BP OIL

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

March 30, 1994

Ms. Susan Hugo
Alameda County Health Care Services Agency
80 Swan Way, Room 200
Oakland, CA 94621

RE: BP Oil Site 11126
1700 Powell Street
Emeryville, CA

Dear Ms. Susan Hugo,

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED MARCH 23, 1994** for the above referenced site.

Please call me at (206) 251-0689 with any questions regarding this submission.

Respectfully,

Scott Hooton
Group Leader

Enclosure

SH:clj

cc: Mr. Eddy So, CA Reg. Water Control Board, 2101 Webster St., Suite 500, Oakland, CA, 94612

Mr. R. Merriken, Mobil Oil, 3225 Gallows Rd, Fairfax, VA, 22037

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-061-03-001

Prepared for:

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

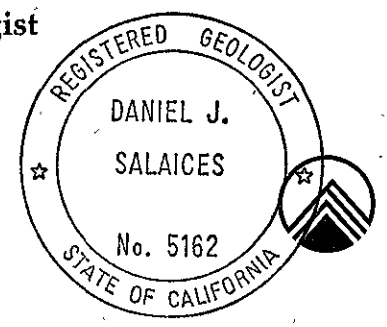
Prepared by:

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

March 23, 1994

Brady Nagle
Project Manager

Dan Salaices
Registered Geologist



GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-061-03-001

March 23, 1994

INTRODUCTION

This report presents the results and findings of the February 15, 1994 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11126, 1700 Powell Street, Emeryville, California. A site vicinity map is shown in Figure 1.

FIELD PROCEDURES

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

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

Before sample collection, each well was purged of 3 casing volumes, while recording field readings of pH, temperature, 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

Product recovery canisters have been installed in Monitoring Well MW-9 to recover liquid-phase product. Product thicknesses for this and previous monitoring events are presented in Table 1. The volume of product recovered 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. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	DO (ppb)	TOG (ppb)	HVOC (ppb)	LAB
MW-1	11/04/92	7.76	4.96	—	2.80	5300	—	1100	480	ND<0.5	1500	—	—	—	PACE
MW-1	10/12/93	7.76	5.26	—	2.50	3600	—	970	71	100	550	—	—	—	PACE
MW-1	02/15/94	7.76	4.98	—	2.78	17000	—	4200	510	360	1600	3900	—	—	PACE
MW-2	11/04/92	8.56	5.88	—	2.68	12000	—	3900	1300	ND<0.5	2300	—	—	—	PACE
QC-1 (c)	11/04/92	8.56	5.88	—	2.68	12000	—	3200	980	ND<0.5	1900	—	—	—	PACE
MW-2	10/12/93	8.56	6.29	—	2.27	4500	—	3400	180	230	940	—	—	—	PACE
MW-2	02/15/94	8.56	5.56	—	3.00	2000	—	430	270	28	390	—	—	—	PACE
QC-1 (c)	02/15/94	8.56	5.56	—	3.00	1800	—	290	160	14	250	4000	—	—	PACE
MW-3	11/04/92	8.25	6.38	—	1.87	200	690	1.6	ND<0.5	ND<0.5	1.1	—	ND<5000	ND (d)	PACE
MW-3	10/12/93	8.25	5.84	—	2.41	270	2100	5.0	0.7	ND<0.5	2.6	—	ND<5000	ND (d)	PACE
QC-1 (c)	10/12/93	8.25	5.84	—	2.41	150	—	5.6	0.6	ND<0.5	1.6	—	—	—	PACE
MW-3	02/15/94	8.25	6.60	—	1.65	140	2.3	5.7	ND<0.5	ND<0.5	ND<0.5	3900	90	ND (d)	PACE
MW-4	11/04/92	8.12	6.66	—	1.46	340	—	4.5	ND<0.5	4.3	ND<0.5	—	—	—	PACE
MW-4	10/12/93	8.12	6.87	—	1.25	160	—	5.8	1.4	0.8	2.7	—	—	—	PACE
MW-4	02/15/94	8.12	6.61	—	1.51	110	—	4.4	0.7	ND<0.5	2.5	4300	—	—	PACE
MW-5	10/12/93	7.69	6.01	—	1.68	—	—	—	—	—	—	—	—	—	—
MW-5	10/13/93	—	—	—	—	2300	—	160	10	ND<0.5	26	—	—	—	PACE
MW-5	02/15/94	7.69	5.74	—	1.95	5100	—	710	16	33	35	4000	—	—	PACE
MW-6	10/12/93	8.52	6.59	—	1.93	63	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	PACE
MW-6	02/15/94	8.52	6.31	—	2.21	68	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3100	—	—	PACE
MW-7	10/12/93	7.61	6.14	—	1.47	ND<50	—	ND<0.5	ND<0.5	ND<0.5	0.7	—	—	—	PACE
MW-7	02/15/94	7.61	5.88	—	1.73	78	—	ND<0.5	ND<0.5	ND<0.5	0.6	4000	—	—	PACE
MW-8	10/12/93	8.60	5.86	—	2.74	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	PACE
MW-8	02/15/94	8.60	5.50	—	3.10	380	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3300	—	—	PACE
MW-9 (e)	10/12/93	8.08	5.66	0.08	2.48	—	—	—	—	—	—	—	—	—	—
MW-9 (e)	02/15/94	8.08	5.32	0.05	2.80	—	—	—	—	—	—	—	—	—	—

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

ALISTO PROJECT NO. 10-061

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	DO (ppb)	TOG (ppb)	HVOC (ppb)	LAB
QC-2 (f)	11/05/92	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	10/12/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	02/15/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
TOG	Total oil and grease
HVOC	Halogenated volatile organic compounds
DO	Dissolved oxygen
ppb	Parts per billion
ND	Not detected above reported detection limit
---	Not analyzed/applicable/measurable
Pace	Pace, Inc.

NOTES:

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

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

(c) Blind duplicate.

(d) Detection limits vary; see laboratory report.

(e) Not sampled due to presence of free product.

(f) Travel blank.

TABLE 2 - PRODUCT REMOVAL STATUS

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

ALISTO PROJECT NO. 10-061

WELL ID	DATE	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)
MW-9	12/02/93	0.15	0.15
	12/09/93	0.15	0.30
	12/30/93	0.05	0.35
	02/15/94	0.35	0.70

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

N

0 1000' 2000'

FIGURE 1

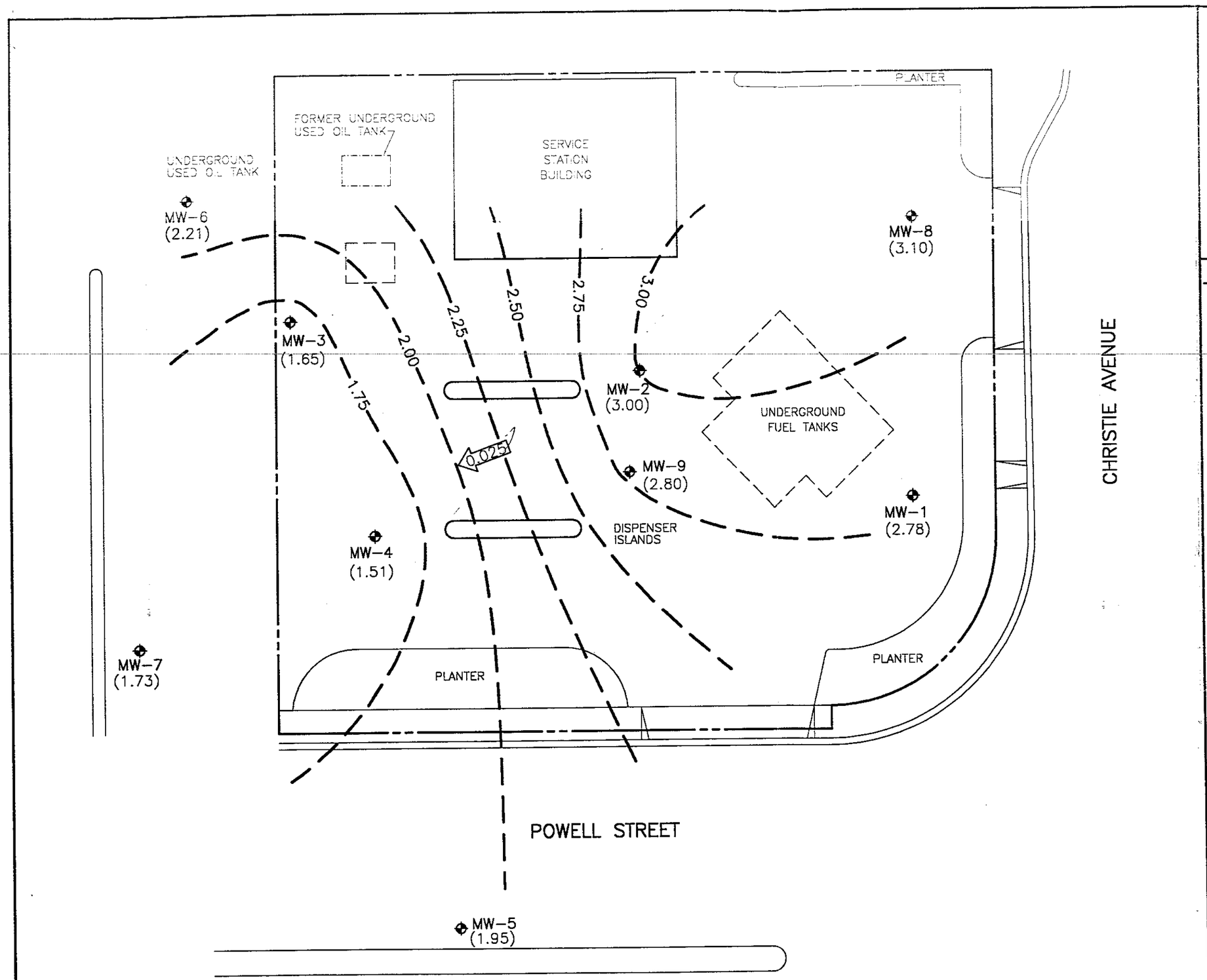
SITE VICINITY MAP

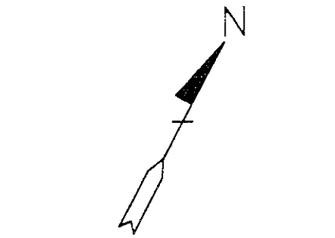
BP OIL SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA

PROJECT NO. 10-061

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10061B—.DWG 12-30-93 RKW 1=1





LEGEND

- ◆ GROUNDWATER MONITORING WELL
- (2.78) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 2.75 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.25 FOOT)
- 0.025 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

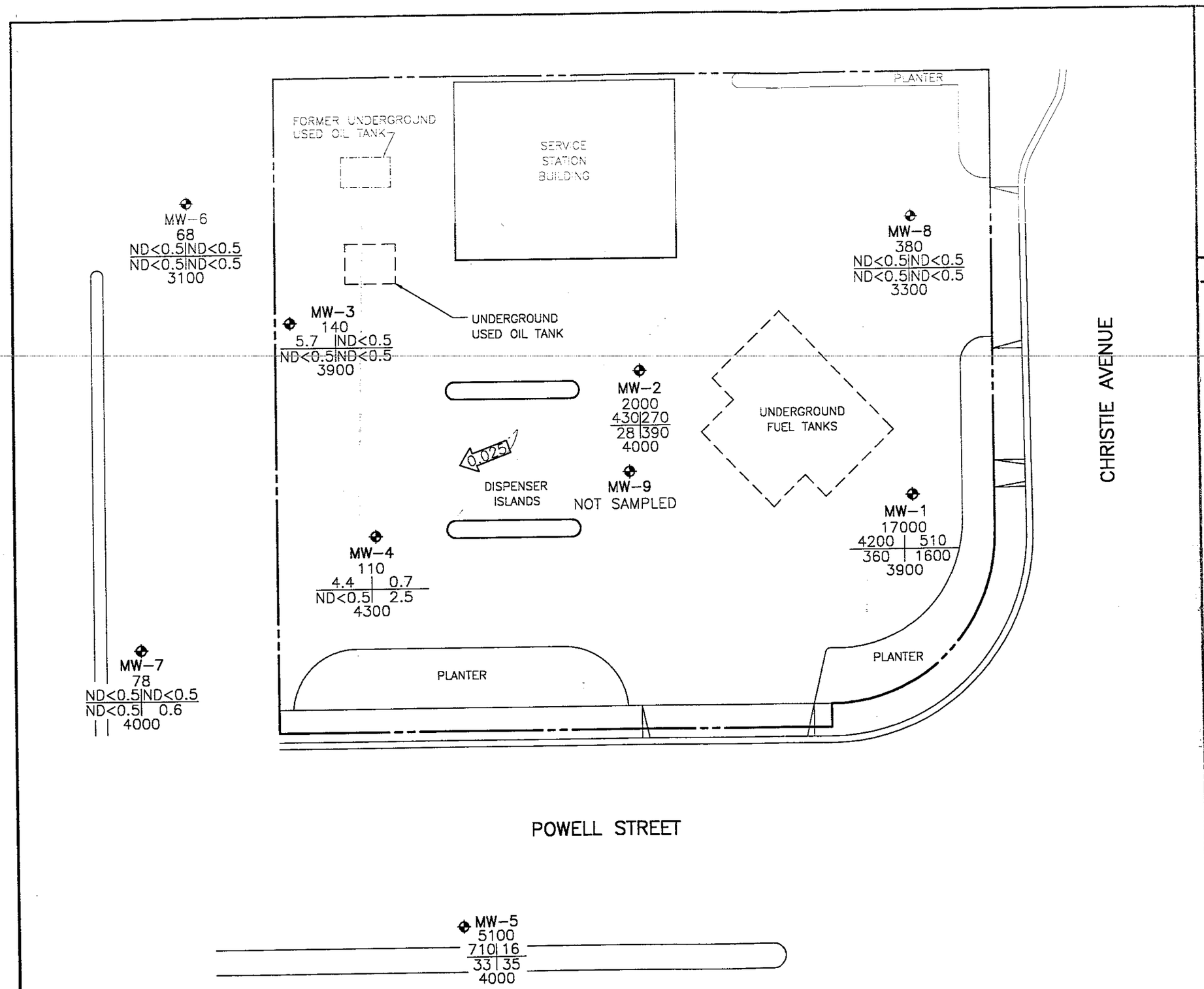
FEBRUARY 15, 1994

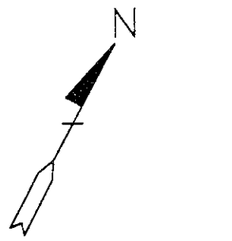
BP OIL SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA

PROJECT NO. 10–061

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10D010-1.DWG 3-22-94 RNW 1-20





LEGEND

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

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

FEBRUARY 15, 1994

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

PROJECT NO. 10-061

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10061E-1.DWG 3-17-94 RKW 1=20

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO ENGINEERING GROUP
GROUNDWATER MONITORING

Client: BP
Alisto Project No: 10-061-03/001 ✓
Service Station No: 11126

Date: 2/15/94
Field Personnel: LCS
Site Address: Emeryville, Ca

FIELD ACTIVITY:

X Groundwater Monitoring
X Groundwater Sampling
__ Well Development

QUALITY CONTROL SAMPLES:

MW-2 X QC-1 Sample Duplicate (Well ID)
X QC-2 Trip Blank
__ QC-3 Rinsate Blank

Well ID	Well Diam	Order Measured/ Sampled	Total Depth	Depth to Water	Depth to Product	Product Thick-ness	Comments
MW-1	2"	4	11.62	4.98	Ø	Ø	
MW-2		5	11.83	5.56			
MW-3		8	12.08	6.60			
MW-4		6	11.06	6.61			
MW-5		1	13.70	5.74			
MW-6		2	13.25	6.31			
MW-7		3	13.72	5.88			
MW-8	↓	7	13.65	5.50	↓	↓	
* MW-9	4"	9	13.85	5.32	5.27	.05	FP

Notes:
* MW-9 Bailed out 10 gal TF + .35 gal FP

FORM: FS2/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

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Client: BP
Alisto Project No: 10-061
Service Station No: 11126

Date: 2/15/94
Field Personnel: LB
Address: Emeryville, CA

Well ID: MW-1 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:

X 2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
___4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

X Pump (dispos. Poly Tubing)
___Disposable Bailers
___Other
___1.66 PVC Standard Bailer
___3.50 PVC Standard Bailer

Well Data:

Ø Depth to Product
Ø Product Thickness
4.98 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

11.62 (Total Depth of Well) - 4.98 (Depth to Water) = 6.64 ft (Water Column) X .16 (Conversion Gal/Ft) = 1.06 Gal (Casing Vol) X 3 (Vols to Purge) = 3.18 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	X1000 Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity
1227	63.9	7.31	.55	.75	Lt Brown
1229	64.5	7.29	.53	1.50	
1231	64.7	7.21	.51	2.25	
1233	64.2	7.16	.50	3.00	
1235	64.2	7.11	.50	3.50	

Analysis Required	Container Type	Preserv.
X TPH-G/BTEX	VOA	HCL
TPH-Diesel	Amber Liter	Solvent Rinsed
EPA 601	VOA	
TOG 5520BF	Amber Liter	H_2SO_4

Begin 1225 Stop 1235 Sampled 1245

D.O 2 3.9 Begin
(ppm) 3.9 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

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Client: BP
Alisto Project No: 10-061
Service Station No: 11126

Date: 2/15/94
Field Personnel: LCB
Address: Emeryville, CA

Well ID: MW-2 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:

X 2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
___4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

X Pump (dispos. Poly Tubing)
___Disposable Bailers
___Other
___1.66 PVC Standard Bailer
___3.50 PVC Standard Bailer

Well Data:

Ø Depth to Product
Ø Product Thickness
5.56 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___Steam Cleaned

Calculated Purge Volume

11.83 (Total Depth of Well) - 5.56 (Depth to Water) = 6.27 ft (Water Column) X .16 (Conversion Factor) Gal/Ft = 1.00 Gal (Casing Vol) X 3 (Vols to Purge) = 3.00 Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	X1000 Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity
1253	64.3	7.46	.53	.75	Lt. Brown
1256	64.8	7.39	.53	1.50	
1258	64.6	7.31	.51	2.00	
1300	64.3	7.21	.50	2.75	
1302	64.0	7.16	.48	3.25	

Analysis Required	Container Type	Preserv.
X TPH-G/BTEX	VOA	HCL
TPH-Diesel	Amber Liter	Solvent Rinsed
EPA 601	VOA	
TOG 5520BF	Amber Liter	H_2SO_4

Begin 1250 Stop 1302 Sampled 1307

QC-1 Taken From this well

D.02 4.1 Begin
4.0 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-061
Service Station No: 11126

Date: 2/15/94
Field Personnel: LCB
Address: Emeryville, CA

Well ID: MW-3 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:
- X 2 Inch (0.16 Gal/foot)
- ___3 Inch (0.37 Gal/foot)
- ___4 Inch (0.65 Gal/Foot)
- ___4.5 Inch (0.83 Gal/foot)
- ___6 Inch (1.47 Gal/foot)

Purge Method:
- X Pump (dispos. Poly Tubing)
- ___Disposable Bailers
- ___Other
- ___1.66 PVC Standard Bailer
- ___3.50 PVC Standard Bailer

Well Data:
- Ø Depth to Product
- Ø Product Thickness
- 6.60 Depth to Water

Sampling Method:
- X Disposable Bailer
- ___Pump

Decontamination Method:
- X Triple Rinse (Liquinox)
- ___ Steam Cleaned

Calculated Purge Volume

12.08 (Total Depth of Well) - 6.60 (Depth to Water) = 5.48 ft (Water Column) X .16 (Conversion Factor) Gal/Ft = .88 Gal (Casing Vol) X 3 (Vols to Purge) = 2.64 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv.
1408	63.6	7.71	.59	.50	Lt. brown	X TPH-G/BTEX	VOA	HCL
1411	64.4	7.60	.57	1.00		X TPH-Diesel	Amber Liter	Solvent Rinsed
1414	64.7	7.52	.58	1.50		X EPA 601	VOA	
1417	64.3	7.43	.56	2.00		X TOG 5520BF	Amber Liter	H_2SO_4
1420	64.3	7.40	.54	2.75	↓			

Begin 1405 Stop 1420 Sampled 1425

D.O 2 3.7 Begin
3.9 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

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Client: BP
Alisto Project No: 10-061
Service Station No: 11126

Date: 2/15/94
Field Personnel: LCB
Address: Emeryville, CA

Well ID: ~~MW-4~~ MW-4 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:
- X 2 Inch (0.16 Gal/foot)
- ___3 Inch (0.37 Gal/foot)
- ___4 Inch (0.65 Gal/Foot)
- ___4.5 Inch (0.83 Gal/foot)
- ___6 Inch (1.47 Gal/foot)

Purge Method:
- X Pump (dispos. Poly Tubing)
- ___Disposable Bailers
- ___Other
- ___1.66 PVC Standard Bailer
- ___3.50 PVC Standard Bailer

Well Data:
- Ø Depth to Product
- Ø Product Thickness
- 6.61 Depth to Water

Sampling Method:
- X Disposable Bailer
- ___Pump

Decontamination Method:
- X Triple Rinse (Liquinox)
- ___ Steam Cleaned

Calculated Purge Volume

11.06 (Total Depth of Well) - 6.61 (Depth to Water) = 4.45 ft (Water Column) X .16 (Conversion Factor) Gal/Ft = .71 Gal (Casing Vol) X 3 (Vols to Purge) = 2.13 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	X1000 Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity
1317	67.1	7.28	.82	.50	Lt. Brown
1319	66.9	7.19	.80	1.00	
1321	66.3	7.11	.78	1.50	
1323	65.6	7.07	.77	1.75	
1325	65.2	7.03	.76	2.25	

Begin 1315 Stop 1325 Sampled 1330

Analysis Required	Container Type	Preserv. .
X TPH-G/BTEX	VOA	HCL
TPH-Diesel	Amber Liter	Solvent Rinsed
EPA 601	VOA	
TOG 5520BF	Amber Liter	H_2SO_4

D.02 (ppm) 4.7 Begin
4.3 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-061
Service Station No: 11126

Date: 2/15/94
Field Personnel: LB
Address: Emeryville, CA

Well ID: MW-5 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:

X 2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
___4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

X Pump (dispos. Poly Tubing)
___Disposable Bailers
___Other
___1.66 PVC Standard Bailer
___3.50 PVC Standard Bailer

Well Data:

Ø Depth to Product
Ø Product Thickness
5.74 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___Steam Cleaned

Calculated Purge Volume: 13.70 (Total Depth of Well) - 5.74 (Depth to Water) = 7.96 ft (Water Column) X .16 Gal/Ft (Conversion Factor) = 1.27 Gal (Casing Vol) X 3 (Vols to Purge) = 3.81 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	X1000 Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity
1112	67.7	7.31	.77	1	Lt. Brown
1114	67.0	7.23	.72	1.50	
1116	66.4	7.17	.71	2.50	
1118	66.1	7.11	.69	3.50	
1120	65.6	7.04	.67	4.00	

Analysis Required	Container Type	Preserv.
X TPH-G/BTEX	VOA	HCL
TPH-Diesel	Amber Liter	Solvent Rinsed
EPA 601	VOA	
TOG 5520BF	Amber Liter	H_2SO_4

Begin 1110 Stop 1120 Sampled 1128

D.02 4.0 Begin
(PPM) 4.0 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-061
Service Station No: 11126

Date: 8/15/94
Field Personnel: LCB
Address: Emeryville, CA

Well ID: MW-6 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:

X 2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
___4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

X Pump (dispos. Poly Tubing)
___Disposable Bailers
___Other
___1.66 PVC Standard Bailer
___3.50 PVC Standard Bailer

Well Data:

0 Depth to Product
0 Product Thickness
6.31 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

13.25 (Total Depth of Well) - 6.31 (Depth to Water) = 6.94 ft (Water Column) X .16 Gal/Ft (Conversion Factor) = 1.11 Gal (Casing Vol) X 3 (Vols to Purge) = 3.33 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	X1000 Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity
1137	65.5	6.89	.79	.75	Grey
1139	65.9	7.09	.81	1.25	
1141	65.3	7.11	.81	2.00	
1143	64.9	7.07	.80	2.75	
1145	64.9	7.03	.80	3.50	

Analysis Required	Container Type	Preserv.
X TPH-G/BTEX	VOA	HCL
TPH-Diesel	Amber Liter	Solvent Rinsed
EPA 601	VOA	
TOG 5520BF	Amber Liter	H_2SO_4

Begin 1135 Stop 1145 Sampled 1155

D.O 2.9 Begin
(PPM) 3.1 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-061
Service Station No: 11126

Date: 2/15/94
Field Personnel: LOB
Address: Emeryville, Ca

Well ID: MW-7 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:

X 2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
___4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

X Pump (dispos. Poly Tubing)
___Disposable Bailers
___Other
___1.66 PVC Standard Bailer
___3.50 PVC Standard Bailer

Well Data:

Ø Depth to Product
Ø Product Thickness
5.88 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

13.72 (Total Depth of Well) - 5.88 (Depth to Water) = 7.84 ft (Water Column) X .16 Gal/Ft (Conversion Factor) = 1.25 Gal (Casing Vol) X 3 (Vols to Purge) = 3.75 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	X1000 Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity
1202	63.8	6.98	.56	.75	Grey
1204	64.3	7.02	.57	1.50	
1206	64.7	7.06	.57	2.25	
1208	64.7	7.03	.54	3.00	
1210	64.9	7.03	.54	3.75	↓

Begin 1200 Stop 1210 Sampled 1215

Analysis Required	Container Type	Preserv.
X TPH-G/BTEX	VOA	HCL
TPH-Diesel	Amber Liter	Solvent Rinsed
EPA 601	VOA	
TOG 5520BF	Amber Liter	H_2SO_4

D.02 (PPM) 4.1 Begin
4.0 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-061
Service Station No: 11126

Date: 2/15/94
Field Personnel: LCB
Address: Emeryville, Ca

Well ID: MW-8 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:
- X 2 Inch (0.16 Gal/foot)
- ___3 Inch (0.37 Gal/foot)
- ___4 Inch (0.65 Gal/Foot)
- ___4.5 Inch (0.83 Gal/foot)
- ___6 Inch (1.47 Gal/foot)

Purge Method:
- X Pump (dispos. Poly Tubing)
- ___Disposable Bailers
- ___Other
- ___1.66 PVC Standard Bailer
- ___3.50 PVC Standard Bailer

Well Data:
- 0 Depth to Product
- 0 Product Thickness
- 5.50 Depth to Water

Sampling Method:
- X Disposable Bailer
- ___Pump

Decontamination Method:
- X Triple Rinse (Liquinox)
- ___Steam Cleaned

Calculated Purge Volume

13.65 (Total Depth of Well) - 5.50 (Depth to Water) = 8.15 ft (Water Column) X .16 Gal/Ft (Conversion Factor) = 1.30 Gal (Casing Vol) X 3 (Vols to Purge) = 3.90 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	X1000 Cond. (umhos /cm)	Purge Vol (Gal)	Comments/ Turbidity
1338	63.1	7.07	.34	.75	Clear
1341	64.0	7.03	.35	1.50	
1344	64.6	7.00	.36	2.25	
1347	64.6	7.02	.35	3.00	
1350	64.5	7.00	.35	4.00	↓

Analysis Required	Container Type	Preserv.
X TPH-G/BTEX	VOA	HCL
TPH-Diesel	Amber Liter	Solvent Rinsed
EPA 601	VOA	
TOG 5520BF	Amber Liter	H_2SO_4

Begin 1335 Stop 1350 Sampled 1355

D.02 3.8 Begin
(PPM) 4.0 3.3 End

FORM: FS3/121592

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

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

February 25, 1994
PACE Project Number: 440216505

Attn: Mr. Bill Howell

Client Reference: BP Station # 11126/10-061-03/001

PACE Sample Number:			70 0247268	
Date Collected:			02/15/94	
Date Received:			02/16/94	
Client Sample ID:			QC-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	02/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/18/94
Benzene	ug/L	0.5	ND	02/18/94
Toluene	ug/L	0.5	ND	02/18/94
Ethylbenzene	ug/L	0.5	ND	02/18/94
Xylenes, Total	ug/L	0.5	ND	02/18/94

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TEL: 415-883-6100
FAX: 415-883-2673

REPORT OF LABORATORY ANALYSIS

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PACE Sample Number:			70 0247276	
Date Collected:			02/15/94	
Date Received:			02/16/94	
Client Sample ID:			QC-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS			-	02/18/94
TOTAL FUEL HYDROCARBONS, (LIGHT):				
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1800	02/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/18/94
Benzene	ug/L	0.5	290	02/18/94
Toluene	ug/L	0.5	160	02/18/94
Ethylbenzene	ug/L	0.5	14	02/18/94
Xylenes, Total	ug/L	0.5	250	02/18/94

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TEL: 415-883-6100
FAX: 415 883-2673

REPORT OF LABORATORY ANALYSIS

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PACE Sample Number:			70 0247284	
Date Collected:			02/15/94	
Date Received:			02/16/94	
Client Sample ID:			MW-8	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	380	02/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/19/94
Benzene	ug/L	0.5	ND	02/19/94
Toluene	ug/L	0.5	ND	02/19/94
Ethylbenzene	ug/L	0.5	ND	02/19/94
Xylenes, Total	ug/L	0.5	ND	02/19/94

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REPORT OF LABORATORY ANALYSIS

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PACE Sample Number:			70 0247292	
Date Collected:			02/15/94	
Date Received:			02/16/94	
Client Sample ID:			MW-7	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	78	02/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/19/94
Benzene	ug/L	0.5	ND	02/19/94
Toluene	ug/L	0.5	ND	02/19/94
Ethylbenzene	ug/L	0.5	ND	02/19/94
Xylenes, Total	ug/L	0.5	0.6	02/19/94

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REPORT OF LABORATORY ANALYSIS

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PACE Sample Number:			70 0247306	
Date Collected:			02/15/94	
Date Received:			02/16/94	
Client Sample ID:			MW-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS			-	02/21/94
TOTAL FUEL HYDROCARBONS, (LIGHT):				
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	5100	02/21/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/21/94
Benzene	ug/L	2.5	710	02/21/94
Toluene	ug/L	0.5	16	02/21/94
Ethylbenzene	ug/L	0.5	33	02/21/94
Xylenes, Total	ug/L	0.5	35	02/21/94

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PACE Sample Number:			70 0247314	
Date Collected:			02/15/94	
Date Received:			02/16/94	
Client Sample ID:			MW-6	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	68	02/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/19/94
Benzene	ug/L	0.5	ND	02/19/94
Toluene	ug/L	0.5	ND	02/19/94
Ethylbenzene	ug/L	0.5	ND	02/19/94
Xylenes, Total	ug/L	0.5	ND	02/19/94

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TEL: 415-883-6100
FAX: 415-883 2673

REPORT OF LABORATORY ANALYSIS

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PACE Sample Number:			70 0247322	
Date Collected:			02/15/94	
Date Received:			02/16/94	
Client Sample ID:			MW-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	110	02/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				02/19/94
Benzene	ug/L	0.5	4.4	02/19/94
Toluene	ug/L	0.5	0.7	02/19/94
Ethylbenzene	ug/L	0.5	ND	02/19/94
Xylenes, Total	ug/L	0.5	2.5	02/19/94

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PACE Sample Number:			70 0247330	
Date Collected:			02/15/94	
Date Received:			02/16/94	
Client Sample ID:			MW-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	1200	17000	02/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/19/94
Benzene	ug/L	12	4200	02/19/94
Toluene	ug/L	12	510	02/19/94
Ethylbenzene	ug/L	12	360	02/19/94
Xylenes, Total	ug/L	12	1600	02/19/94

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REPORT OF LABORATORY ANALYSIS

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PACE Sample Number:			70 0247349	
Date Collected:			02/15/94	
Date Received:			02/16/94	
Client Sample ID:			MW-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	2000	02/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/19/94
Benzene	ug/L	0.5	430	02/19/94
Toluene	ug/L	0.5	270	02/19/94
Ethylbenzene	ug/L	0.5	28	02/19/94
Xylenes, Total	ug/L	0.5	390	02/19/94

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REPORT OF LABORATORY ANALYSIS

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

Parameter	Units	MDL	70 0247357 02/15/94 02/16/94 MW-3	DATE ANALYZED
PACE Sample Number:				
Date Collected:				
Date Received:				
Client Sample ID:				
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/21/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	140	02/21/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/21/94
Benzene	ug/L	0.5	5.7	02/21/94
Toluene	ug/L	0.5	ND	02/21/94
Ethylbenzene	ug/L	0.5	ND	02/21/94
Xylenes, Total	ug/L	0.5	ND	02/21/94
HALOGENATED VOLATILE COMPOUNDS EPA 8010				
Dichlorodifluoromethane	ug/L	2.0	ND	02/22/94
Chloromethane	ug/L	2.0	ND	02/22/94
Vinyl Chloride	ug/L	2.0	ND	02/22/94
Bromomethane	ug/L	2.0	ND	02/22/94
Chloroethane	ug/L	2.0	ND	02/22/94
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	02/22/94
1,1-Dichloroethene	ug/L	0.5	ND	02/22/94
Methylene Chloride	ug/L	2.0	ND	02/22/94
trans-1,2-Dichloroethene	ug/L	0.5	ND	02/22/94
cis-1,2-Dichloroethene	ug/L	0.5	ND	02/22/94
1,1-Dichloroethane	ug/L	0.5	ND	02/22/94
Chloroform	ug/L	0.5	ND	02/22/94
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	02/22/94
Carbon Tetrachloride	ug/L	0.5	ND	02/22/94
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	02/22/94
Trichloroethene (TCE)	ug/L	0.5	ND	02/22/94
1,2-Dichloropropane	ug/L	0.5	ND	02/22/94
Bromodichloromethane	ug/L	0.5	ND	02/22/94
2-Chloroethylvinyl ether	ug/L	0.5	ND	02/22/94
cis-1,3-Dichloropropene	ug/L	0.5	ND	02/22/94
trans-1,3-Dichloropropene	ug/L	0.5	ND	02/22/94
1,1,2-Trichloroethane	ug/L	0.5	ND	02/22/94
Tetrachloroethene	ug/L	0.5	ND	02/22/94

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FAX: 415-883-2673

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

Parameter	Units	MDL		DATE ANALYZED
PACE Sample Number:			70 0247357	
Date Collected:			02/15/94	
Date Received:			02/16/94	
Client Sample ID:			MW-3	
ORGANIC ANALYSIS				
HALOGENATED VOLATILE COMPOUNDS EPA 8010				
Dibromochloromethane	ug/L	0.5	ND	02/22/94
Chlorobenzene	ug/L	0.5	ND	02/22/94
Bromoform	ug/L	0.5	ND	02/22/94
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	02/22/94
1,3-Dichlorobenzene	ug/L	0.5	ND	02/22/94
1,4-Dichlorobenzene	ug/L	0.5	ND	02/22/94
1,2-Dichlorobenzene	ug/L	0.5	ND	02/22/94
Bromochloromethane (Surrogate Recovery)	%		110	02/22/94
1,4-Dichlorobutane (Surrogate Recovery)	%		115	02/22/94
OIL AND GREASE, SILICA GEL (LUFT)				
Oil and Grease, Gravimetric (SM5520)	mg/L	5.0	90	02/17/94
Date Extracted			02/21/94	
EXTRACTABLE FUELS EPA 3510/8015				
Extractable Fuels, as Diesel	mg/L	0.05	2.3	02/21/94
Date Extracted			02/17/94	

These data have been reviewed and are approved for release.

Darrell C. Cain
Regional Director

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Novato, CA 94949
TEL: 415-883-6100
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Client Reference: BP Station # 11126/10-061-03/001

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

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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QUALITY CONTROL DATA

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

EXTRACTABLE FUELS EPA 3510/8015
Batch: 70 28423
Samples: 70 0247357

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Extractable Fuels, as Diesel	mg/L	0.05	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Extractable Fuels, as Diesel	mg/L	0.05	1.00	78%	81%	3%

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FAX: 415-883-2673

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QUALITY CONTROL DATA

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

HALOGENATED VOLATILE COMPOUNDS EPA 8010
Batch: 70 28482
Samples: 70 0247357

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Dichlorodifluoromethane	ug/L	2.0	ND
Chloromethane	ug/L	2.0	ND
Vinyl Chloride	ug/L	2.0	ND
Bromomethane	ug/L	2.0	ND
Chloroethane	ug/L	2.0	ND
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND
1,1-Dichloroethene	ug/L	0.5	ND
Methylene Chloride	ug/L	2.0	ND
trans-1,2-Dichloroethene	ug/L	0.5	ND
cis-1,2-Dichloroethene	ug/L	0.5	ND
1,1-Dichloroethane	ug/L	0.5	ND
Chloroform	ug/L	0.5	ND
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND
Carbon Tetrachloride	ug/L	0.5	ND
1,2-Dichloroethane (EDC)	ug/L	0.5	ND
Trichloroethene (TCE)	ug/L	0.5	ND
1,2-Dichloropropane	ug/L	0.5	ND
Bromodichloromethane	ug/L	0.5	ND
2-Chloroethylvinyl ether	ug/L	0.5	ND
cis-1,3-Dichloropropene	ug/L	0.5	ND
trans-1,3-Dichloropropene	ug/L	0.5	ND
1,1,2-Trichloroethane	ug/L	0.5	ND
Tetrachloroethene	ug/L	0.5	ND
Dibromochloromethane	ug/L	0.5	ND
Chlorobenzene	ug/L	0.5	ND
Bromoform	ug/L	0.5	ND
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND
1,3-Dichlorobenzene	ug/L	0.5	ND
1,4-Dichlorobenzene	ug/L	0.5	ND
1,2-Dichlorobenzene	ug/L	0.5	ND
Bromochloromethane (Surrogate Recovery)	%		107
1,4-Dichlorobutane (Surrogate Recovery)	%		107

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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QUALITY CONTROL DATA

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

HALOGENATED VOLATILE COMPOUNDS EPA 8010
Batch: 70 28482
Samples: 70 0247357

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
1,1-Dichloroethane	ug/L	0.5	20	99%	96%	3%
Trichloroethene (TCE)	ug/L	0.5	20	99%	106%	6%
1,1,2-Trichloroethane	ug/L	0.5	20	100%	94%	6%
Tetrachloroethene	ug/L	0.5	20	98%	91%	7%

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FAX: 415-883-2673

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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QUALITY CONTROL DATA

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PURGEABLE FUELS AND AROMATICS
Batch: 70 28289
Samples: 70 0247268

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	700244064	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	1.9	100	102%	102%	0%
Toluene	ug/L	0.5	0.6	100	100%	106%	5%
Ethylbenzene	ug/L	0.5	ND	100	101%	108%	6%
Xylenes, Total	ug/L	0.5	7.0	300	100%	104%	3%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	111%	110%	0%
Toluene	ug/L	0.5	100	109%	109%	0%
Ethylbenzene	ug/L	0.5	100	112%	107%	4%
Xylenes, Total	ug/L	0.5	300	112%	109%	2%

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QUALITY CONTROL DATA

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PURGEABLE FUELS AND AROMATICS
Batch: 70 28328
Samples: 70 0247330, 70 0247349, 70 0247357

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	700244919	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND	1000	78%	93%	17%

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	101%	98%	3%

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QUALITY CONTROL DATA

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PURGEABLE FUELS AND AROMATICS
Batch: 70 28381
Samples: 70 0247276, 70 0247292, 70 0247314, 70 0247322

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	700246377	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND	1000	111%	111%	0%

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	94%	104%	10%

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Client Reference: BP Station # 11126/10-061-03/001

PURGEABLE FUELS AND AROMATICS
Batch: 70 28401
Samples: 70 0247306

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	700247047	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	40	102%	102%	0%
Toluene	ug/L	0.5	ND	40	96%	96%	0%
Ethylbenzene	ug/L	0.5	ND	40	98%	98%	0%
Xylenes, Total	ug/L	0.5	ND	120	96%	95%	1%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	40	100%	106%	5%
Toluene	ug/L	0.5	40	98%	104%	5%
Ethylbenzene	ug/L	0.5	40	99%	91%	8%
Xylenes, Total	ug/L	0.5	120	96%	88%	8%

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

PURGEABLE FUELS AND AROMATICS
Batch: 70 28441
Samples: 70 0247284

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	700247284 MW-8	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	40.0	100%	99%	1%
Toluene	ug/L	0.5	ND	40.0	96%	96%	0%
Ethylbenzene	ug/L	0.5	ND	40.0	98%	97%	1%
Xylenes, Total	ug/L	0.5	ND	120	92%	92%	0%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	40.0	99%	98%	1%
Toluene	ug/L	0.5	40.0	97%	98%	1%
Ethylbenzene	ug/L	0.5	40.0	97%	97%	0%
Xylenes, Total	ug/L	0.5	120	100%	99%	1%

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

February 25, 1994
PACE Project Number: 440216505

Client Reference: BP Station # 11126/10-061-03/001

TOTAL OIL AND GREASE (EPA 9070/413.1)
Batch: 70 28358
Samples: 70 0247357

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Total Oil and Grease (Freon Extractable	mg/L	5.0	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Oil and Grease (Freon Extractable	mg/L	5.0	20	100%	95%	5%

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Client Reference: BP Station # 11126/10-061-03/001

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

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4402161.505

CHAIN OF CUSTODY

No. 051253 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: 11126	BP CORNER ADDRESS/CITY: Emeryville, CA		CONSULTANT PROJECT NUMBER: 10-061-03/001
CONSULTANT PROJECT MANAGER: Bill Howell	PHONE NUMBER: (415) 295-883-1650	FAX NUMBER: 295-1823	CONSULTANT CONTRACT NUMBER:
BP CONTACT: Scott Hooton ~~Pace Inc.~~ WA	BP ADDRESS:	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):	SAMPLED BY (Signature):	SHIPMENT DATE:	SHIPMENT METHOD: Courier
			AIRBILL NUMBER:

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

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE / TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH-G/BTXE	TPH-D	601	TPH-D	COMMENTS
QC-2	2/15/94	W	2	Acl Vials	24726.8					
QC-1			2		24727.6					
MW-8					24728.4					
MW-7					24729.2					
MW-5					24730.0					
MW-6					24731.4					
MW-4					24732.2					
MW-1					24733.0					
MW-2					24734.9					
MW-3			6		24735.7					

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	2/16/94	1015	Donald Jokarshi Pace	2/16/94	1015
Donald Jokarshi Pace	2/16/94	1155	Sandra Perinos / PSE	2/16/94	1155

ADDITIONAL COMMENTS: H/C 10/5

CLV-16722

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