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

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

RE: BP Oil Site 11105
3515 Castro Valley Blvd.
Castro Valley, CA

Dear Mr. Seery,

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. 11105
3515 Castro Valley Boulevard
Castro Valley, California

Project No. 10-138-02-001

Prepared for:

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

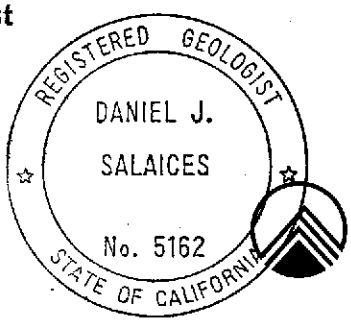
Prepared by:

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. 11105
3515 Castro Valley Boulevard
Castro Valley, California

Project No. 10-138-02-001

March 23, 1994

INTRODUCTION

This report presents the results and findings of the February 17, 1994 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11105, 3515 Castro Valley Boulevard, Castro Valley, 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.

SAMPLING AND ANALYTICAL RESULTS

The results of monitoring and laboratory analysis of the groundwater samples collected during 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 laboratory 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. 11105
3515 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

ALISTO PROJECT NO. 10-138

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	1,2-DCA (ppb)	DO (ppm)	LAB
ESE-1	10/05/92	182.49	11.22	171.27	2100	96	370	150	17	110	ND	1.8	---	---
ESE-1D (c)	10/05/92	---	---	---	2300	---	370	160	16	110	---	---	---	---
ESE-1	[illegible]	182.49	8.79	173.70	[illegible]	---	[illegible]	*410	* 110	* 390	---	---	---	PACE
ESE-1	[illegible]	182.49	10.34	172.15	* 7800	---	*2900	* 390	* 130	*460	---	---	---	PACE
ESE-1	09/23/93	182.49	10.91	171.58	2000	---	490	40	20	56	---	---	---	PACE
QC-1 (c)	09/23/93	---	---	---	1500	---	420	39	19	56	---	---	---	PACE
ESE-1	12/10/93	182.49	9.93	172.56	1800	---	480	42	19	66	---	---	3.2	PACE
QC-1 (c)	12/10/93	---	---	---	1500	---	380	38	17	55	---	---	---	PACE
ESE-1	02/17/94	182.49	9.64	172.85	1900	---	380	48	24	80	---	---	---	PACE
QC-1 (c)	02/17/94	---	---	---	2200	---	430	42	19	65	---	---	---	PACE
ESE-2	10/05/92	181.95	11.68	170.27	300	---	5.4	16	3.9	45	---	---	---	---
ESE-2	04/01/93	181.95	9.17	172.78	240	---	27	ND<0.5	17	2.6	---	---	---	PACE
ESE-2	[illegible]	181.95	10.88	171.07	[illegible]	---	[illegible]	24	110	23	---	---	---	PACE
QC-1 (c)	[illegible]	---	---	---	[illegible]	---	[illegible]	17	110	25	---	---	---	PACE
ESE-2	09/23/93	181.95	11.56	170.39	240	---	3.1	0.5	0.6	2.5	---	---	---	PACE
ESE-2	12/10/93	181.95	10.48	171.47	250	---	2.4	2.4	1.5	11	---	---	2.6	PACE
ESE-2	02/17/94	181.95	10.06	171.89	900	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
ESE-3	10/05/92	182.00	10.58	171.42	430	---	57	31	3.6	34	---	---	---	---
ESE-3	[illegible]	182.00	8.14	173.86	[illegible]	---	[illegible]	220	74	210	---	---	---	PACE
ESE-3	06/29/93	182.00	9.72	172.28	280	---	56	14	15	13	---	---	---	PACE
ESE-3	09/23/93	182.00	10.46	171.54	72	---	13	3.5	1.7	4.1	---	---	---	PACE
ESE-3	12/10/93	182.00	9.30	172.70	270	---	71	32	6.1	33	---	---	2.7	PACE
ESE-3	02/17/94	182.00	8.97	173.03	[illegible]	---	[illegible]	10	20	33	---	---	---	PACE
ESE-4	10/05/92	182.47	10.33	172.14	98	---	7.2	1.3	1.1	6.1	---	---	---	---
ESE-4	[illegible]	182.47	7.88	174.59	[illegible]	---	[illegible]	20	23	33	---	---	---	PACE
ESE-4	06/29/93	182.07 (d)	8.33	173.74	150	---	23	0.6	5.4	0.5	---	---	---	PACE
ESE-4	09/23/93	182.07	10.05	172.02	110	---	14	1.7	3.2	4.6	---	---	---	PACE
ESE-4	12/10/93	182.07	8.95	173.12	110	---	21	7.2	4.2	10	---	---	2.8	PACE
ESE-4	02/17/94	182.07	8.65	173.42	210	---	26	1.2	4.7	11	---	---	---	PACE

* = highest levels in ea. well

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11105
3515 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

ALISTO PROJECT NO. 10-138

WELL ID		DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	1,2-DCA (ppb)	DO (ppm)	LAB
ESE-5		10/05/92	184.09	9.22	174.87	1300	---	200	3.8	1.2	18	---	---	---	---
ESE-5		[illegible]	184.09	7.02	177.07	[illegible]	---	[illegible]	26	730	1000	---	---	---	PACE
QC-1	(c)	[illegible]	---	---	---	[illegible]	---	[illegible]	25	740	1100	---	---	---	PACE
ESE-5		[illegible]	184.09	10.21	173.88	7600	---	1600	9.3	170	100	---	---	---	PACE
ESE-5		09/23/93	184.09	10.64	173.45	560	---	19	1.2	0.9	1.8	---	---	---	PACE
ESE-5		12/10/93 ?	184.09	9.42	174.67	1700	---	300	3.0	76	110	---	---	2.5	PACE
ESE-5		02/07/94 2/17 ?	184.09	9.35	174.74	3500	---	640	7.8	90	130	---	---	---	PACE
QC-2	(e)	04/01/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(e)	06/29/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(e)	09/23/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(e)	12/10/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(e)	02/17/94	---	---	---	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
1,2-DCA	1,2-Dichloroethane
DO	Dissolved oxygen
ppb	Parts per billion
ppm	Parts per million
ND	Not detected above reported detection limit
---	Not analyzed/available/applicable
PACE	Pace, Inc.

NOTES:

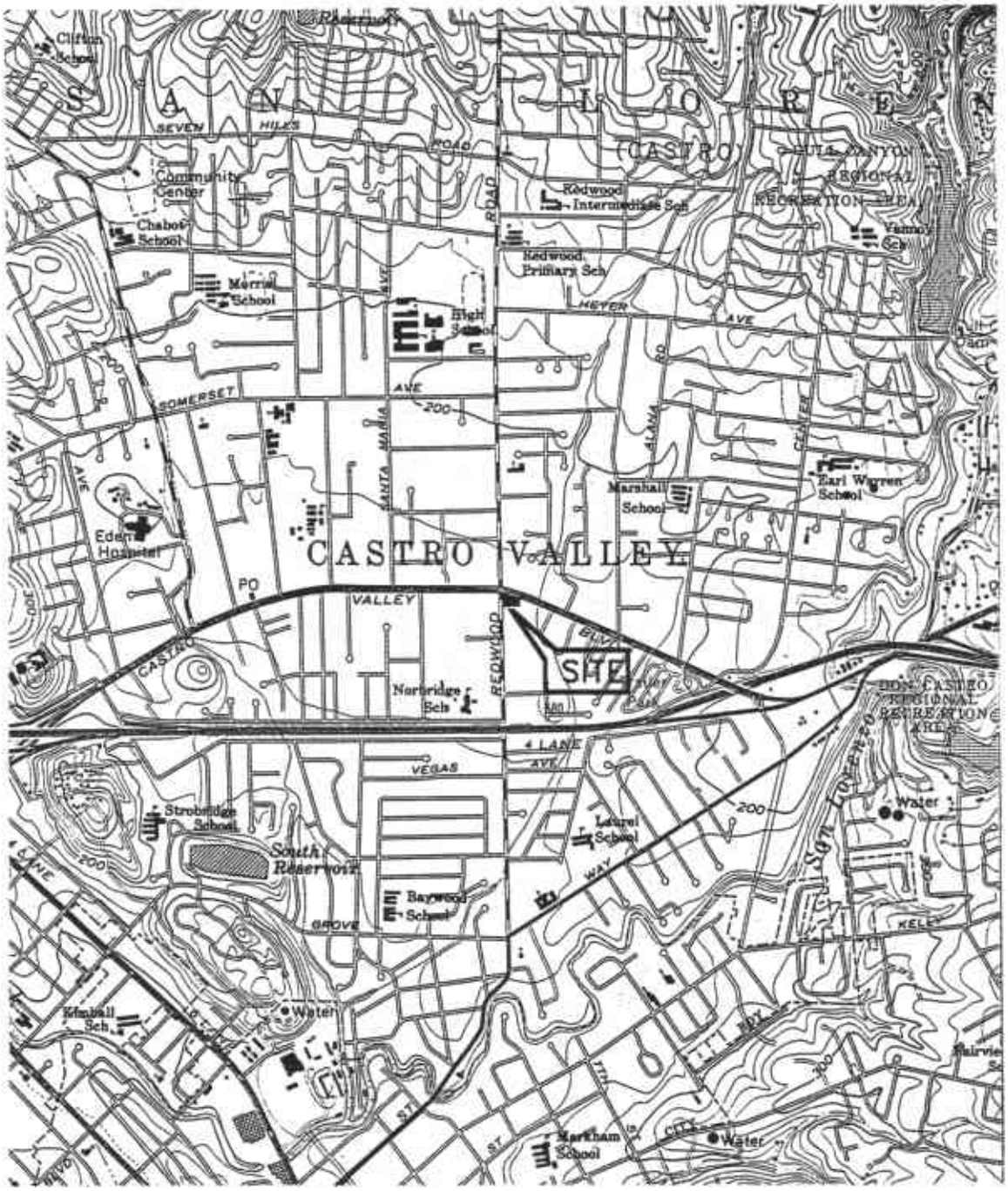
(a) Top of casing elevations relative to an arbitrary datum with an elevation of 264 feet above mean sea level.

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

(c) Blind duplicate.

(d) Top of casing lowered by 0.07 foot after the 4/01/93 monitoring event.

(e) Travel blank.



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

N

0 1000' 2000'

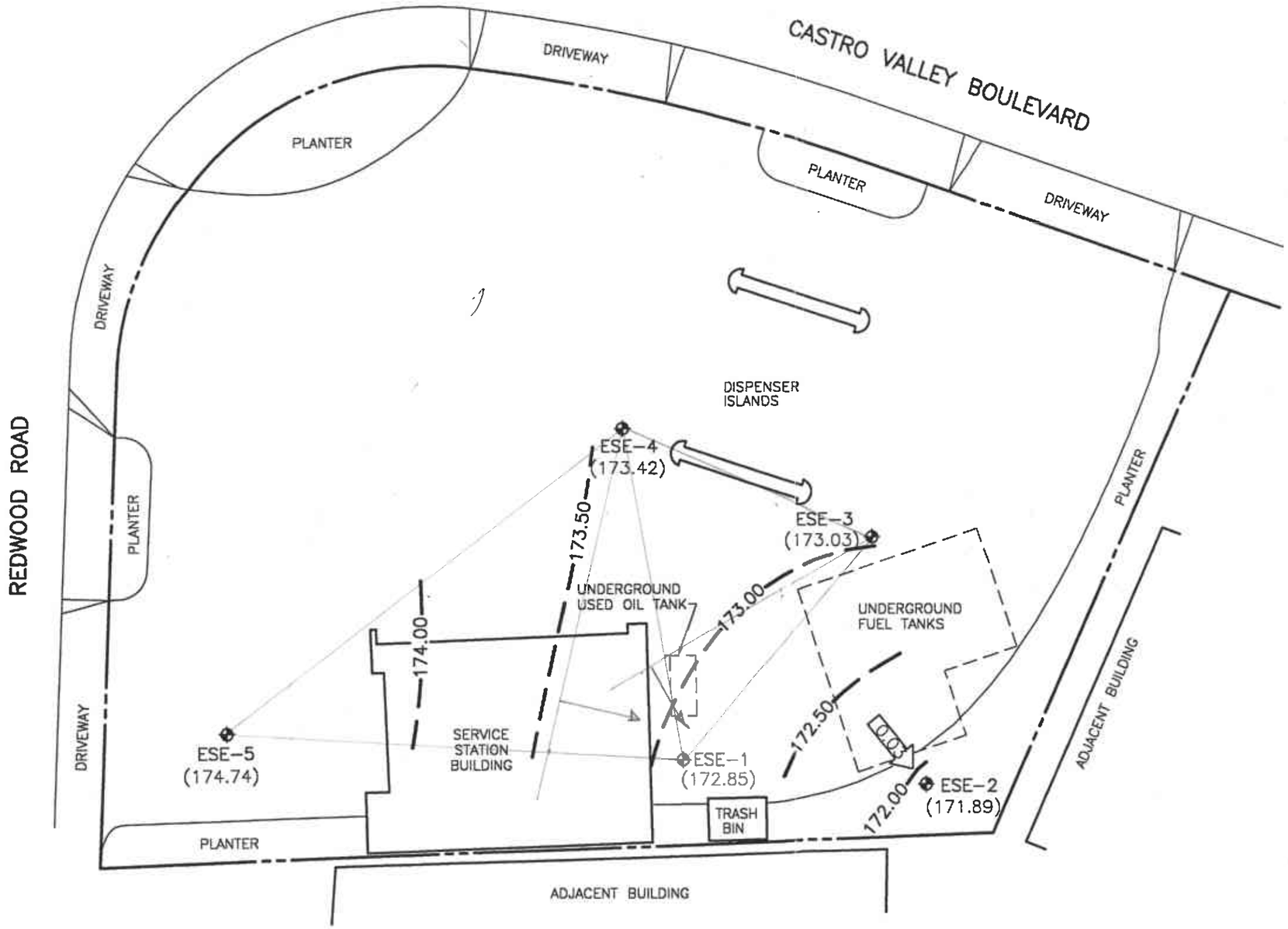
FIGURE 1

SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11105
3515 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

PROJECT NO. 10-138

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



N

0 20 40

SCALE IN FEET

LEGEND

- GROUNDWATER MONITORING WELL
- (173.03) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 173.00 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL—0.50 FOOT)
- 0.03 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

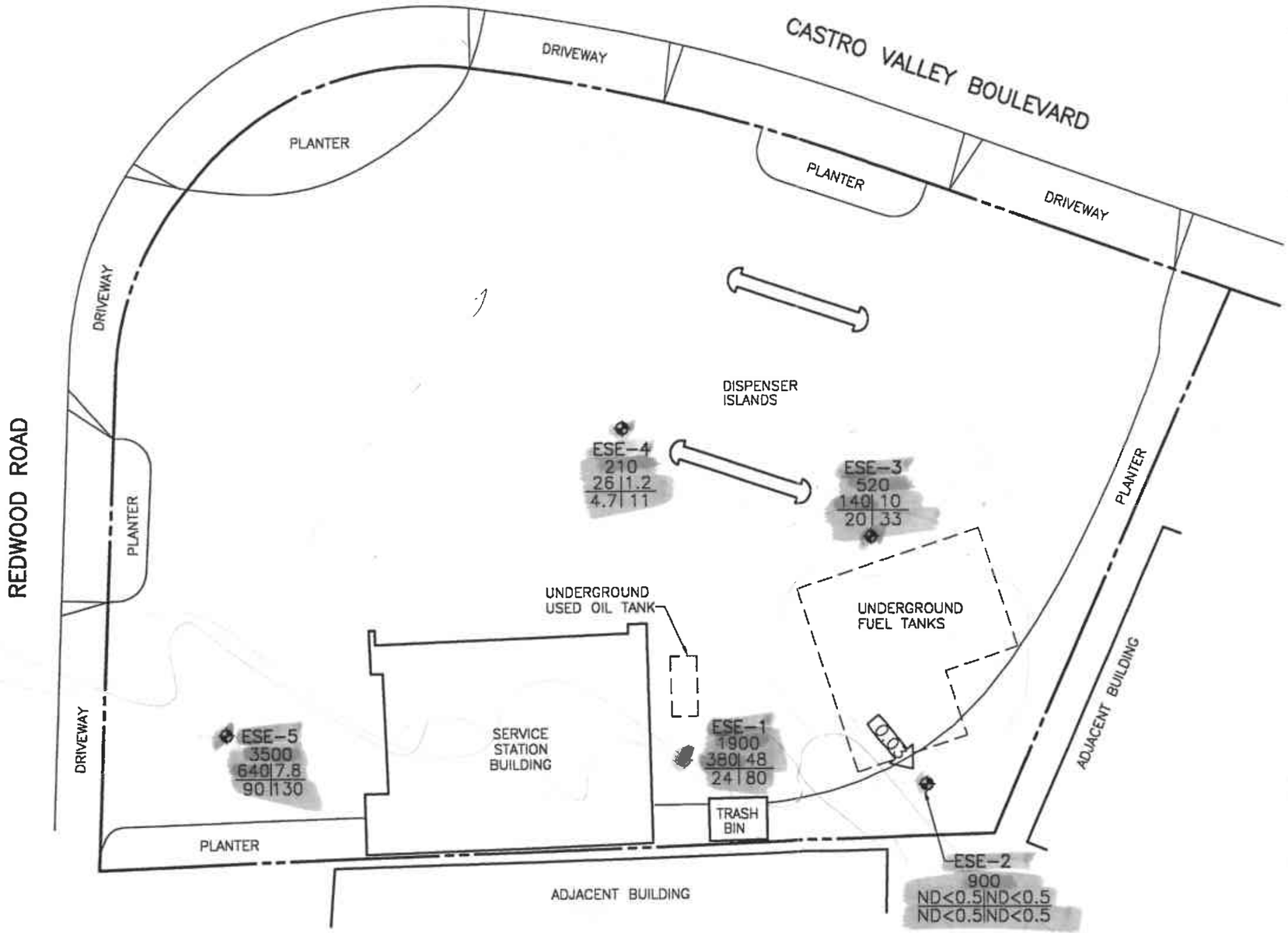
FEBRUARY 17, 1994

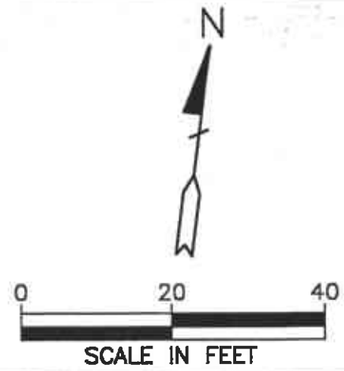
BP OIL SERVICE STATION NO. 11105
3515 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

PROJECT NO. 10-138

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10138D-DWG 3-10-94 RKW 1=20





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
0.03	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

FEBRUARY 17, 1994

BP OIL SERVICE STATION NO. 11105
3515 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

PROJECT NO. 10–138

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO ENGINEERING GROUP
GROUNDWATER MONITORING

Client: BP
Alisto Project No: 10-138-02-001 ✓
Service Station No: 11105

Date: 7-17-94
Field Personnel: C. Kenheima
Site Address: 3515 Castro Valley Blvd
Castro Valley

FIELD ACTIVITY:

___ Groundwater Monitoring
X Groundwater Sampling
___ Well Development

QUALITY CONTROL SAMPLES:

ESE-1 QC-1 Sample Duplicate (Well ID)
___ 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
ESE-1	2"		30.0	9.64	⌀	0	
ESE-2	↓		30.0	10.06			
ESE-3			30.0	8.97			water in box
ESE-4			25.0	8.65			water in box
ESE-5	↓		24.0	9.35	↓	↓	

Notes:

FORM: FS2/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-138-02-001
Service Station No: 11105

Date: 2-17-94
Field Personnel: CER
Address: 3815 Castro Valley Blvd Castro Vly, CA

Well ID: ~~FSE-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:

___Depth to Product
___Product Thickness
9.64 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

___ Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

30.0 (Total Depth of Well) - 9.64 (Depth to Water) = 20.36 ft (Water Column) X 0.16 Gal/Ft (Conversion Factor) = 3.25 Gal (Casing Vol) X 3 (Vols to Purge) = 9.7 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/ Turbidity
8:25	67.0	8.02	.41	3	clear
8:27	67.5	7.49	.35	4	
8:33	67.3	7.51	.37	5	
8:35	67.8	7.40	.39	6	
8:37	67.3	7.44	.38	7	

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

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-138-02-001
Service Station No: 11105

Date: 2-17-94
Field Personnel: CER
Address: 3515 Castro Valley Blvd Castro Valley CA

Well ID: ESE-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:

__Pump (dispos. Poly Tubing)
__Disposable Bailers
__Other
__1.66 PVC Standard Bailer
__3.50 PVC Standard Bailer

Well Data:

____Depth to Product
____Product Thickness
10.06 Depth to Water

Sampling Method:

____Disposable Bailer
____Pump

Decontamination Method:

____ Triple Rinse (Liquinox)
____ Steam Cleaned

Calculated Purge Volume

30.0 (Total Depth of Well) - 10.06 (Depth to Water) = 19.94 ft (Water Column) X ____ Gal/Ft (Conversion Factor) = 3.19 Gal (Casing Vol) X 3 (Vols to Purge) = 9.57 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/ Turbidity
8:50	65.2	7.89	.38	3	clear
8:56	65.8	7.89	.36	4	slight dk yello
8:59	66.1	7.91	.34	5	clear/yellow
9:04	66.7	7.84	.37	6	"
9:07	66.3	7.88	.33	7	"

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

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-138-02-001
Service Station No: 1105

Date: 2-17-94
Field Personnel: CER
Address: 3515 Castro Valley Blvd Castro Valley CA

Well ID: ESE-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:

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

Well Data:

___Depth to Product
___Product Thickness
8.97 Depth to Water

Sampling Method:

___Disposable Bailer
___Pump

Decontamination Method:

___ Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

30.0 (Total Depth of Well) - 8.97 (Depth to Water) = 21.03 ft (Water Column) X _____ Gal/Ft (Conversion Factor) = 3.36 Gal (Casing Vol) X 3 (Vols to Purge) = 10.09 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv
9:31	64.9	8.00	.21	3	slight cldy	TPH-G/BTEX	VOA	HCL
9:36	67.9	7.54	.39	5				
9:58	67.7	7.71	.37	6	clear yellow	TPH-Diesel	Amber Liter	Solvent Rinsed
9:41	68.0	7.52	.38	7	↓	EPA 601	VOA	
9:50	67.3	7.48	.53	8	✓	TOG 5520BF	Amber Liter	H_2SO_4

Well box Add H_2O

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-138-02-001
Service Station No: 11105

Date: 2-17-94
Field Personnel: CER
Address: 3515 Castro Valley Blvd
Castro Valley

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

Casing Diameter:

___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:

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

Well Data:

___Depth to Product
___Product Thickness
8.65 Depth to Water

Sampling Method:

____Disposable Bailer
____Pump

Decontamination Method:

____ Triple Rinse (Liquinox)
____ Steam Cleaned

Calculated Purge Volume

25.0 (Total Depth of Well) - 8.65 (Depth to Water) = 16.35 ft (Water Column) X 0.16 Gal/Ft (Conversion Factor) = 2.61 Gal (Casing Vol) X 3 (Vols to Purge) = 7.8 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv
10:11	67.1	8.11	0.31	3	clear	TPH-G/BTEX	VOA	HCL
10:20	66.7	7.88	0.33	4	slight clay			
10:24	69.1	7.98	0.31	5	clear/yellow	TPH-Diesel	Amber Liter	Solvent Rinsed
10:38	66.3	7.71	0.29	6				
						EPA 601	VOA	
						TOG 5520BF	Amber Liter	H_2SO_4

Wellbox full of H_2O

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 110-138-02-001
Service Station No: 11105

Date: 2-7-94
Field Personnel: CER
Address: 3515 Castro Vly Blvd Castro Vly, CA

Well ID: SC-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:

___Depth to Product
___Product Thickness
9.35 Depth to Water

Sampling Method:

___Disposable Bailer
___Pump

Decontamination Method:

___ Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

24.0 (Total Depth of Well) - 9.35 (Depth to Water) = 14.65 ft (Water Column) X 0.16 Gal/Ft (Conversion Factor) = 2.34 Gal (Casing Vol) X 3 (Vols to Purge) = 7.0 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv
1131	68.1	8.24	0.51	2	clear	TPH-G/BTEX	VOA	HCL
1134	65.0	7.61	0.44	3	↓	TPH-Diesel	Amber Liter	Solvent Rinsed
1138	67.8	7.40	0.43	4	↓	EPA 601	VOA	
1143	67.6	7.33	0.41	5	slight clay	TOG 5520BF	Amber Liter	H_2SO_4

FORM: FS3/121592

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

March 02, 1994
PACE Project Number: 440222507

Attn: Mr. Brady Nagle

Client Reference: BP Station # 11105/10-138-02-001

PACE Sample Number:			70 0251346	
Date Collected:			02/17/94	
Date Received:			02/22/94	
			QC-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/25/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	2200	02/25/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/25/94
Benzene	ug/L	2.5	430	02/25/94
Toluene	ug/L	0.5	42	02/25/94
Ethylbenzene	ug/L	0.5	19	02/25/94
Xylenes, Total	ug/L	0.5	65	02/25/94

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

Mr. Brady Nagle
Page 2

March 02, 1994
PACE Project Number: 440222507

Client Reference: BP Station # 11105/10-138-02-001

PACE Sample Number:			70 0251354	
Date Collected:			02/17/94	
Date Received:			02/22/94	
Client Sample ID:			ESE-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/25/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	250	1900	02/25/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/25/94
Benzene	ug/L	2.5	380	02/25/94
Toluene	ug/L	2.5	48	02/25/94
Ethylbenzene	ug/L	2.5	24	02/25/94
Xylenes, Total	ug/L	2.5	80	02/25/94

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

March 02, 1994
PACE Project Number: 440222507

Client Reference: BP Station # 11105/10-138-02-001

PACE Sample Number:			70 0251435	
Date Collected:			02/17/94	
Date Received:			02/22/94	
Client Sample ID:			ESE-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/25/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	900	02/25/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/25/94
Benzene	ug/L	0.5	ND	02/25/94
Toluene	ug/L	0.5	ND	02/25/94
Ethylbenzene	ug/L	0.5	ND	02/25/94
Xylenes, Total	ug/L	0.5	ND	02/25/94

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Brady Nagle
Page 4

March 01, 1994
PACE Project Number: 440222507

Client Reference: BP Station # 11105/10-138-02-001

PACE Sample Number:			70 0251478	
Date Collected:			02/17/94	
Date Received:			02/22/94	
Client Sample ID:			ESE-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/25/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	520	02/25/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/25/94
Benzene	ug/L	0.5	140	02/25/94
Toluene	ug/L	0.5	10	02/25/94
Ethylbenzene	ug/L	0.5	20	02/25/94
Xylenes, Total	ug/L	0.5	33	02/25/94

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

REPORT OF LABORATORY ANALYSIS

March 02, 1994
PACE Project Number: 440222507

Client Reference: BP Station # 11105/10-138-02-001

PACE Sample Number:			70 0251486	
Date Collected:			02/17/94	
Date Received:			02/22/94	
Client Sample ID:			ESE-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/25/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	210	02/25/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/25/94
Benzene	ug/L	0.5	26	02/25/94
Toluene	ug/L	0.5	1.2	02/25/94
Ethylbenzene	ug/L	0.5	4.7	02/25/94
Xylenes, Total	ug/L	0.5	11	02/25/94

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

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Brady Nagle
Page 6

March 01, 1994
PACE Project Number: 440222507

Client Reference: BP Station # 11105/10-138-02-001

PACE Sample Number:			70 0251494	
Date Collected:			02/17/94	
Date Received:			02/22/94	
Client Sample ID:			ESE-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/25/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	3500	02/25/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	02/25/94
Benzene	ug/L	2.5	640	02/25/94
Toluene	ug/L	0.5	7.8	02/25/94
Ethylbenzene	ug/L	0.5	90	02/25/94
Xylenes, Total	ug/L	0.5	130	02/25/94

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 | FOOTNOTES | March 01, 1994
Page 7 | for pages 1 through 6 | PACE Project Number: 440222507

Client Reference: BP Station # 11105/10-138-02-001

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

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

Mr. Brady Nagle
Page 8

QUALITY CONTROL DATA

March 01, 1994
PACE Project Number: 440222507

Client Reference: BP Station # 11105/10-138-02-001

PURGEABLE FUELS AND AROMATICS
Batch: 70 28533
Samples: 70 0251346, 70 0251354, 70 0251435, 70 0251478, 70 0251486
70 0251494

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	700250790	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	1800	1000	79%	94%	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	99%	94%	5%

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

Mr. Brady Nagle
Page 9

FOOTNOTES
for page 8

March 01, 1994
PACE Project Number: 440222507

Client Reference: BP Station # 11105/10-138-02-001

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

440222.507

BP

CHAIN OF CUSTODY

No. 051336 Page of

CONSULTANT'S NAME	ADDRESS	CITY	STATE	ZIP CODE
ALISTO ENGINEERING	1777 Oakland Blvd #200	Walnut Creek	CA	94596

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11105	3515 Castro Valley Blvd Castro Valley CA	10-138-02-001

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
Brady Nagle	510 295 1650	510 295 1823	F949131

BP CONTACT	BP ADDRESS	PHONE NUMBER	FAX NO.
Scott Hooton	295 S.W. 41st, Building 13 Ste N	206 251 0689	

LAB CONTACT	LABORATORY ADDRESS	PHONE NUMBER	FAX NO.
Pace	Novato		

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
Chris Reinheimer	[signature]		

AIRBILL NUMBER:

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

ANALYSIS REQUIRED — HCl per label Sn 2/22

SAMPLE DESCRIPTION	COLLECTION DATE 2/17/94 / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	TYPE (VOL.)	PRESERVATIVE / LAB SAMPLE #	TPH-G BTEX									COMMENTS
✓ ~~QC-1~~ QC-1	2-17-94	H_2O	2	VOA	25134.6	X									
~~[struck out row]~~															
✓ ESE-1	↓	↓	3		25135.4	↓									
✓ ESE-2					25143.5		(25143.5)								
✓ ESE-3					25147.8										
✓ ESE-4					25148.6										
✓ ESE-5	↓	↓	↓		25149.4	X									
~~[struck out row]~~															

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] ALISTO	2-22-94	1500	[signature] - Pace	2/22/94	1500
[signature] Pace	2/22/94	1700	[signature] McIntosh, Pace	2/22/94	1700

ADDITIONAL COMMENTS: 10 BOT

CLV-16722

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