.00 7 10.00 10 TIME 1100 TEMPERATURE COMPENSATED (Y) N

TURBIDI METER _____ 5.0 NTU STANDARD _____ OTHER _____

CONDUCTIVITY METER ICM 10,000 10,000 OTHER _____

Well ID: MW-3 | Depth to Water: 27.83 | Diam: 2" | Cap/Lock: OK | Depth to prod.: Ø | Iridescence: Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.

43.36 - 27.83 = 15.53 X .16 = 2.48 X 3 = 7.44

Purge Method: OSurface Pump ODisp.Tube OWinch X Disp. Baller(s) OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
2	1100	71.6	7.03	712	3.1
3		70.9	7.10	710	
5		70.3	7.16	702	
7.50	1120	70.0	7.11	702	2.6

O EPA 601 _____ X TPH-G/BTEX HCL O TPH Diesel _____ O TOG 5520 _____ Time/Sample 1127

Well ID: MW-6 | Depth to Water: Inaccessible | Diam: 2" | Cap/Lock: | Depth to prod.: | Iridescence: Y N

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.

40.40 -

Purge Method: OSurface Pump ODisp.Tube OWinch X Disp. Baller(s) OSys Port

Comments: Under Recycling Tryer, Cannot Access

Gal.	Time	Temp °F	pH	E.C.	D.O.

O EPA 601 _____ O TPH-G/BTEX _____ O TPH Diesel _____ O TOG 5520 _____ Time/ Sample

Well ID: MW-1 | Depth to Water: 27.46 | Diam: 2" | Cap/Lock: OK | Depth to prod.: Ø | Iridescence: Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.

39.52 - 27.46 = 12.06 X .16 = 1.93 X 3 = 5.79

Purge Method: OSurface Pump ODisp.Tube OWinch X Disp. Baller(s) OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
2	1140	70.6	6.92	790	2.9
4		70.1	6.87	782	
5		69.7	6.81	770	
6	1159	69.5	6.83	770	2.6

O EPA 601 _____ X TPH-G/BTEX HCL O TPH Diesel _____ O TOG 5520 _____ Time /Sample 1205

ALISTO

ENGINEERING GROUP

1777 OAKLAND BLVD, STE 200

WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

Field Report / Sampling Data Sheet

X Groundwater Sampling

Barometric pres._____

Date: 10/13/94 Project No. 10-018-03-601

Day: M T W (Th) F Facility No. 1117

Temp. _____ Address Oakland, Ca

SAMPLER: CB

Well ID	SAMPLE #	WATER time	Well ID	SAMPLE #	WATER/ time	Well ID	SAMPLE	WATER / time

FIELD INSTRUMENT CALIBRATION DATA

Ph METER_____ 4.00 _____ 7.00_____ 10.00 _____ TIME_____ TEMPERATURE COMPENSATED Y N

TURBIDI METER_____ 5.0 NTU STANDARD_____ OTHER_____

CONDUCTIVITY METER_____ 10,000_____ OTHER _____

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.	EPA 601 / TPH-G/BTEX / TPH Diesel / TOG 6520 / Time/Sample
MW-4	28.25	2"	OK	Ø	Y (N)	2	1230	70.4	7.04	1010	3.3	X TPH-G/BTEX HCl
Total Depth - Water Level =	x Well Vol. Factor =		x #vol. to Purge =		PurgeVol.	3		69.7	6.88	990		TPH Diesel
40.00 - 28.25 = 11.75 X .16 = 1.88 X 3 = 5.64						4		69.3	6.83	970		TOG 6520
Purge Method: OSurface Pump ODisp.Tube OWinch XDisp. Bailer(s) OSye Port						6	1300	69.1	6.79	970	2.9	Time/Sample 1310
Comments: QC-1 taken From this well												
MW-2	29.33	2"	OK	28.63	Y N							EPA 601 / TPH-G/BTEX / TPH Diesel / TOG 6520 / Time/ Sample
Total Depth - Water Level =	x Well Vol. Factor =		x #vol. to Purge =		PurgeVol.							
.70' FP, bailed ¼ gal FP, 5gal TF.												
Purge Method: OSurface Pump ODisp.Tube OWinch XDisp. Bailer(s) OSye Port												
Comments: N/S Emptied skimmer + replaced												
MW-7	42.73	2"	OK	Ø	Y (N)							EPA 601 / TPH-G/BTEX / TPH Diesel / TOG 6520 / Time /Sample
Total Depth - Water Level =	x Well Vol. Factor =		x #vol. to Purge =		PurgeVol.							
44.57 - 42.73 Behind station West Stockpile												
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSye Port												
Comments: Do Not Sample PER B.N												

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Alisto Engineering Group
1777 Oakland Blvd, Ste. 200
Walnut Creek, CA 94596

October 24, 1994
PACE Project Number: 441017509

Attn: Mr. Brady Nagle

Client Reference: BP Site #11117/10-018-03/001

PACE Sample Number:			70 0424070	
Date Collected:			10/13/94	
Date Received:			10/17/94	
Client Sample ID:			S-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/19/94
Benzene	ug/L	0.5	ND	10/19/94
Toluene	ug/L	0.5	ND	10/19/94
Ethylbenzene	ug/L	0.5	ND	10/19/94
Xylenes, Total	ug/L	0.5	ND	10/19/94

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FAX: 415-883-2673

Mr. Brady Nagle
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October 24, 1994
PACE Project Number: 441017509

Client Reference: BP Site #11117/10-018-03/001

PACE Sample Number:			70 0424089	
Date Collected:			10/13/94	
Date Received:			10/17/94	
Client Sample ID:			S-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1200	10/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/19/94
Benzene	ug/L	0.5	250	10/19/94
Toluene	ug/L	0.5	21	10/19/94
Ethylbenzene	ug/L	0.5	ND	10/19/94
Xylenes, Total	ug/L	0.5	3.2	10/19/94

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REPORT OF LABORATORY ANALYSIS

October 24, 1994
PACE Project Number: 441017509

Client Reference: BP Site #11117/10-018-03/001

PACE Sample Number:			70 0424097	
Date Collected:			10/13/94	
Date Received:			10/17/94	
Client Sample ID:			S-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/20/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	5000	51000	10/20/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/20/94
Benzene	ug/L	50	7100	10/20/94
Toluene	ug/L	50	13000	10/20/94
Ethylbenzene	ug/L	50	2100	10/20/94
Xylenes, Total	ug/L	50	8900	10/20/94

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REPORT OF LABORATORY ANALYSIS

October 24, 1994
PACE Project Number: 441017509

Client Reference: BP Site #11117/10-018-03/001

PACE Sample Number:			70 0424100	
Date Collected:			10/13/94	
Date Received:			10/17/94	
Client Sample ID:			S-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/20/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	5000	51000	10/20/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/20/94
Benzene	ug/L	50	7400	10/20/94
Toluene	ug/L	50	13000	10/20/94
Ethylbenzene	ug/L	50	2100	10/20/94
Xylenes, Total	ug/L	50	9100	10/20/94

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REPORT OF LABORATORY ANALYSIS

Mr. Brady Nagle
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October 24, 1994
PACE Project Number: 441017509

Client Reference: BP Site #11117/10-018-03/001

PACE Sample Number:			70 0424437	
Date Collected:			10/13/94	
Date Received:			10/17/94	
Client Sample ID:			S-6	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/19/94
Benzene	ug/L	0.5	ND	10/19/94
Toluene	ug/L	0.5	ND	10/19/94
Ethylbenzene	ug/L	0.5	ND	10/19/94
Xylenes, Total	ug/L	0.5	ND	10/19/94

These data have been reviewed and are approved for release.

Darrell C. Cain
Regional Director

11 Digital Drive
Novato, CA 94949
TEL: 415-883-6100
FAX: 415-883-2673

Mr. Brady Nagle
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FOOTNOTES
for pages 1 through 5

October 24, 1994
PACE Project Number: 441017509

Client Reference: BP Site #11117/10-018-03/001

MDL Method Detection Limit
ND Not detected at or above the MDL.

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REPORT OF LABORATORY ANALYSIS

Mr. Brady Nagle
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QUALITY CONTROL DATA

October 24, 1994
PACE Project Number: 441017509

Client Reference: BP Site #11117/10-018-03/001

PURGEABLE FUELS AND AROMATICS
Batch: 70 35369
Samples: 70 0424070, 70 0424089, 70 0424437

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700420946	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND	1000	86%	88%	2%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	1000	99%	99%	0%

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QUALITY CONTROL DATA

October 24, 1994
PACE Project Number: 441017509

Client Reference: BP Site #11117/10-018-03/001

PURGEABLE FUELS AND AROMATICS
Batch: 70 35371
Samples: 70 0424097, 70 0424100

METHOD BLANK:

Parameter	Units	MDL	Method Blank
TOTAL FUEL HYDROCARBONS, (LIGHT):			-
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND
PURGEABLE AROMATICS (BTXE BY EPA 8020M)			-
Benzene	ug/L	0.5	ND
Toluene	ug/L	0.5	ND
Ethylbenzene	ug/L	0.5	ND
Xylenes, Total	ug/L	0.5	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700420946	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND	1000	86%	88%	2%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	1000	99%	99%	0%

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Mr. Brady Nagle
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FOOTNOTES
for pages 7 through 8

October 24, 1994
PACE Project Number: 441017509

Client Reference: BP Site #11117/10-018-03/001

MDL	Method Detection Limit
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

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441017.509

CHAIN OF CUSTODY

No. 052484 Page 1 of 1

CONSULTANT'S NAME: BP	ADDRESS: 1777 Oakland Blvd #200	CITY: Walnut Creek	STATE: Ca	ZIP CODE: 94596
BP SITE NUMBER: 1117	BP CORNER ADDRESS/CITY: Oakland, Ca		CONSULTANT PROJECT NUMBER: 10-018-03/001	
CONSULTANT PROJECT MANAGER: Brady Nagle	PHONE NUMBER: (510) 295-1650	FAX NUMBER: 295-1823	CONSULTANT CONTRACT NUMBER: 6317860	
BP CONTACT: Scott Hooton	BP ADDRESS: Renton, WA	PHONE NUMBER:	FAX NO.:	
LAB CONTACT: Pace Inc.	LABORATORY ADDRESS: Novato, Ca	PHONE NUMBER: (415) 883-6100	FAX NO.: 883-2673	
SAMPLED BY (Please Print Name): Larry Buenvenida	SAMPLED BY (Signature): [signature]	SHIPMENT DATE:	SHIPMENT METHOD: Courier	AIRBILL NUMBER:

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

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE / LAB SAMPLE #	TPH-G / BTXE									COMMENTS
S-1	10/13/94	W	3	HCL	424070	X									
S-3	↓	↓	↓	↓	424089	↓									
S-4	↓	↓	↓	↓	424097	↓									
S-5	↓	↓	↓	↓	424100	↓									
S-6	↓	↓	↓	↓	424437	↓									← Missing Samples per Patti 10/17 1:20; Found JH 10/18

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	10/17/94	1:20	Brenda [signature] / PBB	10/17/94	1:20
Brenda [signature] / PBB	10/17/94	4:35	K. McWood [signature]	10/17/94	4:35

ADDITIONAL COMMENTS: 10/5

CLV-16722

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