BP OIL

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

January 24, 1995

MR SCOTT SEERY
ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
80 SWAN WAY ROOM 200
OAKLAND CA 94621

RE: BP OIL FACILITY #11105
3515 Castro Valley Blvd
Castro Valley, CA

Dear Mr. Seery:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED NOVEMBER 26, 1994** for the above referenced facility.

If you should have any questions regarding this site, I may be reached at (206) 251-0689.

Respectfully,

Scott T. Hooton
Environmental Resources Management
Group Leader

STH:mu msword\ERM11105

cc: Mr. Eddy So, CRWQCB, San Francisco Bay Region, 2101 Webster Street, Suite 200, Oakland, CA 94612

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

Mr. Larry Silva, TOSCO Northwest CO, 601 Union Street, Suite 2500, Seattle, WA 98101

Site File

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BP OIL CO.
ENVIRONMENTAL DEPT.
WEST COAST REGION OFC.

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-138-02-003

Prepared for:

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

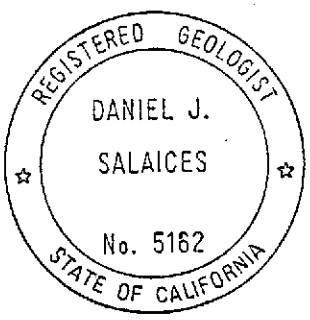
Prepared by:

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

November 26, 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. 10-138-02-003

December 15, 1994

INTRODUCTION

This report presents the results and findings of the October 15, 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 (Feet)	(a)	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-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-1	08/08/94	177.69	(d)	11.72	165.97	2100	---	450	46	16	50	---	---	5.1	PACE
ESE-1	10/12/94	177.69	(d)	10.48	167.21	760	---	240	16	51	39	---	---	3.5	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-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-2	08/08/94	178.23	(d)	11.11	167.12	750	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	5.1	PACE
ESE-2	10/12/94	178.23	(d)	11.31	166.92	1700	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	3.6	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-3	02/17/94	182.00		8.97	173.03	520	---	140	10	20	33	---	---	---	PACE
ESE-3	08/08/94	178.20	(d)	10.02	168.18	ND<50	---	8.8	1.6	1.6	2.3	---	---	6.2	PACE
ESE-3	10/12/94	178.20	(d)	10.32	167.88	470	---	190	6.4	15	18	---	---	3.5	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	182.40	(e)	8.33	174.07	150	---	23	0.6	5.4	0.5	---	---	---	PACE
ESE-4	09/23/93	182.40		10.05	172.35	110	---	14	1.7	3.2	4.6	---	---	---	PACE
ESE-4	12/10/93	182.40		8.95	173.45	110	---	21	7.2	4.2	10	---	---	2.8	PACE
ESE-4	02/17/94	182.40		8.65	173.75	210	---	26	1.2	4.7	11	---	---	---	PACE
ESE-4	08/08/94	177.66	(d)	9.76	167.90	76	---	9.6	ND<0.5	2.0	ND<0.5	---	---	7.0	PACE
ESE-4	10/12/94	177.66	(d)	9.62	168.04	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	3.2	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
ESE-5		02/07/94	184.09		9.35	174.74	3500	---	640	7.8	90	130	---	---	---	PACE
ESE-5		08/08/94	176.08	(d)	8.76	167.32	2600	---	210	4.6	9.4	4.4	---	---	5.8	PACE
QC-1	(c)	08/08/94	---		---	---	2500	---	230	4.6	13	4.8	---	---	---	PACE
ESE-5		10/12/94	176.08	(d)	8.95	167.13	5600	---	560	9.5	75	21	---	---	3.6	PACE
QC-1	(c)	10/12/94	---		---	---	6000	---	550	10	78	22	---	---	---	PACE
QC-2	(f)	04/01/93	---		---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f)	06/29/93	---		---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f)	09/23/93	---		---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f)	12/10/93	---		---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f)	02/17/94	---		---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f)	08/08/94	---		---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f)	10/12/94	---		---	---	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 applicable/measured/analyzed
PACE	Pace, Inc.

NOTES:

(a) Top of casing elelvation relative to mean sea level.

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

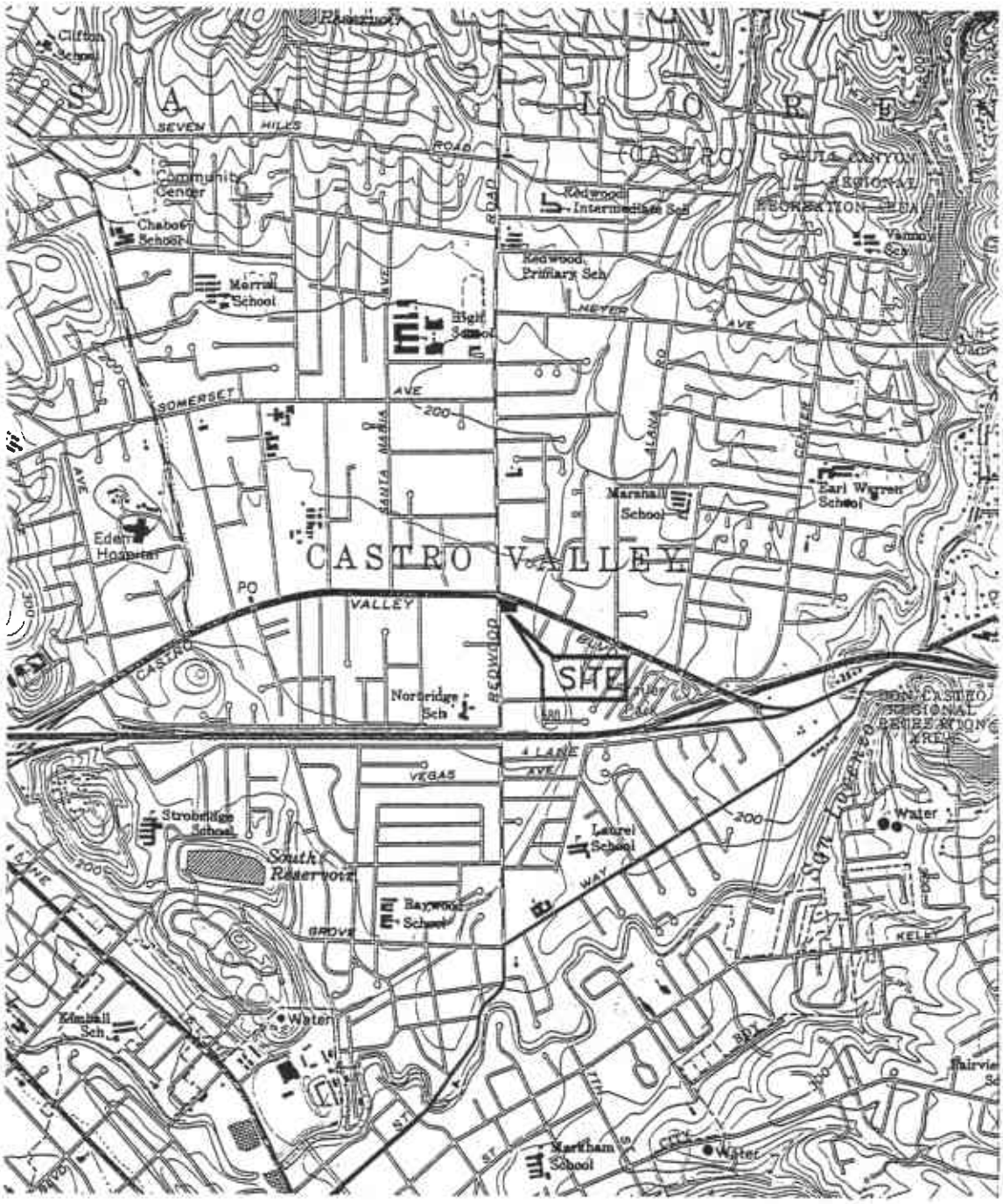
(c) Blind duplicate.

(d) Well resurveyed in March 1994.

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

(f) Travel blank.

E:\0\10-138-2-3



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

N

0 1000' 2000'

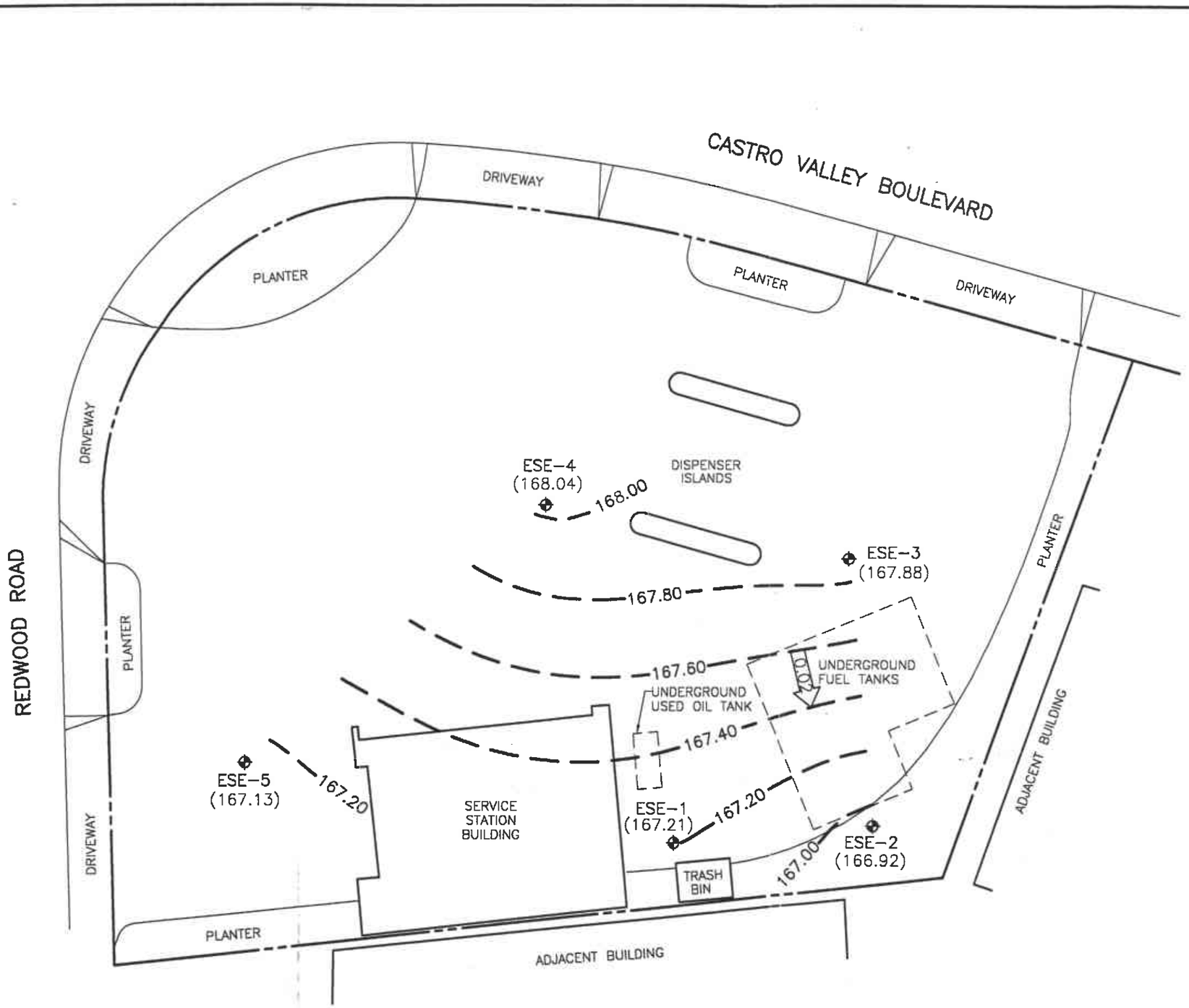
FIGURE 1

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
- (166.92) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 167.00 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.20 FOOT)
- 0.02 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

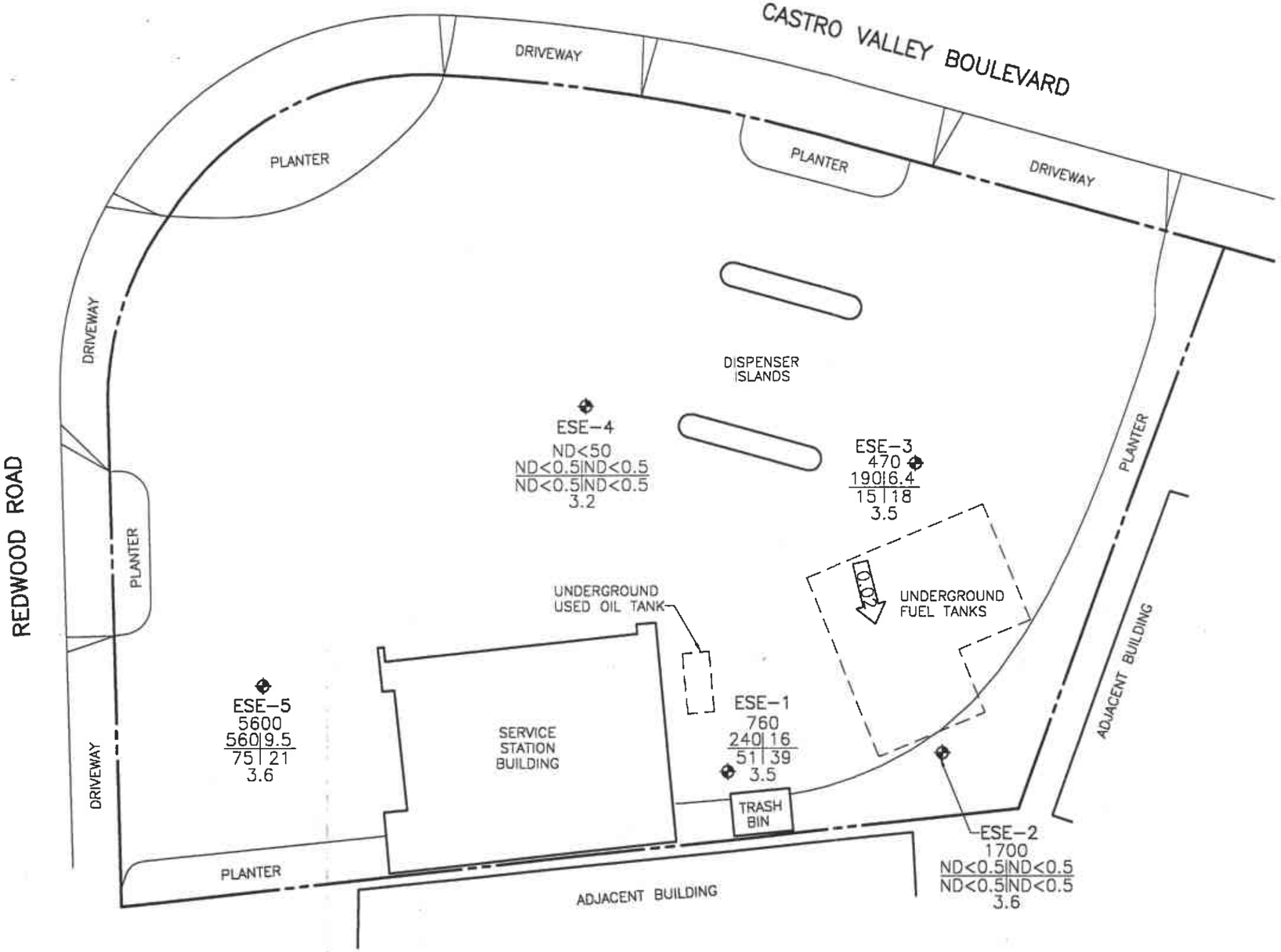
OCTOBER 12, 1994

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

PROJECT NO. 10–138

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

101303-L.DWG 12-1-94 BKW 1=20



N

0 20 40

SCALE IN FEET

LEGEND

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

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

OCTOBER 12, 1994

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

PROJECT NO. 10-138

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

101386-1.DWG 12-1-94 KHM 1=20

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO

ENGINEERING
GROUP
1777 OAKLAND BLVD, STE 200
WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

Field Report / Sampling Data Sheet

☒ Groundwater Sampling

Date: 10/12/94 Project No. 10-138-02.003
Day: M T (W) Th F Facility No. 11105 BP
Barometric pres. 760 Temp. Address Castro Valley, Ca
SAMPLER: LCB

Well ID	SAMPLE #	WATER time	Well ID	SAMPLE #	WATER time	Well ID	SAMPLE	WATER / time
ESE-1	S-4	10.48	S-6	QC-1 (ESE-5)				
ESE-2	S-3	11.31						
ESE-3	S-2	10.32						
ESE-4	S-1	9.62						
ESE-5	S-5	895						

FIELD INSTRUMENT CALIBRATION DATA

Ph METER ICM 4.00 4 7.00 7 10.00 10 TIME 1100 TEMPERATURE COMPENSATED (Y) N
TURBIDI METER 5.0 NTU STANDARD OTHER
CONDUCTIVITY METER ICM 10,000 10,000 OTHER

Well ID ESE-4 | Depth to Water 9.62 | Diam 2" | Cap/Lock OK | Depth to prod. Ø | Iridescence Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
25.00 - 9.62 = 15.38 x .16 = 2.46 x 3 = 6.38

Purge Method: ☒ Surface Pump ○ Disp. Tube ○ Winch ○ Disp. Baller(s) ○ Sys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
3	1010	69.9	8.11	370	2.9
4		69.3	7.92	350	
5		68.7	7.86	330	
6.5	1030	68.2	7.81	320	3.2

○ EPA 601 ☒ TPH-G/BTEX HCL ○ TPH Diesel ○ TOG 5520 Time/Sample

Well ID ESE-3 | Depth to Water 10.32 | Diam 2" | Cap/Lock OK | Depth to prod. Ø | Iridescence Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
30.00 - 10.32 = 19.68 x .16 = 3.15 x 3 = 9.45

Purge Method: ☒ Surface Pump ○ Disp. Tube ○ Winch ○ Disp. Baller(s) ○ Sys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
3	1045	70.7	8.03	300	3.1
6		70.1	7.94	330	
8		69.9	7.90	350	
9.5	1100	69.5	7.85	360	3.5

○ EPA 601 ☒ TPH-G/BTEX HCL ○ TPH Diesel ○ TOG 5520 Time/ Sample

Well ID ESE-2 | Depth to Water 11.31 | Diam 2" | Cap/Lock OK | Depth to prod. Ø | Iridescence Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
30.00 - 11.31 = 18.69 x .16 = 2.99 x 3 = 8.97

Purge Method: ☒ Surface Pump ○ Disp. Tube ○ Winch ○ Disp. Baller(s) ○ Sys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
3	1106	69.1	7.83	440	3.6
6		68.4	7.71	410	
8		68.0	7.65	380	
9	1120	67.7	7.60	380	3.6

○ EPA 601 ☒ TPH-G/BTEX HCL ○ TPH Diesel ○ TOG 5520 Time /Sample

ALISTO ENGINEERING GROUP

Field Report / Sampling Data Sheet

1777 OAKLAND BLVD, STE 200
WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

X Groundwater Sampling

Date: 10/12/94 Project No. 10-138
Day: M T (W) Th F Facility No. 1105
Barometric pres. 760 Temp. Address Castro Valley
SAMPLER: LCB

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

FIELD INSTRUMENT CALIBRATION DATA

Ph METER_____ 4.00 _____ 7.00_____ 10.00 _____ TIME_____ TEMPERATURE COMPENSATED Y N
TURBIDI METER_____ 5.0 NTU STANDARD_____ OTHER_____
CONDUCTIVITY METER_____ 10,000_____ OTHER _____

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	EPA 601 / TPH-G/BTEX / TPH Diesel / TOG 5520 / Time/Sample
ESE-1	10.48	2"	OK	Ø	Y (N)	3	1140	69.7	7.77	430	3.3	O EPA 601 / X TPH-G/BTEX HCL / O TPH Diesel / O TOG 5520
						4		69.3	7.63	410		
						5		69.2	7.56	400		
						9.5	1200	69.0	7.51	400	3.5	Time/Sample

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
30.00 - 10.48 = 19.52 X .16 = 3.12 X 3 = 9.36
Purge Method: X Surface Pump O Disp.Tube O Winch O Disp. Baller(s) O Sye Port
Comments:

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	EPA 601 / TPH-G/BTEX / TPH Diesel / TOG 5520 / Time/ Sample
ESE-5	8.95	2"	OK	Ø	Y (N)	3	1207	69.4	8.22	520	3.7	O EPA 601 / X TPH-G/BTEX HCL / O TPH Diesel / O TOG 5520
						5		68.6	7.99	530		
						6		68.2	7.90	540		
						7.5	1230	67.9	7.85	520	3.6	Time/ Sample

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
24.00 - 8.95 = 15.05 X .16 = 2.41 X 3 = 7.23
Purge Method: X Surface Pump O Disp.Tube O Winch O Disp. Baller(s) O Sye Port
Comments:

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	EPA 601 / TPH-G/BTEX / TPH Diesel / TOG 5520 / Time /Sample
					Y N							O EPA 601 / O TPH-G/BTEX / O TPH Diesel / O TOG 5520
												Time /Sample

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
Purge Method: O Surface Pump O Disp.Tube O Winch O Disp. Baller(s) O Sye Port
Comments:

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

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

October 24, 1994
PACE Project Number: 441013510

Attn: Mr. Bill Howell

Client Reference: BP Site #11105/10-138-02/003

PACE Sample Number:			70 0423392	
Date Collected:			10/12/94	
Date Received:			10/13/94	
Client Sample ID:			S-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	0.5	ND	10/18/94
Toluene	ug/L	0.5	ND	10/18/94
Ethylbenzene	ug/L	0.5	ND	10/18/94
Xylenes, Total	ug/L	0.5	ND	10/18/94

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

An Equal Opportunity Employer

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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October 24, 1994
PACE Project Number: 441013510

Client Reference: BP Site #11105/10-138-02/003

PACE Sample Number:			70 0423406	
Date Collected:			10/12/94	
Date Received:			10/13/94	
Client Sample ID:			S-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	470	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	0.5	190	10/18/94
Toluene	ug/L	0.5	6.4	10/18/94
Ethylbenzene	ug/L	0.5	15	10/18/94
Xylenes, Total	ug/L	0.5	18	10/18/94

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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October 24, 1994
PACE Project Number: 441013510

Client Reference: BP Site #11105/10-138-02/003

PACE Sample Number:			70 0423414	
Date Collected:			10/12/94	
Date Received:			10/13/94	
Client Sample ID:			S-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	500	1700	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	0.5	ND	10/18/94
Toluene	ug/L	0.5	ND	10/18/94
Ethylbenzene	ug/L	0.5	ND	10/18/94
Xylenes, Total	ug/L	0.5	ND	10/18/94

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REPORT OF LABORATORY ANALYSIS

October 24, 1994
PACE Project Number: 441013510

Client Reference: BP Site #11105/10-138-02/003

PACE Sample Number:			70 0423422	
Date Collected:			10/12/94	
Date Received:			10/13/94	
Client Sample ID:			S-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	250	760	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	2.5	240	10/18/94
Toluene	ug/L	2.5	16	10/18/94
Ethylbenzene	ug/L	2.5	51	10/18/94
Xylenes, Total	ug/L	2.5	39	10/18/94

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REPORT OF LABORATORY ANALYSIS

October 24, 1994
PACE Project Number: 441013510

Client Reference: BP Site #11105/10-138-02/003

PACE Sample Number:			70 0423430	
Date Collected:			10/12/94	
Date Received:			10/13/94	
Client Sample ID:			S-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	500	5600	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	5.0	560	10/18/94
Toluene	ug/L	5.0	9.5	10/18/94
Ethylbenzene	ug/L	5.0	75	10/18/94
Xylenes, Total	ug/L	5.0	21	10/18/94

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REPORT OF LABORATORY ANALYSIS

October 24, 1994
PACE Project Number: 441013510

Client Reference: BP Site #11105/10-138-02/003

PACE Sample Number:			70 0423449	
Date Collected:			10/12/94	
Date Received:			10/13/94	
Client Sample ID:			S-6	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	250	6000	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	2.5	550	10/18/94
Toluene	ug/L	2.5	10	10/18/94
Ethylbenzene	ug/L	2.5	78	10/18/94
Xylenes, Total	ug/L	2.5	22	10/18/94

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REPORT OF LABORATORY ANALYSIS

October 24, 1994
PACE Project Number: 441013510

Client Reference: BP Site #11105/10-138-02/003

PACE Sample Number:			70 0423457	
Date Collected:			10/12/94	
Date Received:			10/13/94	
Client Sample ID:			S-7	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	0.5	ND	10/18/94
Toluene	ug/L	0.5	ND	10/18/94
Ethylbenzene	ug/L	0.5	ND	10/18/94
Xylenes, Total	ug/L	0.5	ND	10/18/94

These data have been reviewed and are approved for release.

Darrell C. Cain
Regional Director

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Client Reference: BP Site #11105/10-138-02/003

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

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Client Reference: BP Site #11105/10-138-02/003

PURGEABLE FUELS AND AROMATICS
Batch: 70 35161
Samples: 70 0423392, 70 0423406, 70 0423414, 70 0423422, 70 0423430

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	700423163	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND	1000	87%	91%	4%

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	93%	95%	2%

Mr. Bill Howell
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QUALITY CONTROL DATA

October 24, 1994
PACE Project Number: 441013510

Client Reference: BP Site #11105/10-138-02/003

PURGEABLE FUELS AND AROMATICS
Batch: 70 35164
Samples: 70 0423449, 70 0423457

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	700423481	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	22	100	93%	93%	0%
Toluene	ug/L	0.5	ND	100	95%	94%	1%
Ethylbenzene	ug/L	0.5	ND	100	93%	93%	0%
Xylenes, Total	ug/L	0.5	ND	300	94%	93%	1%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	102%	93%	9%
Toluene	ug/L	0.5	100	102%	92%	10%
Ethylbenzene	ug/L	0.5	100	100%	90%	11%
Xylenes, Total	ug/L	0.5	300	101%	91%	10%

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FOOTNOTES
for pages 9 through 10

October 24, 1994
PACE Project Number: 441013510

Client Reference: BP Site #11105/10-138-02/003

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

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44013.510

BP

CHAIN OF CUSTODY

No. 052483 Page 1 of 1

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	Castro Valley, Ca	10-138-02/003

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
Bill Howell	(510) 295-1650	295-1823	6225684

BP CONTACT	BP ADDRESS	PHONE NUMBER	FAX NO.
Scott Hooton	Renton, WA		

LAB CONTACT	LABORATORY ADDRESS	PHONE NUMBER	FAX NO.
Pace	Novato, Ca	(415) 883-6100	883-2673

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
Larry Buenvenida	[signature]		Courier

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

AIRBILL NUMBER:

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	TYPE (VOL.)	PRESERVATIVE / LAB SAMPLE #	TPH-G BTEX	COMMENTS
S-1	10/12/94	W	3	HCL	42339.2	X	
S-2	↓	↓	↓	↓	42340.6	↓	
S-3	↓	↓	↓	↓	42341.4	↓	
S-4	↓	↓	↓	↓	42342.2	↓	
S-5	↓	↓	↓	↓	42343.0	↓	
S-6	↓	↓	↓	↓	42344.9	↓	
S-7	↓	↓	2	↓	42345.7	↓	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	10/13/94	11:37	Brenda D [signature]	10/13/94	11:37
Brenda D [signature]	10/13/94	6:00	[signature]	10/13/94	600

ADDITIONAL COMMENTS: 911

CLV-16722

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