BP OIL

BP Oil Company
16400 Southcenter Parkway, Suite 301
Tukwila, Washington 98188
(206) 575-4077

93 SEP -7 AM 11:52

September 2, 1993

Mr. Brian Oliva
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, CA 94621

RE: BP OIL FACILITY #11266
1541 Park Street
Alameda, CA

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED AUGUST 20, 1993** for the above referenced facility.

Based upon the results of our previous monitoring efforts, we will sample MW-3, MW-4, MW-5, and MW-6 on a semi-annual basis.

Please call me at (206) 394-5243 with questions regarding this submission.

Respectfully,

Scott T. Hooton
Environmental Resources Management

STH:aa ERM11266

cc: Mr. Eddy So, California Regional Water Quality Control Board, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, Ca 94612

Mr. Robert Merriken, Mobil Oil Corp, 3225 Gallows Road, Fairfax, VA 22037

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

Site file

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11266
1541 Park Street
Alameda, California

Project No. 10-050-02-001

Prepared for:

BP Oil Company
Environmental Resource Management
16400 Southcenter Parkway, Suite 301
Tukwila, Washington

Prepared by:

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

August 20, 1993

Brady Nagle
Project Manager

Al Sevilla, P.E.
Principal

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11266
1541 Park Street
Alameda, California

Project No. 10-050-02-001

August 20, 1993

INTRODUCTION

This report presents the results and findings of the June 17, 1993 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11266, 1541 Park Street, Alameda, 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 the 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. 11266
1541 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-050

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	LAB
MW-1	03/04/88	22.63	---	---	95000	2000	5900	1100	10000	---
MW-1	03/29/89	22.63	---	---	25000	930	2600	24	3100	---
MW-1	11/28/89	22.63	---	---	15000	280	880	340	1200	---
MW-1	02/13/91	22.63	---	---	25000	680	2700	1100	3200	---
MW-1	01/08/92	22.63	---	---	10000	260	1100	570	2000	---
MW-1	03/30/92	22.63	8.15	14.48	5800	290	570	500	1100	PACE
MW-1	07/02/92	22.63	9.38	13.25	2500	170	60	310	300	ANA
MW-1	07/22/92	22.63	9.62	13.01	---	---	---	---	---	---
MW-1	10/02/92	22.63	9.98	12.65	4000	86	190	270	350	ANA
QC-1 (c)	10/02/92	---	---	---	3600	89	180	270	340	ANA
MW-1	12/14/92	22.63	9.90	12.73	6800	75	540	200	670	ANA
QC-1 (c)	12/14/92	---	---	---	5900	68	480	190	600	ANA
MW-1	03/24/93	22.63	8.52	14.11	6400	150	310	370	710	PACE
MW-1	06/17/93	22.63	9.37	13.26	3800	110	160	310	480	PACE
MW-2	03/04/88	22.75	---	---	ND	ND	ND	ND	ND	---
MW-2	03/29/89	22.75	---	---	ND	1.1	0.78	ND	1.7	---
MW-2	11/28/89	22.75	---	---	170	ND	ND	ND	ND	---
MW-2	02/13/91	22.75	---	---	150	1.4	ND	ND	0.9	---
MW-2	01/08/92	22.75	---	---	ND	1.4	ND	ND	1.1	---
MW-2	03/30/92	22.75	9.03	13.72	91	0.7	ND	ND	ND	PACE
MW-2	07/02/92	22.75	9.96	12.79	150	3.1	0.6	0.6	1.1	ANA
MW-2	07/22/92	22.75	10.12	12.63	---	---	---	---	---	---
MW-2	10/02/92	22.75	10.42	12.33	56	ND<0.5	0.8	0.8	1.2	ANA
MW-2	12/14/92	22.75	10.77	11.98	210	1.5	ND<0.5	0.9	2.7	ANA
MW-2	03/24/93	22.75	9.33	13.42	94	0.8	ND<0.5	ND<0.5	0.9	PACE
QC-1 (c)	03/24/93	---	---	---	150	1.8	0.6	1.3	1.3	PACE
MW-2	06/17/93	22.75	9.91	12.84	ND<50	ND<0.5	ND<0.5	ND<0.5	0.7	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11266
1541 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-050

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	LAB
MW-3	03/04/88	23.45	---	---	ND	ND	ND	ND	ND	---
MW-3	03/29/89	23.45	---	---	ND	ND	ND	ND	ND	---
MW-3	11/28/89	23.45	---	---	ND	ND	ND	ND	ND	---
MW-3	02/13/91	23.45	---	---	ND	ND	ND	ND	ND	---
MW-3	01/08/92	23.45	---	---	ND	ND	ND	ND	ND	---
MW-3	03/30/92	23.45	9.71	13.74	ND	ND	ND	ND	ND	PACE
MW-3	07/02/92	23.45	10.52	12.93	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-3	07/22/92	23.45	10.62	12.83	---	---	---	---	---	---
MW-3	10/02/92	23.45	10.86	12.59	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-3	12/14/92	23.45	10.53	12.92	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-3	03/24/93	23.45	9.06	14.39	ND<50	ND<0.5	ND<0.5	ND<0.5	ND>0.5	PACE
MW-3	06/17/93	23.45	10.44	13.01	ND<50	ND<0.5	ND<0.5	ND<0.5	ND>0.5	PACE
MW-4	03/04/88	23.63	---	---	ND	ND	ND	ND	ND	---
MW-4	03/29/89	23.63	---	---	ND	ND	ND	ND	ND	---
MW-4	11/28/89	23.63	---	---	430	6.2	0.6	12	3.3	---
MW-4	02/13/91	23.63	---	---	ND	ND	ND	ND	ND	---
MW-4	01/08/92	23.63	---	---	ND	ND	ND	ND	ND	---
MW-4	03/30/92	23.63	8.73	14.90	ND	ND	ND	ND	ND	PACE
MW-4	07/02/92	23.63	10.04	13.59	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-4	07/22/92	23.63	10.26	13.37	---	---	---	---	---	---
MW-4	10/02/92	23.63	10.63	13.00	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-4	12/14/92	23.63	10.02	13.61	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-4	03/24/93	23.63	9.08	14.55	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
MW-4	06/17/93	23.63	10.03	13.60	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11266
1541 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-050

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	LAB
MW-5	03/04/88	22.87	---	---	ND	ND	ND	ND	ND	---
MW-5	03/29/89	22.87	---	---	ND	ND	ND	ND	ND	---
MW-5	11/28/89	22.87	---	---	ND	ND	ND	ND	ND	---
MW-5	02/13/91	22.87	---	---	ND	ND	ND	ND	ND	---
MW-5	01/08/92	22.87	---	---	ND	ND	ND	ND	ND	---
MW-5	03/30/92	22.87	7.85	15.02	ND	ND	ND	ND	ND	PACE
MW-5	07/02/92	22.87	9.27	13.60	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-5	07/22/92	22.87	9.55	13.32	---	---	---	---	---	---
MW-5	10/02/92	22.87	9.97	12.90	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-5	12/14/92	22.87	9.14	13.73	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-5	03/24/93	22.87	8.17	14.70	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
MW-5	06/17/93	22.87	8.29	14.58	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
QC-1 (c)	06/17/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
MW-6	03/04/88	22.85	---	---	ND	ND	ND	ND	ND	---
MW-6	03/29/89	22.85	---	---	ND	ND	ND	ND	ND	---
MW-6	11/28/89	22.85	---	---	ND	ND	ND	ND	ND	---
MW-6	02/13/91	22.85	---	---	ND	ND	ND	ND	ND	---
MW-6	01/08/92	22.85	---	---	ND	ND	ND	ND	ND	---
MW-6	03/30/92	22.85	8.86	13.99	ND	ND	ND	ND	ND	PACE
MW-6	07/02/92	22.85	9.94	12.91	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-6	07/22/92	22.85	10.10	12.75	---	---	---	---	---	---
MW-6	10/02/92	22.85	10.48	12.37	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-6	12/14/92	22.85	10.76	12.09	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
MW-6	03/24/93	22.85	9.19	13.66	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
MW-6	06/17/93	22.85	9.91	12.94	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11266
1541 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-050

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	LAB
RW-1	07/22/92	---	9.66	---	13000	1000	3400	380	2800	ANA
RW-1	10/02/92	---	10.28	---	---	---	---	---	---	---
RW-1	12/14/92	---	23.28	---	---	---	---	---	---	---
RW-1	03/24/93	---	8.93	---	660	21	25	8.3	100	PACE
RW-1	06/17/93	---	9.66	---	850	13	1.0	15	100	PACE
QC-2 (d)	10/02/92	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
QC-2 (d)	12/14/92	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ANA
QC-2 (d)	03/24/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
QC-2 (d)	06/17/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
ppb	Parts per billion
---	Not analyzed/measured/available
ND	Not detected above reported detection limit
PACE	Pace, Inc.
ANA	Anametrix, Inc.

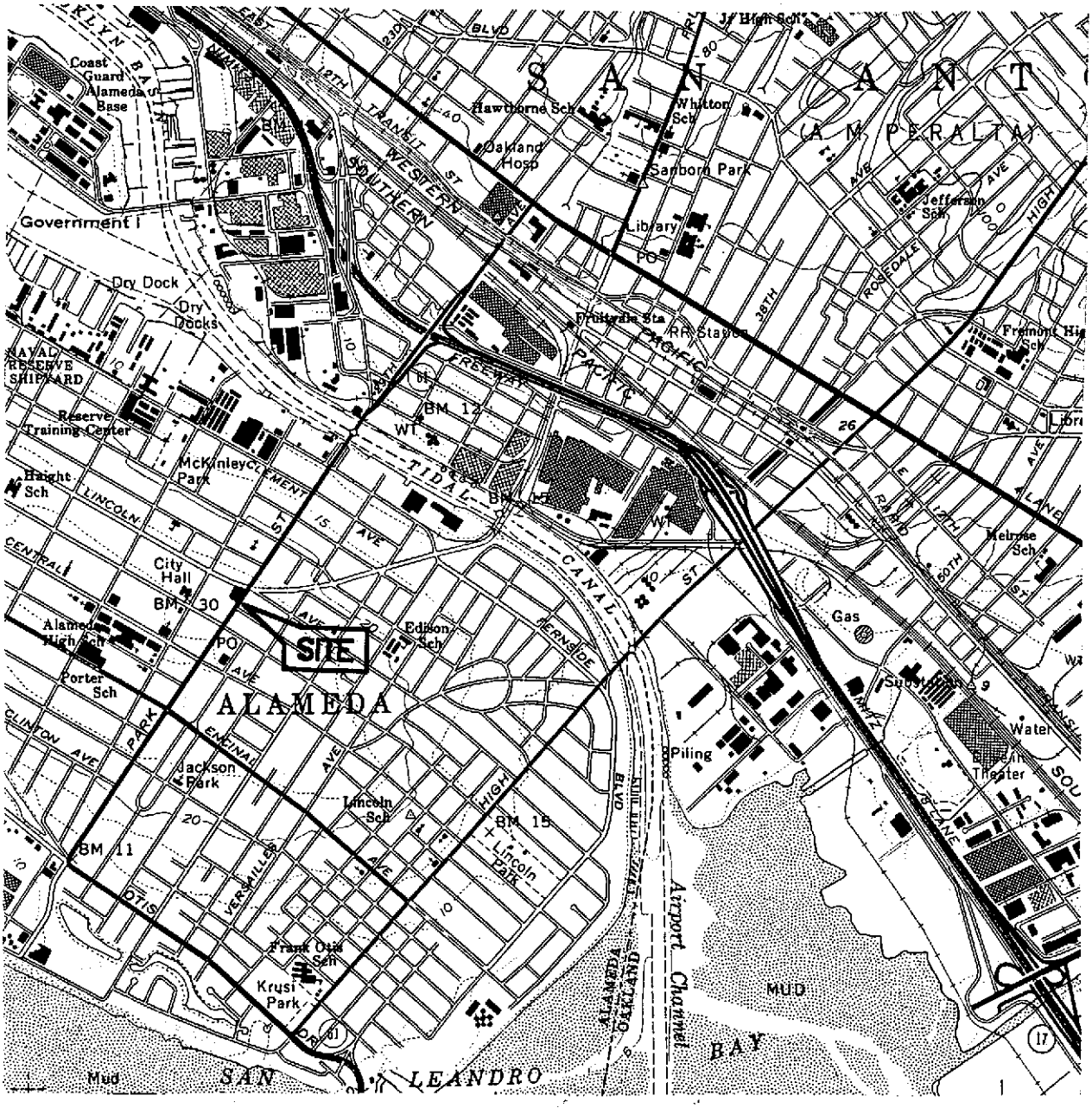
NOTES:

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

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

(c) Blind duplicate.

(d) Travel blank.



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

FIGURE 1

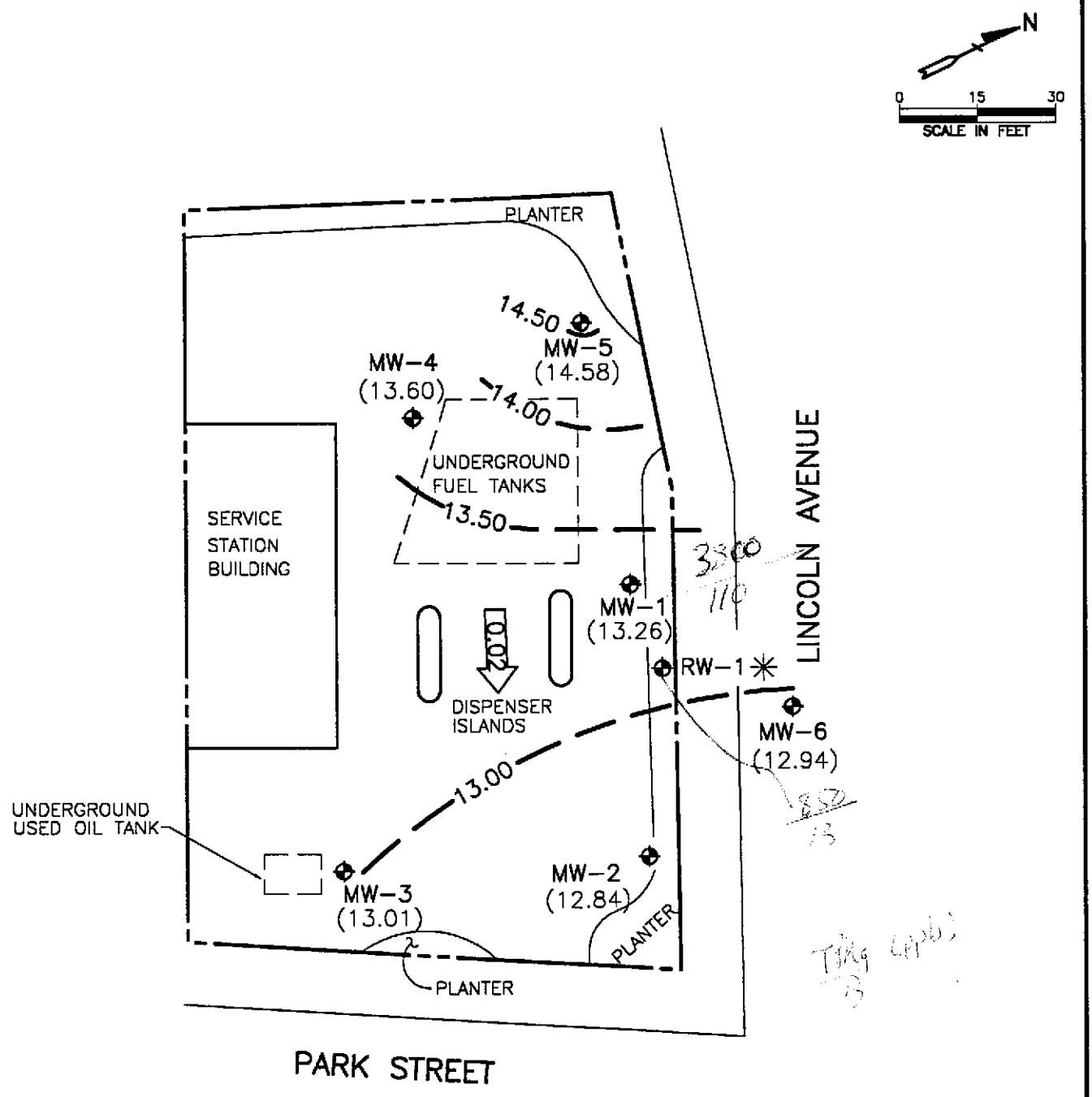
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11266
1541 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-050

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

100508—.DWG 6-4-03 KH 1=1



LEGEND

- ◆ GROUNDWATER MONITORING WELL
- (14.78) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 14.50 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.50 FOOT)
- 0.02 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT
- ✳ GROUNDWATER ELEVATION NOT USED TO CONTOUR

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

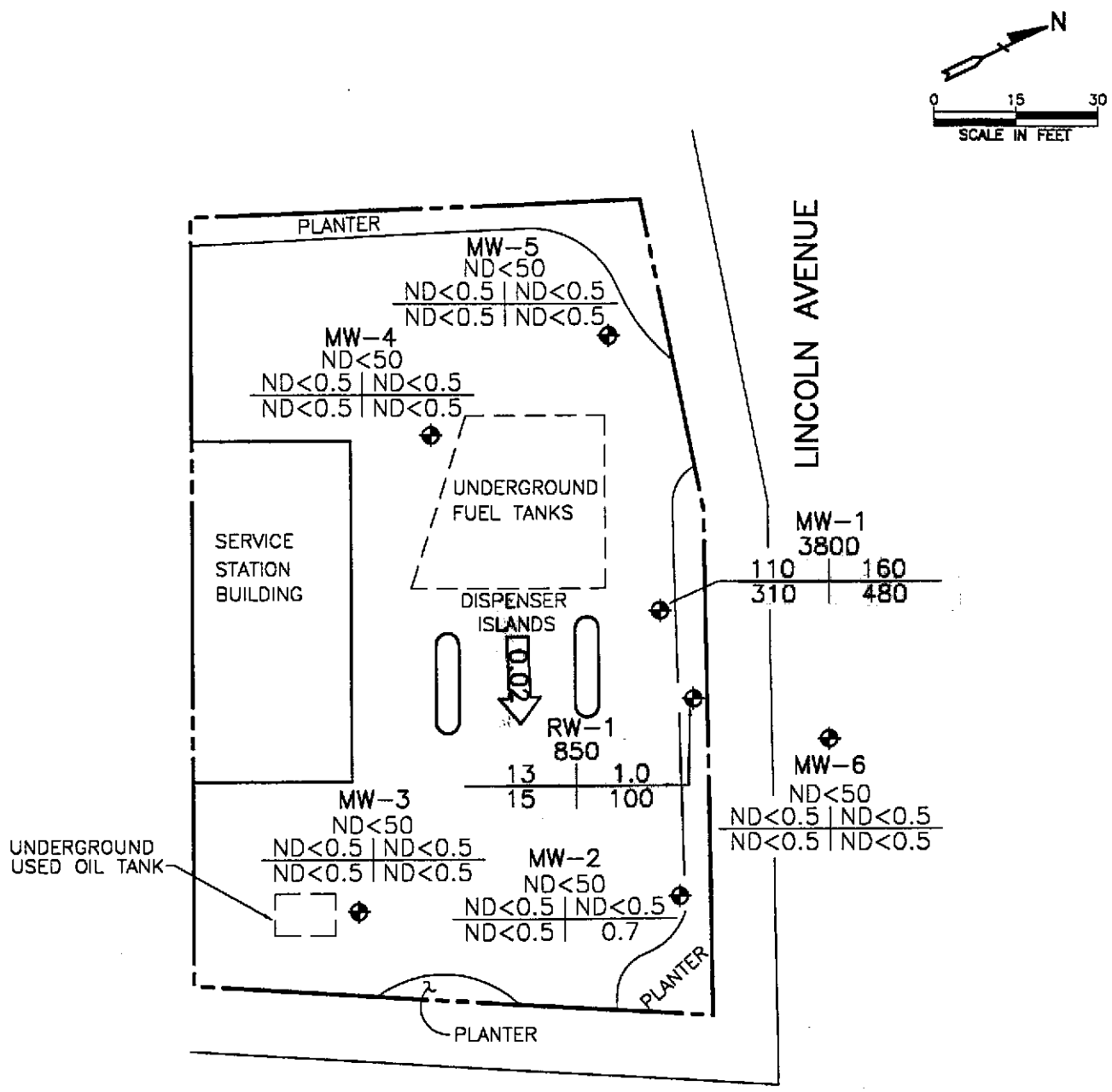
JUNE 17, 1993

BP OIL SERVICE STATION NO. 11266
1541 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10–050

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10050D-F.DWG 8-18-93 RKW 1=30



LEGEND

◆	GROUNDWATER MONITORING WELL
TPH-G / B | T / E | X	CONCENTRATION OF CONSTITUENTS IN PARTS PER BILLION
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
⇦ 0.02	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

JUNE 17, 1993

BP OIL SERVICE STATION NO. 11266
1541 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-050

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10050E-F.DWG 7-20-93 RKW 1=30

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

Birch Technical Services

116 Liberty st
Santa Cruz, Ca 95060
(408) 459-0718

Field Report / Data Sheet

BP 11266

X Groundwater Sampling O Groundwater Monitoring O Well Development O Drill Support O Stockpile Sampling

Firm: ALISTO	Date: 6/17/93	Station #: ~~BP11266~~	Day: M Tu W (Th) F
Project Number: 10-050-87-001	Field Technician: DAN BIRCH	Address: 1541 PARK STREET, ALAMEDA	Weather: Hot

DTWorder	Well ID	Lock	Exp Cap	Total Depth (feet)	1st Depth to Water (feet)	2nd Depth to Water (feet)	Depth to Product (feet)	Product Thickness	Comments	WELL DIAM
7	RW-1	ND	ND	29.54	9.45 9.66	9.45 9.66			Dept to top of casing Depth from port hole in cap.	6
6	MW-1	ok	ok	21.88	9.37	9.37				2
5	MW-2	ok	ok	23.01	9.91	9.91				2
2	MW-3	ok	ok	19.59	10.44	10.44				2
1	MW-4	ok	ok	19.92	10.03	10.03				2
4	MW-5	ok	ok	24.24	8.29	8.29			Replaced broken plug.	2
3	MW-6	ok	ok	16.95	9.91	9.91			Street well	2

Notes: Upon arriving station manager says he shut down system last week due to loud unusual noise. Purged water was poured into systems storage tank.

Birch Technical Services

GROUNDWATER SAMPLING FORM

116 Liberty Street
Santa Cruz, Ca 95060
(408) 459-0718

Well Number: MW-1

Project Number: 10-050-01-001

Station Number: BP11266

Date: 6 / 17 / 93

Sample Type: XGroundwater OTrip Blank ODuplicate of _____

Sampled by: DAN BIRCH

WELL PURGING

PURGE VOLUME

Casing Diameter (inches)	X2"	O3"	O4"	O4.5"	O6"	O____
Volume Factors:	0.1632	0.3672	0.6528	0.826	1.469	_____

Total Depth of Well 21.88 Initial Water Level: 9.37

Total Volume Purged: 6 Time Elapsed: 5

PURGE METHOD:
X Honda Pump
O Disposable PolyTubing(22 ft)
O Speed Winch
O Disposable PVC Bailer(s)( )
O Other _____

Calculated Purge Volume:

21.88 (Total Depth) - 9.37 (Water Level) = 12.51 x .16 (Well Vol. Fac.) = 2.00 x 3 (#of vol. to Purge) = 6.00 (gallons) Calculated Purge Volume

Subjective Analysis Prior to Purging

SHEEN OYes XNo Depth to Product None (ft) Product Thickness None (ft)

COMMENTS:

PARAMETER EQUIPMENT CALIBRATION

pH Meter #: 9112 Time: 1100

Solution pH 7.00 7 at 74 °F

Solution pH 4.00 4 at 74 °F

Solution pH 10.00 10 at 74 °F

Water Level Meter#: 10337

SAMPLING METHOD

XPVC Disposable Bailer
OTeflon Bailer
OOther: _____

Time Sampled (24 hour clock) 1256

WELL SAMPLING PARAMETERS

Gallons Removed	Time	Temp °F	pH	Cond. (umhos/cm)
2	1253	71.5	6.33	0.54
4	1254	71.0	6.22	0.45
6	1256	70.9	6.21	0.45

	Analysis Required	No. of	Container Type	Preservatives
	EPA 601		VOA's	
X	TPH-G/BTEX	3	VOA's	HCl
	TPH- Diesel		Amber Liter	
	TOG 5520 BF		Amber Liter	H_2SO_4

Birch Technical Services

GROUNDWATER SAMPLING FORM

116 Liberty Street
Santa Cruz, Ca 95060
(408) 459-0718

Well Number: MW-2

Project Number: 10-050-01-001

Sample Type: X Groundwater OTrip Blank ODuplicate of _____

Station Number: BP11266

Date: 6/17/93

Sampled by: DAN Birch

WELL PURGING

PURGE VOLUME

Casing Diameter (inches) / Volume Factors:

X 2"	O3"	O4"	O4.5"	O6"	O____
0.1632	0.3672	0.6528	0.826	1.469	_____

Total Depth of Well 23.01 Initial Water Level: 9.91

Total Volume Purged: 7 Time Elapsed: 5

PURGE METHOD:
X Honda Pump
ODisposable PolyTubing(25 ft)
OSpeed Winch
ODisposable PVC Bailer(s)(___)
OOther_____

Calculated Purge Volume:

23.01 (Total Depth) - 9.91 (Water Level) = 13.1 x .16 (Well Vol. Fac.) = 2.09 x 3 (#of vol. to Purge) = 6.28 (gallons) (Calculated Purge Volume)

Subjective Analysis Prior to Purging

SHEEN OYes X No Depth to Product No (ft) Product Thickness None (ft)

COMMENTS:

PARAMETER EQUIPMENT CALIBRATION

pH Meter #: 9112 Time: 1100

Solution pH 7.00 7 at 74 °F

Solution pH 4.00 4 at 74 °F

Solution pH 10.00 10 at 74 °F

Water Level Meter#: 1037

SAMPLING METHOD

X PVC Disposable Bailer
OTeflon Bailer
OOther:_____

Time Sampled (24 hour clock) 1253

WELL SAMPLING PARAMETERS

Gallons Removed	Time	Temp °F	pH	Cond. (umhos/cm)
2	1249	72.9	6.38	0.58
4	1251	72.6	6.35	0.58
7	1253	72.4	6.34	0.57

	Analysis Required	No. of	Container Type	Preservatives
	EPA 601		VOA's	
X	TPH-G/BTEX	3	VOA's	HCl
	TPH- Diesel		Amber Liter	
	TOG 5520 BF		Amber Liter	H_2SO_4

Birch Technical Services

GROUNDWATER SAMPLING FORM

116 Liberty Street
Santa Cruz, Ca 95060
(408) 459-0718

Well Number: MW-3

Project Number: 10-050-01-001

Sample Type: X Groundwater OTrip Blank ODuplicate of _____

Station Number: BP11266

Date: 6/17/93

Sampled by: DAN BIRCH

WELL PURGING

PURGE VOLUME

Casing Diameter (inches) X 2" O3" O4" O4.5" O6" O____

Volume Factors: 0.1632 0.3672 0.6528 0.826 1.469 _____

Total Depth of Well 19.59

Initial Water Level: 10.44

Total Volume Purged: 6

Time Elapsed: 4

PURGE METHOD:

O Honda Pump
O Disposable PolyTubing(22 ft)
OSpeed Winch
ODisposable PVC Bailer(s)(____)
OOther_____

Calculated Purge Volume:

19.59 (Total Depth) - 10.44 (Water Level) = 9.15 x .16 (Well Vol. Fac.) = 1.46 x 3 (#of vol. to Purge) = 4.39 (gallons) (Calculated Purge Volume)

Subjective Analysis Prior to Purging

SHEEN OYes X No

Depth to Product No (ft)

Product Thickness None (ft)

COMMENTS:

PARAMETER EQUIPMENT CALIBRATION

pH Meter #: 9112 Time: 1100

Solution pH 7.00 7 at 74 °F

Solution pH 4.00 4 at 74 °F

Solution pH 10.00 10 at 74 °F

Water Level Meter#: 10337

SAMPLING METHOD

X PVC Disposable Bailer
OTeflon Bailer
OOther:_____

Time Sampled (24 hour clock) 1211

WELL SAMPLING PARAMETERS

Gallons Removed	Time	Temp °F	pH	Cond. (umhos/cm)
2	1207	73.5	6.25	0.57
4	1209	72.6	6.22	0.51
6	1211	72.6	6.22	0.51

	Analysis Required	No. of	Container Type	Preservatives
	EPA 601		VOA's	
X	TPH-G/BTEX	3	VOA's	HCl
	TPH- Diesel		Amber Liter	
	TOG 5520 BF		Amber Liter	H_2SO_4

Birch Technical Services

GROUNDWATER SAMPLING FORM

116 Liberty Street
Santa Cruz, Ca 95060
(408) 459-0718

Well Number: MW-4

Project Number: 10-050-01-001 Sample Type: X Groundwater O Trip Blank O Duplicate of _____

Station Number: BP11266 Sampled by: DAN BIRCH

Date: 6 / 17 / 93

WELL PURGING

PURGE VOLUME

Casing Diameter (inches) Volume Factors:

X 2"	O3"	O4"	O4.5"	O6"	O____
0.1632	0.3672	0.6528	0.826	1.469	_____

Total Depth of Well 19.92 Initial Water Level: 10.03

Total Volume Purged: 5 Time Elapsed: 4

PURGE METHOD:

X Honda Pump
O Disposable PolyTubing(21 ft)
O Speed Winch
O Disposable PVC Bailer(s)(____)
O Other _____

Calculated Purge Volume:

19.92 (Total Depth) - 10.03 (Water Level) = 9.89 x .16 (Well Vol. Fac.) = 1.6 x 3 (#of vol. to Purge) = 4.75 (gallons) (Calculated Purge Volume)

Subjective Analysis Prior to Purging

SHEEN O Yes X No Depth to Product None (ft) Product Thickness None (ft)

COMMENTS:

PARAMETER EQUIPMENT CALIBRATION

pH Meter #: 9112 Time: 1100

Solution pH 7.00 7 at 74 °F

Solution pH 4.00 4 at 74 °F

Solution pH 10.00 10 at 74 °F

Water Level Meter#: 10337

SAMPLING METHOD

X O PVC Disposable Bailer
O Teflon Bailer
O Other: _____

Time Sampled (24 hour clock) 1154

WELL SAMPLING PARAMETERS

Gallons Removed	Time	Temp °F	pH	Cond. (umhos/cm)
1	1151	74.2	6.53	0.26
3	1152	72.5	6.35	0.26
5	1154	71.9	6.32	0.26

	Analysis Required	No. of	Container Type	Preservatives
	EPA 601		VOA's	
X	TPH-G/BTEX	3	VOA's	HCl
	TPH- Diesel		Amber Liter	
	TOG 5520 BF		Amber Liter	H_2SO_4

Birch Technical Services

116 Liberty Street
Santa Cruz, Ca 95060
(408) 459-0718

GROUNDWATER SAMPLING FORM

Well Number: MW-5
Project Number: 10-050-01-001
Station Number: BP11266
Date: 6/17/93
Sample Type: X Groundwater OTrip Blank ODuplicate of _____
Sampled by: DAN BIRCH

WELL PURGING

PURGE VOLUME

Casing Diameter (inches) / Volume Factors:

X 2"	O3"	O4"	O4.5"	O6"	O____
0.1632	0.3672	0.6528	0.826	1.469	_____

Total Depth of Well 24-24 Initial Water Level: 8.29
Total Volume Purged: 8 Time Elapsed: 8

PURGE METHOD:
X Honda Pump
O Disposable PolyTubing(26 ft)
O Speed Winch
O Disposable PVC Bailer(s)(____)
O Other_____

Calculated Purge Volume:

24-24 (Total Depth) − 8.29 (Water Level) = 15.95 × .16 (Well Vol. Fac.) = 2.55 × 3 (#of vol. to Purge) = 7.7 (gallons) Calculated Purge Volume

Subjective Analysis Prior to Purging

SHEEN OYes X No Depth to Product None (ft) Product Thickness None (ft)

COMMENTS:

QC-1 from MW-5

PARAMETER EQUIPMENT CALIBRATION

pH Meter #: 9112 Time: 1100
Solution pH 7.00 7 at 74 °F
Solution pH 4.00 4 at 74 °F
Solution pH 10.00 10 at 74 °F
Water Level Meter#: 10337

SAMPLING METHOD

X OPVC Disposable Bailer
OTeflon Bailer
OOther:_____

Time Sampled (24 hour clock): 1231

WELL SAMPLING PARAMETERS

Gallons Removed	Time	Temp °F	pH	Cond. (umhos/cm)
2	1226	72.3	6.35	6.39
4	1227	71.4	6.27	0.34
6	1229	71.5	6.29	6.35
8	1231	70.9	6.28	0.37

	Analysis Required	No. of	Container Type	Preservatives
	EPA 601		VOA's	
X	TPH-G/BTEX	3	VOA's	HCl
	TPH- Diesel		Amber Liter	
	TOG 5520 BF		Amber Liter	H_2SO_4

Birch Technical Services

GROUNDWATER SAMPLING FORM

116 Liberty Street
Santa Cruz, Ca 95060
(408) 459-0718

Well Number: MW-6

Project Number: 10-050-01-001

Sample Type: X Groundwater ~~O~~Trip Blank ODuplicate of _____

Station Number: BA1266

Date: 6/17/93

Sampled by: DAN BIRCH

WELL PURGING

PURGE VOLUME

Casing Diameter (inches)	O 2"	O3"	O4"	O4.5"	O6"	O____
Volume Factors:	0.1632	0.3672	0.6528	0.826	1.469	_____

Total Depth of Well 16.95 Initial Water Level: 9.91

Total Volume Purged: 4 Time Elapsed: 3

PURGE METHOD:
- X Honda Pump
- ~~O~~Disposable PolyTubing(20 ft)
- OSpeed Winch
- ODisposable PVC Bailer(s)(___)
- OOther_____

Calculated Purge Volume:

16.95 (Total Depth) - 9.91 (Water Level) = 7.04 x .16 (Well Vol. Fac.) = 1.12 x 3 (#of vol. to Purge) = 3.3 (gallons) Calculated Purge Volume

Subjective Analysis Prior to Purging

SHEEN OYes XNo Depth to Product None (ft) Product Thickness None (ft)

COMMENTS:

PARAMETER EQUIPMENT CALIBRATION

pH Meter #: 9112 Time: 1100

Solution pH 7.00 7 at 74 °F

Solution pH 4.00 4 at 74 °F

Solution pH 10.00 10 at 74 °F

Water Level Meter#: 10337

SAMPLING METHOD

X OVC Disposable Bailer
OTeflon Bailer
OOther:_____

Time Sampled (24 hour clock) 1222

WELL SAMPLING PARAMETERS

Gallons Removed	Time	Temp °F	pH	Cond. (umhos/cm)
2	1220	75.7	6.45	0.45
4	1222	75.5	6.47	0.45

	Analysis Required	No. of	Container Type	Preservatives
	EPA 601		VOA's	
X	TPH-G/BTEX	3	VOA's	HCl
	TPH- Diesel		Amber Liter	
	TOG 5520 BF		Amber Liter	H_2SO_4

Birch Technical Services

GROUNDWATER SAMPLING FORM

116 Liberty Street
Santa Cruz, Ca 95060
(408) 459-0718

Well Number: RW-1

Project Number: 10-050-01-001
Station Number: BP1126
Date: 6/17/93

Sample Type: X Groundwater OTrip Blank ODuplicate of _____

Sampled by: Dan Birch

WELL PURGING

PURGE VOLUME

Casing Diameter (inches) / Volume Factors:

O 2"	O3"	O4"	O4.5"	X 6"	O____
0.1632	0.3672	0.6528	0.826	1.469	_____

Total Depth of Well 29.54 Initial Water Level: 9.66

Total Volume Purged: _____ Time Elapsed: _____

PURGE METHOD:
X OHonda Pump
OXDisposable PolyTubing(____ft)
OSpeed Winch
ODisposable PVC Bailer(s)(____)
OOther_____

Calculated Purge Volume:

29.54 (Total Depth) - 9.66 (Water Level) = _____ x 1.47 (Well Vol. Fac.) = _____ x 3 (#of vol. to Purge) = _____(gallons) (Calculated Purge Volume)

Subjective Analysis Prior to Purging

SHEEN OYes XNo Depth to Product None (ft) Product Thickness None (ft)

COMMENTS:

PARAMETER EQUIPMENT CALIBRATION

pH Meter #: 9112 Time: 1100
Solution pH 7.00 7 at 74 °F
Solution pH 4.00 4 at 74 °F
Solution pH 10.00 10 at 74 °F
Water Level Meter#: 10337

SAMPLING METHOD

OPVC Disposable Bailer
OTeflon Bailer
OOther:_____

Time Sampled (24 hour clock) _____

WELL SAMPLING PARAMETERS

Gallons Removed	Time	Temp °F	pH	Cond. (umhos/cm)
20	1314	72.8	6.44	0.43
40	1320	71.6	6.55	0.41
70	1335	71.7	6.55	0.41

	Analysis Required	No. of	Container Type	Preservatives
	EPA 601		VOA's	
	TPH-G/BTEX		VOA's	HCl
	TPH- Diesel		Amber Liter	
	TOG 5520 BF		Amber Liter	H_2SO_4

Birch Technical Services

GROUNDWATER SAMPLING FORM

116 Liberty Street
Santa Cruz, Ca 95060
(408) 459-0718

Project Number: 16-650-01-001
Station Number: BP11266
Date: 6/17/93

Well Number: QC-1
Sample Type: OGroundwater OTrip Blank XDuplicate of MW5
Sampled by: DAN BIRCH

WELL PURGING

PURGE VOLUME

Casing Diameter (inches)	O 2"	O3"	O4"	O4.5"	O6"	O____
Volume Factors:	0.1632	0.3672	0.6528	0.826	1.469	_____

Total Depth of Well _____ Initial Water Level:_____

Total Volume Purged:_____ Time Elapsed:_____

Calculated Purge Volume:

PURGE METHOD:
O Honda Pump
ODisposable PolyTubing(____ft)
OSpeed Winch
ODisposable PVC Bailer(s)(____)
OOther_____

_____ - _____ = _____ x _____ = _____ x _____ = _____(gallons)
Total Depth | Water Level | Well Vol. Fac. | #of vol. to Purge | Calculated Purge Volume

Subjective Analysis Prior to Purging

SHEEN OYes ONo
Depth to Product _____(ft)
Product Thickness _____ (ft)

COMMENTS:

MW5

PARAMETER EQUIPMENT CALIBRATION

pH Meter #:_____ Time:_____
Solution pH 7.00 _____at _____°F
Solution pH 4.00_____at _____°F
Solution pH 10.00 _____ at _____°F
Water Level Meter#:_____

SAMPLING METHOD

OPVC Disposable Bailer
OTeflon Bailer
OOther:_____

Time Sampled (24 hour clock) 1240

WELL SAMPLING PARAMETERS

Gallons Removed	Time	Temp °F	pH	Cond. (umhos/cm)

	Analysis Required	No. of	Container Type	Preservatives
	EPA 601		VOA's	
X	TPH-G/BTEX	3	VOA's	HCl
	TPH- Diesel		Amber Liter	
	TOG 5520 BF		Amber Liter	H_2SO_4

Birch Technical Services

116 Liberty Street
Santa Cruz, Ca 95060
(408) 459-0718

GROUNDWATER SAMPLING FORM

Well Number: QC-2

Project Number 10-050-01-001

Station Number: BP11266

Date: 6/17/93

Sample Type: OGroundwater OTrip Blank ODuplicate of _____

Sampled by: Dan Bird

WELL PURGING

PURGE VOLUME

Casing Diameter (inches) O 2" O3" O4" O4.5" O6" O_____

Volume Factors: 0.1632 0.3672 0.6528 0.826 1.469 _____

Total Depth of Well _____ Initial Water Level:_____

Total Volume Purged:_____ Time Elapsed:_____

Calculated Purge Volume:

PURGE METHOD:
O Honda Pump
ODisposable PolyTubing(____ft)
OSpeed Winch
ODisposable PVC Bailer(s)(____)
OOther_____

_____ - _____ = _____ x _____ = _____ x _____ = _____(gallons)
Total Depth | Water Level | Well Vol. Fac. | #of vol. to Purge | Calculated Purge Volume

Subjective Analysis Prior to Purging

SHEEN OYes ONo

Depth to Product _____(ft)

Product Thickness _____ (ft)

COMMENTS:

PARAMETER EQUIPMENT CALIBRATION

pH Meter #:_____ Time:_____

Solution pH 7.00 _____at _____°F

Solution pH 4.00_____at _____°F

Solution pH 10.00 _____ at _____°F

Water Level Meter#:_____

SAMPLING METHOD

OPVC Disposable Bailer
OTeflon Bailer
OOther:_____

Time Sampled (24 hour clock) _____

WELL SAMPLING PARAMETERS

Gallons Removed	Time	Temp °F	pH	Cond. (umhos/cm)

	Analysis Required	No. of	Container Type	Preservatives
	EPA 601		VOA's	
	TPH-G/BTEX		VOA's	HCl
	TPH- Diesel		Amber Liter	
	TOG 5520 BF		Amber Liter	H_2SO_4

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

July 02, 1993
PACE Project Number: 430618523
PACE WPP# 2728

Attn: Mr. Bill Howell

Client Reference: BP Station # 11266

PACE Sample Number:			70 0096235	
Date Collected:			06/17/93	
Date Received:			06/18/93	
			RW-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/28/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	850	06/28/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/28/93
Benzene	ug/L	0.5	13	06/28/93
Toluene	ug/L	0.5	1.0	06/28/93
Ethylbenzene	ug/L	0.5	15	06/28/93
Xylenes, Total	ug/L	0.5	100	06/28/93

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

REPORT OF LABORATORY ANALYSIS

July 02, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

PACE Sample Number:			70 0096243	
Date Collected:			06/17/93	
Date Received:			06/18/93	
Client Sample ID:			MW-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/28/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	3800	06/28/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/28/93
Benzene	ug/L	0.5	110	06/28/93
Toluene	ug/L	0.5	160	06/28/93
Ethylbenzene	ug/L	0.5	310	06/28/93
Xylenes, Total	ug/L	0.5	480	06/28/93

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

REPORT OF LABORATORY ANALYSIS

July 02, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

PACE Sample Number:			70 0096251	
Date Collected:			06/17/93	
Date Received:			06/18/93	
Client Sample ID:			MW#2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/28/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/28/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/28/93
Benzene	ug/L	0.5	ND	06/28/93
Toluene	ug/L	0.5	ND	06/28/93
Ethylbenzene	ug/L	0.5	ND	06/28/93
Xylenes, Total	ug/L	0.5	0.7	06/28/93

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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July 01, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

PACE Sample Number:			70 0096260	
Date Collected:			06/17/93	
Date Received:			06/18/93	
Client Sample ID:			MW-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/28/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/28/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/28/93
Benzene	ug/L	0.5	ND	06/28/93
Toluene	ug/L	0.5	ND	06/28/93
Ethylbenzene	ug/L	0.5	ND	06/28/93
Xylenes, Total	ug/L	0.5	ND	06/28/93

REPORT OF LABORATORY ANALYSIS

July 01, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

PACE Sample Number:			70 0096278	
Date Collected:			06/17/93	
Date Received:			06/18/93	
Client Sample ID:			MW-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/29/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/29/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/29/93
Benzene	ug/L	0.5	ND	06/29/93
Toluene	ug/L	0.5	ND	06/29/93
Ethylbenzene	ug/L	0.5	ND	06/29/93
Xylenes, Total	ug/L	0.5	ND	06/29/93

REPORT OF LABORATORY ANALYSIS

July 01, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

PACE Sample Number:			70 0096286	
Date Collected:			06/17/93	
Date Received:			06/18/93	
Client Sample ID:			MW-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/29/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/29/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/29/93
Benzene	ug/L	0.5	ND	06/29/93
Toluene	ug/L	0.5	ND	06/29/93
Ethylbenzene	ug/L	0.5	ND	06/29/93
Xylenes, Total	ug/L	0.5	ND	06/29/93

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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July 01, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

PACE Sample Number:			70 0096294	
Date Collected:			06/17/93	
Date Received:			06/18/93	
Client Sample ID:			MW-6	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/29/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/29/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/29/93
Benzene	ug/L	0.5	ND	06/29/93
Toluene	ug/L	0.5	ND	06/29/93
Ethylbenzene	ug/L	0.5	ND	06/29/93
Xylenes, Total	ug/L	0.5	ND	06/29/93

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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July 01, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

PACE Sample Number:			70 0096308	
Date Collected:			06/17/93	
Date Received:			06/18/93	
Client Sample ID:			QC-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/29/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/29/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/29/93
Benzene	ug/L	0.5	ND	06/29/93
Toluene	ug/L	0.5	ND	06/29/93
Ethylbenzene	ug/L	0.5	ND	06/29/93
Xylenes, Total	ug/L	0.5	ND	06/29/93

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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July 01, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

PACE Sample Number:			70 0096316	
Date Collected:			06/17/93	
Date Received:			06/18/93	
Client Sample ID:			QC-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	06/29/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	06/29/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	06/29/93
Benzene	ug/L	0.5	ND	06/29/93
Toluene	ug/L	0.5	ND	06/29/93
Ethylbenzene	ug/L	0.5	ND	06/29/93
Xylenes, Total	ug/L	0.5	ND	06/29/93

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. Bill Howell
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FOOTNOTES
for pages 1 through 9

July 01, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

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

11 Digital Drive
Novato, CA 94949
TEL: 415-883-8100
FAX: 415-883-2673

Mr. Bill Howell
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QUALITY CONTROL DATA

July 01, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

PURGEABLE FUELS AND AROMATICS
Batch: 70 22254
Samples: 70 0096286, 70 0096294, 70 0096308

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

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	88%	86%	2%
Benzene	ug/L	0.5	40.0	94%	94%	0%
Toluene	ug/L	0.5	40.0	94%	91%	3%
Ethylbenzene	ug/L	0.5	40.0	91%	86%	5%
Xylenes, Total	ug/L	0.5	120	90%	86%	4%

Mr. Bill Howell
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QUALITY CONTROL DATA

July 01, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

PURGEABLE FUELS AND AROMATICS
Batch: 70 22302
Samples: 70 0096235, 70 0096243, 70 0096251, 70 0096260

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

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	103%	94%	9%
Benzene	ug/L	0.5	40.0	95%	98%	3%
Toluene	ug/L	0.5	40.0	97%	100%	3%
Ethylbenzene	ug/L	0.5	40.0	99%	103%	3%
Xylenes, Total	ug/L	0.5	120	98%	102%	4%

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QUALITY CONTROL DATA

July 01, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

PURGEABLE FUELS AND AROMATICS
Batch: 70 22328
Samples: 70 0096278, 70 0096316

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

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	97%	93%	4%
Benzene	ug/L	0.5	40.0	97%	100%	3%
Toluene	ug/L	0.5	40.0	92%	95%	3%
Ethylbenzene	ug/L	0.5	40.0	90%	91%	1%
Xylenes, Total	ug/L	0.5	120	87%	88%	1%

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FOOTNOTES
for pages 11 through 13

July 01, 1993
PACE Project Number: 430618523

Client Reference: BP Station # 11266

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

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

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pace INCORPORATED THE ASSURANCE OF QUALITY

B.P. OIL COMPANY

16400 Southcenter Parkway, Suite 301, Tukwila, WA 98188

CHAIN OF CUSTODY

№ 0920

430618.523

[X] Novato, CA, 11 Digital Drive, 94949 Phone: (415) 883-6100 Fax: (415) 883-2673 10-050 02-001 AH

[ ] Huntington Beach, CA, 5702 Bolsa Avenue, 92649 Phone: (714) 892-2565 Fax: (714) 890-4032

Consultant's Name: ALISTO ENGINEERING	Consultant Project #: 10-050-01-001	Page 1 of 1
Address: 1777 OAKLAND BLVD., STE 200 WALNUT CREEK		
Project Contact: Bill Howell	Phone # 510 295 1650 Fax #:	Consultant Work Order 10-050-01-001
Sampled by (print): DAN Birch	Sampler's Signature: [signature]	B.P. Site Location #: BP11266
Shipment Method: Pace Courier Airbill #:	Shipment Date: 6-18-93	B.P. Site Location: 1541 PARK ST., ALAMEDA

TAT: [ ] 24 hr [ ] 48 hr [ ] 72 hr [ ] Standard (10 day)

ANALYSIS REQUIRED

Sample Condition as Received
Temperature ° C: ______
Cooler #: ______
Inbound Seal Yes No
Outbound Seal Yes No

Sample Description	Collection Date/Time	Matrix Soil/Water	Prsv	# of Cont	PACE Sample #	TPH/GAS/BTEX EPA 8015/8020	TPH/Diesel EPA 8015	TRPH EPA 418.1	HVOC 8010									COMMENTS
RW-1	6/17/93	W	Hcl	3	9623.5	X												
MW-1	↓	↓	↓	↓	24.3	X												
MW-2					25.1	X												
MW-3					26.0	X												
MW-4					27.8	X												
MW-5					28.6	X												
MW-6					29.4	X												
QC-1				↓	30.8	X												
QC-2	↓	↓	↓	2	31.6	X												
9/1																		

Relinquished by/Affiliation	Date	Time	Accepted by/Affiliation	Date	Time	Additional Comments:
[signature] Pace	6/18	1800	[signature] Pace	6/18	1800	
[signature]	6/18/93	1245	[signature] Pace	6/18	1245	

Distribution: White - Original Yellow - B.P. Oil Pink - Lab Goldenrod - Consultant Field Staff