GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11105
3515 Castro Valley Boulevard
Castro Valley, California

Project No. 10-138-01-004

Prepared for:

BP Oil Company
Environmental Resources Management
295 S.W. 41st Street
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Prepared by:

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February 8, 1994

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26392
Exp. Date 3/31/96
CIVIL
STATE OF CALIFORNIA

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11105
3515 Castro Valley Boulevard
Castro Valley, California

Project No. 10-138-01-004

February 8, 1994

INTRODUCTION

This report presents the results and findings of the December 10, 1993 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	04/01/93	182.49	8.79	173.70	5900	—	1500	410	110	390	—	—	—	PACE
ESE-1	06/29/93	182.49	10.34	172.15	7600	—	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-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	06/29/93	181.95	10.88	171.07	1700	—	260	24	110	23	—	—	—	PACE
QC-1 (c)	06/29/93	—	—	—	1300	—	240	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-3	10/05/92	182.00	10.58	171.42	430	—	57	31	3.6	34	—	—	—	—
ESE-3	04/01/93	182.00	8.14	173.86	2400	—	460	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-4	10/05/92	182.47	10.33	172.14	98	—	7.2	1.3	1.1	6.1	—	—	—	—
ESE-4	04/01/93	182.47	7.88	174.59	550	—	93	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

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	04/01/93	184.09	7.02	177.07	13000	---	2200	26	730	1000	---	---	---	PACE
QC-1 (c)	04/01/93	---	---	---	13000	---	2500	25	740	1100	---	---	---	PACE
ESE-5	06/29/93	184.09	10.21	173.88	7600	---	1500	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
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

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
ppm	Parts per million
ppb	Parts per billion
DO	Dissolved oxygen
ND	Not detected above reported detection limit
---	Not measured/analyzed/available
PACE	Pace, Inc.

NOTES:

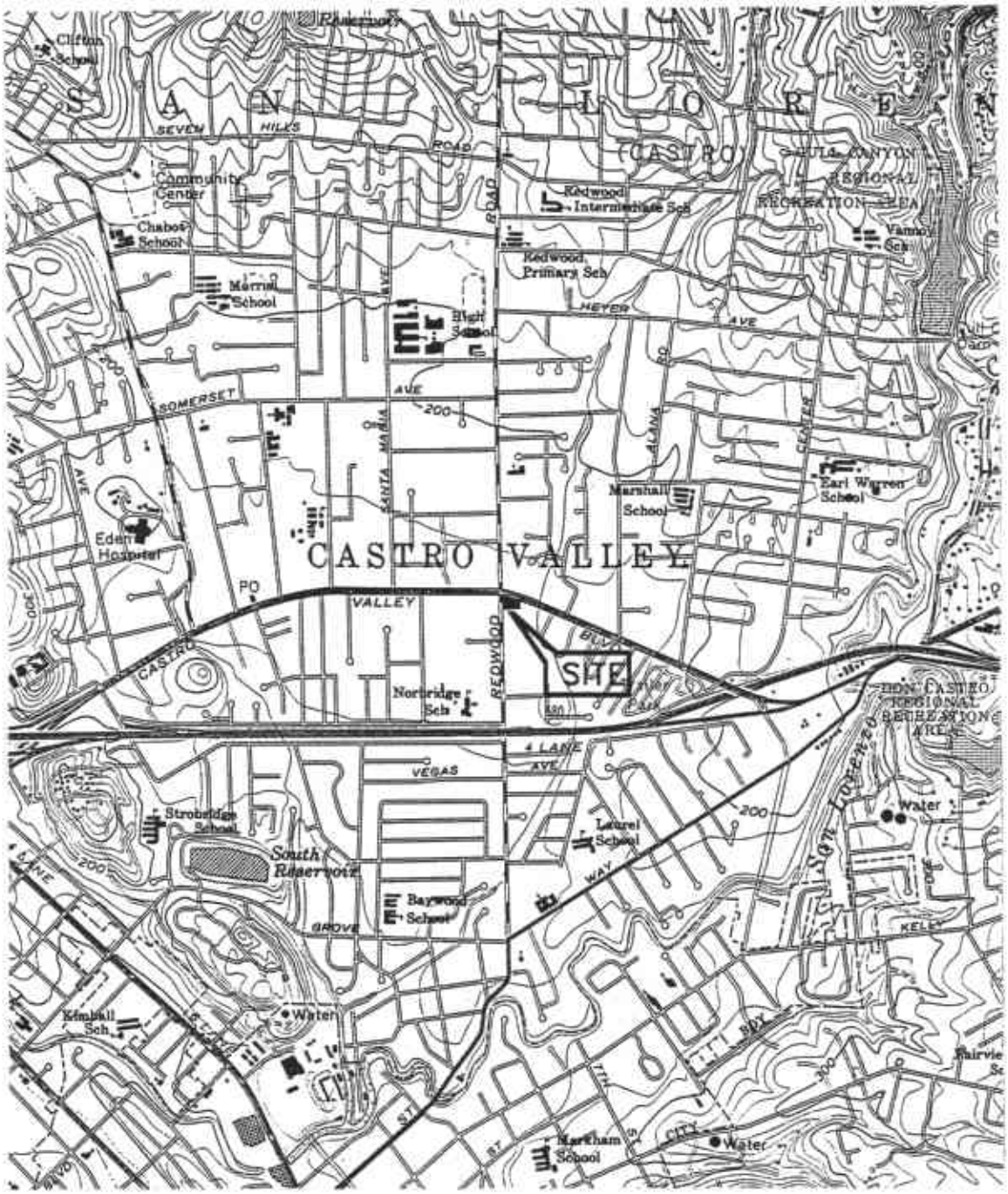
(a) Top of casing elevations relative to an arbitrary datum with an elevation of 264 feet above mean sea level.

(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'

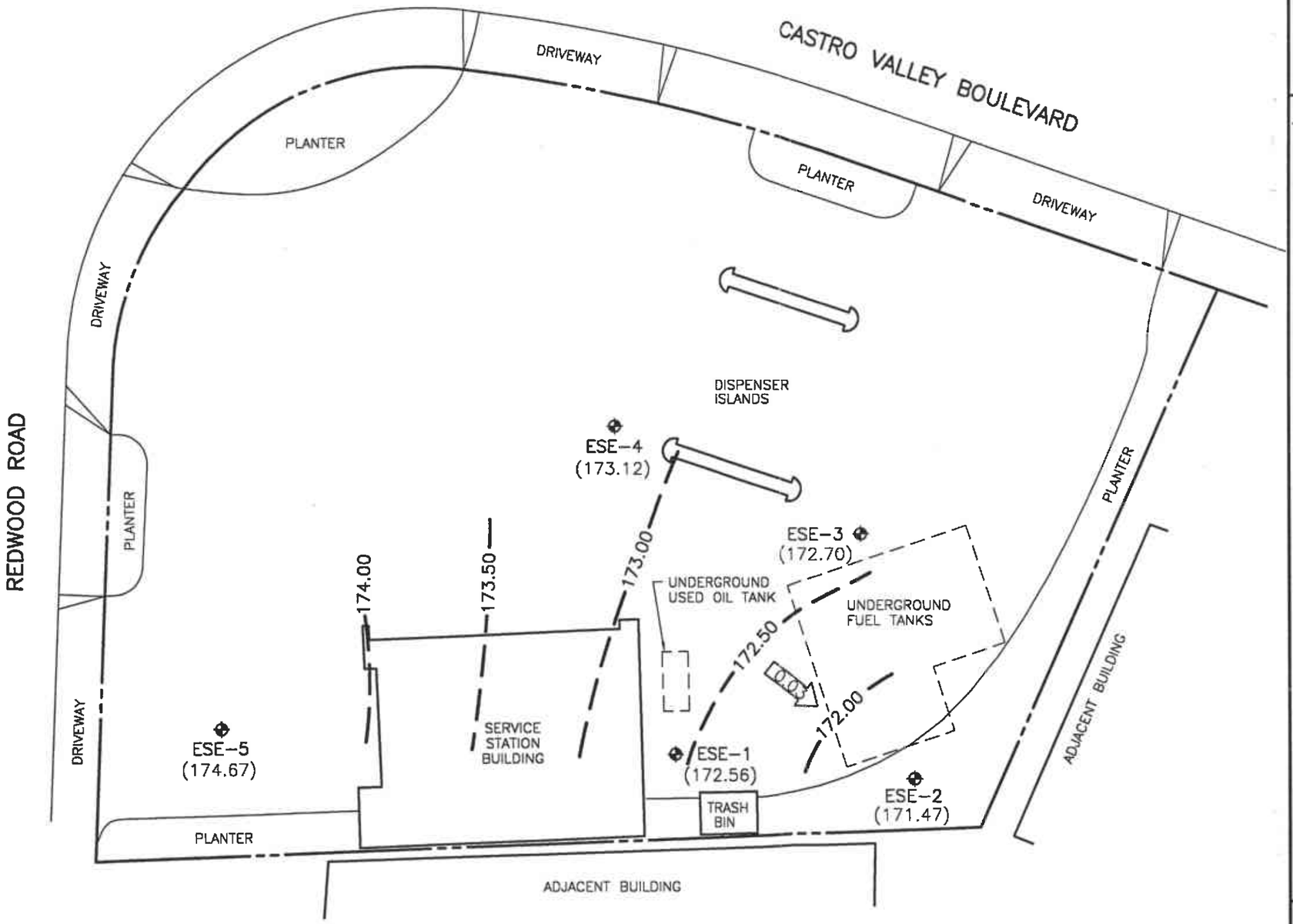
FIGURE 1

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
- (172.70) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 172.50 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

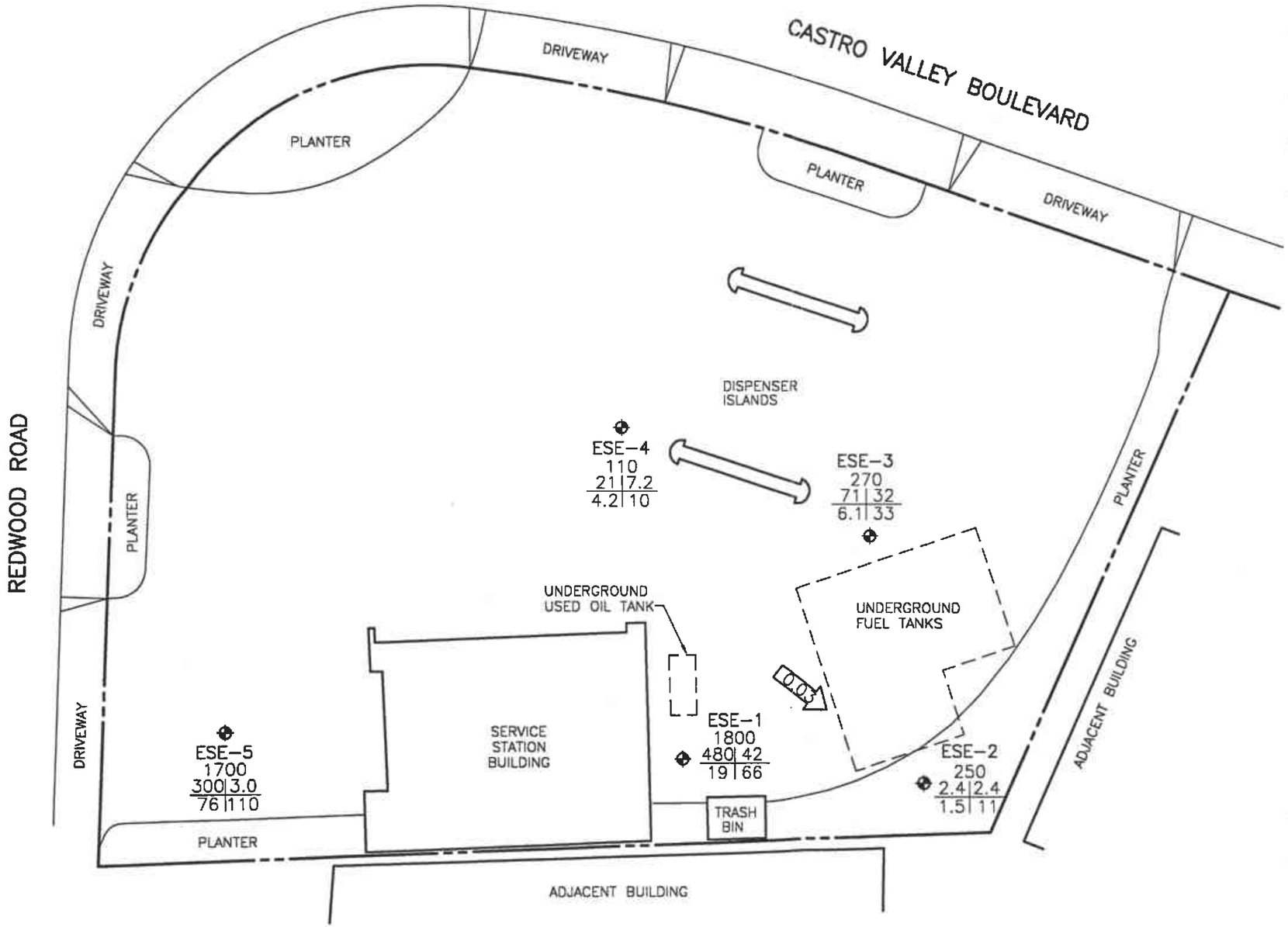
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

DECEMBER 10, 1993

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

PROJECT NO. 10–138

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



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

DECEMBER 10, 1993

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: 10-138-01|004
Service Station No: 11105

Date: 12/10/93
Field Personnel: LCB
Site Address: Castro Valley, Ca

FIELD ACTIVITY:

X 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"	5	30.00	9.93	Ø	Ø	
ESE-2	↓	2	30.00	10.48	↓	↓	
ESE-3		3	30.00	9.30			
ESE-4		1	25.00	8.95			
ESE-5	↓	4	24.00	9.42	↓	↓	

Notes:

FORM: FS2/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

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

Date: 12/10/93
Field Personnel: LCB
Address: Castro Valley, CA

Well ID: ESE-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
- 9.30 Depth to Water

Sampling Method:
- X Disposable Bailer
- ___Pump

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

Calculated Purge Volume

30.00 (Total Depth of Well) - 9.93 (Depth to Water) = 20.07 ft (Water Column) X .16 (Conversion Factor) Gal/Ft = 3.21 Gal (Casing Vol) X 3 (Vols to Purge) = 9.63 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)X1000	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv
1348	67.5	7.56	.29	2	clear	X TPH-G/BTEX	VOA	HCL
1351	68.2	7.34	.30	4		TPH-Diesel	Amber Liter	Solvent Rinsed
1354	68.6	7.23	.31	6		EPA 601	VOA	
1357	68.3	7.17	.31	8		TOG 5520BF	Amber Liter	H_2SO_4
1400	68.0	7.11	.30	9.75	↓			

Begin 1345 Stop 1400 Sampled 1410

QC-1 taken From this well

D.O. (PPM) 2.3 Begin
3.2 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

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

Date: 12/10/93
Field Personnel: LB
Address: 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:
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
10.48 Depth to Water

Sampling Method:
X Disposable Bailer
___Pump

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

Calculated Purge Volume
30.00 (Total Depth of Well) - 10.48 (Depth to Water) = 19.52 ft (Water Column) X .16 Gal/Ft (Conversion Factor) = 3.12 Gal (Casing Vol) X 3 (Vols to Purge) = 9.36 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm) X 10 ±C	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv
1233	69.1	8.04	.27	2	clear	X TPH-G/BTEX	VOA	HCL
1236	68.6	7.85	.27	4		TPH-Diesel	Amber Liter	Solvent Rinsed
1239	68.2	7.76	.25	6		EPA 601	VOA	
1242	67.9	7.70	.24	8		TOG 5520BF	Amber Liter	H_2SO_4
1245	67.9	7.65	.24	9.50	↓			

Begin 1230 Stop 1245 Sampled 1250

D.O$_2$ (PPM) 1.9 Begin
2.6 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

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

Date: 12/10/93
Field Personnel: LCB
Address: Ca Stro 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:
- 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
- 9.30 Depth to Water

Sampling Method:
- X Disposable Bailer
- ___Pump

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

Calculated Purge Volume

30.00 (Total Depth of Well) - 9.30 (Depth to Water) = 20.70 ft (Water Column) X .16 Gal/Ft (Conversion Factor) = 3.31 Gal (Casing Vol) X 3 (Vols to Purge) = 9.93 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm) X1000	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv
1302	70.0	7.69	.27	2	Clear	X TPH-G/BTEX	VOA	HCL
1304	69.5	7.56	.27	4		TPH-Diesel	Amber Liter	Solvent Rinsed
1306	69.2	7.47	.26	6		EPA 601	VOA	
1308	69.0	7.37	.25	8		TOG 5520BF	Amber Liter	H_2SO_4
1310	68.5	7.31	.25	10				

Begin 1300 Stop 1310 Sampled 1318

D.O2 (PPM) 2.1 Begin
2.7 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-138-01/004
Service Station No: 11105

Date: 12/10/93
Field Personnel: LCB
Address: Castro Valley, CA

Well ID: ESE-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:
0 Depth to Product
0 Product Thickness
8.95 Depth to Water

Sampling Method:
X Disposable Bailer
___Pump

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

Calculated Purge Volume

25.00 (Total Depth of Well) - 8.95 (Depth to Water) = 16.05 ft (Water Column) X .16 Gal/Ft (Conversion Factor) = 2.57 Gal (Casing Vol) X 3 (Vols to Purge) = 7.71 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm) X1000	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv
1203	69.8	7.84	.30	2	Clear	X TPH-G/BTEX	VOA	HCL
1206	68.4	7.57	.27	3	↓	TPH-Diesel	Amber Liter	Solvent Rinsed
1209	68.1	7.51	.25	5		EPA 601	VOA	
1212	67.9	7.43	.25	7		TOG 5520BF	Amber Liter	H_2SO_4
1215	67.7	7.40	.23	7.75				

Begin 1200 Stop 1215 Sampled 1220

D.O. (PPM) 2.8 Begin
2.8 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

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

Date: 12/10/93
Field Personnel: LCB
Address: Castro Valley, CA

Well ID: ESE5 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
- 9.30 Depth to Water

Sampling Method:
- X Disposable Bailer
- ___Pump

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

Calculated Purge Volume

24.00 (Total Depth of Well) - 9.42 (Depth to Water) = 14.58 ft (Water Column) X .16 Gal/Ft (Conversion Factor) = 2.33 Gal (Casing Vol) X 3 (Vols to Purge) = 6.99 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm) X1000	Purge Vol (Gal)	Comments/ Turbidity	Analysis Required	Container Type	Preserv
1327	69.4	7.69	.28	1	clear	X TPH-G/BTEX	VOA	HCL
1329	70.0	7.34	.35	3		TPH-Diesel	Amber Liter	Solvent Rinsed
1331	70.6	7.29	.37	4		EPA 601	VOA	
1333	70.1	7.22	.37	6		TOG 5520BF	Amber Liter	H_2SO_4
1335	69.7	7.16	.36	7	↓			

Begin 1325 Stop 1335 Sampled 1340

FORM: FS3/121592

D.O (PPM) 2.3 Begin
2.5 End

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

December 28, 1993
PACE Project Number: 431216524

Attn: Mr. Bill Howell

Client Reference: BP Station # 11105/10-138-01/004

PACE Sample Number:			70 0215676	
Date Collected:			12/10/93	
Date Received:			12/16/93	
			QC-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	12/22/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1500	12/22/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	12/22/93
Benzene	ug/L	0.5	380	12/22/93
Toluene	ug/L	0.5	38	12/22/93
Ethylbenzene	ug/L	0.5	17	12/22/93
Xylenes, Total	ug/L	0.5	55	12/22/93

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

REPORT OF LABORATORY ANALYSIS

December 28, 1993
PACE Project Number: 431216524

Client Reference: BP Station # 11105/10-138-01/004

PACE Sample Number:			70 0215684	
Date Collected:			12/10/93	
Date Received:			12/16/93	
Client Sample ID:			ESE-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	12/22/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	250	1800	12/22/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	12/22/93
Benzene	ug/L	2.5	480	12/22/93
Toluene	ug/L	2.5	42	12/22/93
Ethylbenzene	ug/L	2.5	19	12/22/93
Xylenes, Total	ug/L	2.5	66	12/22/93

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

REPORT OF LABORATORY ANALYSIS

December 28, 1993
PACE Project Number: 431216524

Client Reference: BP Station # 11105/10-138-01/004

PACE Sample Number:			70 0215692	
Date Collected:			12/10/93	
Date Received:			12/16/93	
Client Sample ID:			ESE-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	12/22/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	250	12/22/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	12/22/93
Benzene	ug/L	0.5	2.4	12/22/93
Toluene	ug/L	0.5	2.4	12/22/93
Ethylbenzene	ug/L	0.5	1.5	12/22/93
Xylenes, Total	ug/L	0.5	11	12/22/93

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REPORT OF LABORATORY ANALYSIS

December 28, 1993
PACE Project Number: 431216524

Client Reference: BP Station # 11105/10-138-01/004

PACE Sample Number:			70 0215706	
Date Collected:			12/10/93	
Date Received:			12/16/93	
Client Sample ID:			ESE-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	12/22/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	270	12/22/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	12/22/93
Benzene	ug/L	0.5	71	12/22/93
Toluene	ug/L	0.5	32	12/22/93
Ethylbenzene	ug/L	0.5	6.1	12/22/93
Xylenes, Total	ug/L	0.5	33	12/22/93

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REPORT OF LABORATORY ANALYSIS

December 28, 1993
PACE Project Number: 431216524

Client Reference: BP Station # 11105/10-138-01/004

PACE Sample Number:			70 0215714	
Date Collected:			12/10/93	
Date Received:			12/16/93	
Client Sample ID:			ESE-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	12/22/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	110	12/22/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	12/22/93
Benzene	ug/L	0.5	21	12/22/93
Toluene	ug/L	0.5	7.2	12/22/93
Ethylbenzene	ug/L	0.5	4.2	12/22/93
Xylenes, Total	ug/L	0.5	10	12/22/93

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REPORT OF LABORATORY ANALYSIS

December 28, 1993
PACE Project Number: 431216524

Client Reference: BP Station # 11105/10-138-01/004

PACE Sample Number:			70 0215722	
Date Collected:			12/10/93	
Date Received:			12/16/93	
Client Sample ID:			ESE-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	12/22/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1700	12/22/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	12/22/93
Benzene	ug/L	0.5	300	12/22/93
Toluene	ug/L	0.5	3.0	12/22/93
Ethylbenzene	ug/L	0.5	76	12/22/93
Xylenes, Total	ug/L	0.5	110	12/22/93

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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December 28, 1993
PACE Project Number: 431216524

Client Reference: BP Station # 11105/10-138-01/004

PACE Sample Number:			70 0216303	
Date Collected:			12/10/93	
Date Received:			12/17/93	
Client Sample ID:			QC-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	12/23/93
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	12/23/93
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	12/23/93
Benzene	ug/L	0.5	ND	12/23/93
Toluene	ug/L	0.5	ND	12/23/93
Ethylbenzene	ug/L	0.5	ND	12/23/93
Xylenes, Total	ug/L	0.5	ND	12/23/93

These data have been reviewed and are approved for release.

Darrell C. Cain
Regional Director

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Client Reference: BP Station # 11105/10-138-01/004

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

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Client Reference: BP Station # 11105/10-138-01/004

PURGEABLE FUELS AND AROMATICS
Batch: 70 27133
Samples: 70 0215676, 70 0215684, 70 0215692, 70 0215706

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	95%	98%	3%
Benzene	ug/L	0.5	40.0	105%	99%	5%
Toluene	ug/L	0.5	40.0	103%	98%	4%
Ethylbenzene	ug/L	0.5	40.0	102%	97%	5%
Xylenes, Total	ug/L	0.5	120	105%	100%	4%

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

December 28, 1993
PACE Project Number: 431216524

Client Reference: BP Station # 11105/10-138-01/004

PURGEABLE FUELS AND AROMATICS
Batch: 70 27243
Samples: 70 0215714, 70 0215722

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	99%	93%	6%
Benzene	ug/L	0.5	100	114%	109%	4%
Toluene	ug/L	0.5	100	111%	110%	0%
Ethylbenzene	ug/L	0.5	100	108%	105%	2%
Xylenes, Total	ug/L	0.5	300	107%	105%	1%

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QUALITY CONTROL DATA

December 28, 1993
PACE Project Number: 431216524

Client Reference: BP Station # 11105/10-138-01/004

PURGEABLE FUELS AND AROMATICS
Batch: 70 27274
Samples: 70 0216303

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%	98%	1%
Benzene	ug/L	0.5	40.0	103%	114%	10%
Toluene	ug/L	0.5	40.0	108%	115%	6%
Ethylbenzene	ug/L	0.5	40.0	110%	109%	0%
Xylenes, Total	ug/L	0.5	120	109%	107%	1%

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FOOTNOTES
for pages 9 through 11

December 28, 1993
PACE Project Number: 431216524

Client Reference: BP Station # 11105/10-138-01/004

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

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524 SB 12/17

431216. ~~525~~

CHAIN OF CUSTODY

No. 051313 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: 11105	BP CORNER ADDRESS/CITY: Castro Valley, Ca		CONSULTANT PROJECT NUMBER: 10738-01/004
CONSULTANT PROJECT MANAGER: Bill Howell	PHONE NUMBER: (510) 295-1650	FAX NUMBER: 295-1823	CONSULTANT CONTRACT NUMBER: Pac F949131
BP CONTACT: Scott Hooton	BP ADDRESS: Tukwila, WA	PHONE NUMBER:	FAX NO.:
LAB CONTACT: Pace Inc	LABORATORY ADDRESS: Novato, Ca	PHONE NUMBER: (415) 883-6100	FAX NO.: 883-2673
SAMPLED BY (Please Print Name): Larry Buenvenida	SAMPLED BY (Signature): Jay B Jr	SHIPMENT DATE:	SHIPMENT METHOD: Courier
TAT: ☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☒ Standard 2 Weeks	ANALYSIS REQUIRED		AIRBILL NUMBER:

SAMPLE DESCRIPTION	COLLECTION DATE / TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH-G BTEX EDB	COMMENTS
QC-2	12/10/93	W	2	All VOAs	215670	X	Did not Receive QC-2 VOAs SB 12/1
QC-1			3		215674		
ESE-1					215684		
ESE-2					215691-2		
ESE-3					215701-6		
ESE-4					215711-4		
ESE-5					215722		

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Jay B Jr	12/16/93	1630	Kathy Pace	12/16	1630
Kathy Pace	12/16	1900	Pace	12/16/93	1902

ADDITIONAL COMMENTS

9/1

CLV-16722

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