Reviewed by ASheek
02/6/95

BP OIL

ALCO
HAZMAT
95 JAN 25 PM 2:05

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

January 23, 1995

Mr. Ed So
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland CA 94612

RE: BP OIL FACILITY #11107
18501 Hesperian Boulevard
San Lorenzo, CA

Dear Mr. So:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED DECEMBER 21, 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\ERM11107

cc: Ms. Juliet Shin, Alameda County Health Care Services Agency
1131 Harbour Bay Parkway, Room 250, Alameda CA 94502-6577

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

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

Site File

Rec'd Dec 26/6/95

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11107
18501 Hesperian Boulevard
San Lorenzo, California

Project No. 10-060-03-004

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

December 21, 1994

Brady Nagle
Project Manager

Al Sevilla, P.E.
Principal

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11107
18501 Hesperian Boulevard
San Lorenzo, California

Project No. 10-060-03-004

December 21, 1994

INTRODUCTION

This report presents the results and findings of the November 3, 1994 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11107, 18501 Hesperian Boulevard, San Lorenzo, 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. 11107
18501 HESPERIAN BOULEVARD, SAN LORENZO, CALIFORNIA

ALISTO PROJECT NO. 10-060

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)	1,1,1-TCA (ppb)	PCE (ppb)	DO (ppm)	LAB
MW-1	11/04/92	41.07	20.78	20.29	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	2.8	ND	--	PACE
QC-1 (c)	11/04/92	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
MW-1	02/24/94	41.07	20.70	20.37	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	1.5	0.9	--	PACE
MW-1	05/12/94	41.07	18.12	22.95	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	1.0	ND<0.5	7.0	PACE
MW-1	09/09/94	41.07	21.74	19.33	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND<0.5	ND<0.5	2.3	PACE
MW-1	11/03/94	41.07	20.01	21.06	ND<50	50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND<0.5	ND<0.5	4.3	PACE
MW-2	11/04/92	40.56	20.16	20.40	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
MW-2	02/24/94	40.56	20.12	20.44	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
MW-2	05/12/94	40.56	17.49	23.07	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	7.4	PACE
MW-2	09/09/94	40.56	21.12	19.44	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	2.1	PACE
MW-2	11/03/94	40.56	19.36	21.20	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	4.2	PACE
MW-3	11/04/92	40.45	20.23	20.22	760	--	3.7	15	1.9	57	--	--	--	--	PACE
MW-3	02/24/94	40.45	20.24	20.21	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
MW-3	05/12/94	40.45	17.61	22.84	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	7.3	PACE
MW-3	09/09/94	40.45	21.22	19.23	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	2.0	PACE
MW-3	11/03/94	40.45	19.48	20.97	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	3.6	PACE
MW-4	11/04/92	39.24	19.18	20.06	900	--	150	4.1	0.8	53	--	--	--	--	PACE
MW-4	02/24/94	39.24	19.22	20.02	240	--	110	3.8	1.8	11	--	--	--	--	PACE
QC-1 (c)	02/24/94	--	--	--	310	--	95	5.3	2.2	17	--	--	--	--	PACE
MW-4	05/12/94	39.24	16.62	22.62	ND<50	--	2.2	1.0	ND<0.5	ND<0.5	--	--	--	7.3	PACE
QC-1 (c)	05/12/94	--	--	--	430	--	2.6	1.3	ND<0.5	ND<0.5	--	--	--	--	PACE
MW-4	09/09/94	39.24	20.27	18.97	240	--	9.1	1.3	0.6	2.5	--	--	--	2.2	PACE
QC-1 (c)	09/09/94	--	--	--	57	--	1.7	ND<0.5	ND<0.5	0.5	--	--	--	--	PACE
MW-4	11/03/94	39.24	18.46	20.78	250	--	3.1	2.8	1.0	3.3	--	--	--	3.2	PACE
QC-1 (c)	11/03/94	--	--	--	110	--	2.4	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
QC-2 (d)	11/04/92	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
QC-2 (d)	11/04/92	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
QC-2 (d)	05/12/94	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
QC-2 (d)	09/09/94	--	--	--	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	--	PACE
QC-2 (d)	11/03/94	--	--	--	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
1,1,1-TCA	1,1,1-Trichloroethane
PCE	Tetrachloroethene
DO	Dissolved oxygen
ppb	Parts per billion
ppm	Parts per million
ND	Not detected above reported detection limit
--	Not measured/analyzed/applicable
PACE	Pace, Inc.

NOTES:

(a) Top of casing elevations surveyed relative to an established benchmark with an elevation of 39.95 feet above mean sea level.

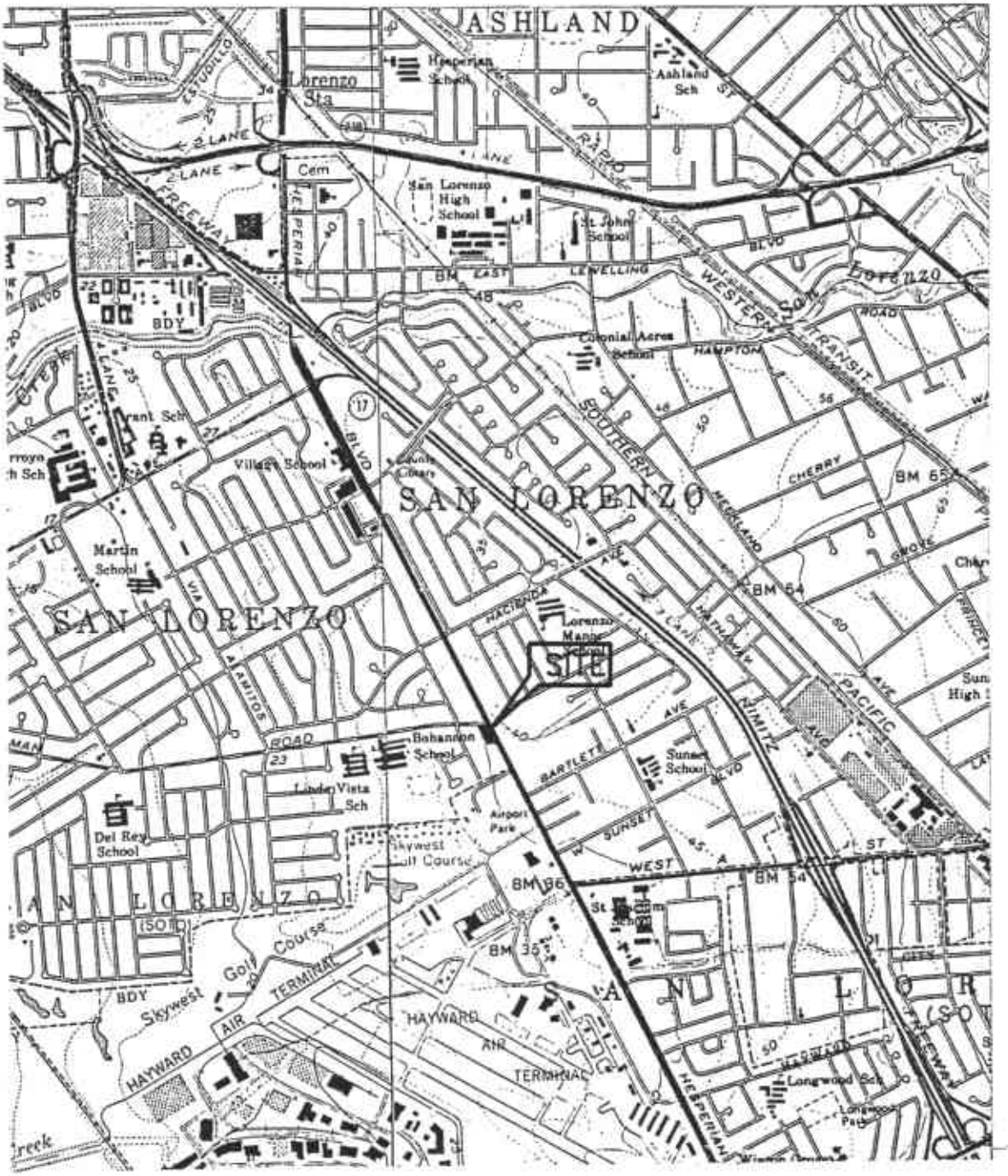
(b) Groundwater elevations in feet above mean sea level.

(c) Blind duplicate.

(d) Travel blank.

EX\10-060\060-3-3.WQ1

21-Dec-94



SOURCE:
USGS MAP, HAYWARD & SAN LEANDRO QUADRANGLES,
7.5 MINUTE SERIES, 1959,
PHOTOREVISED 1980.

N

0 1000' 2000'

FIGURE 1

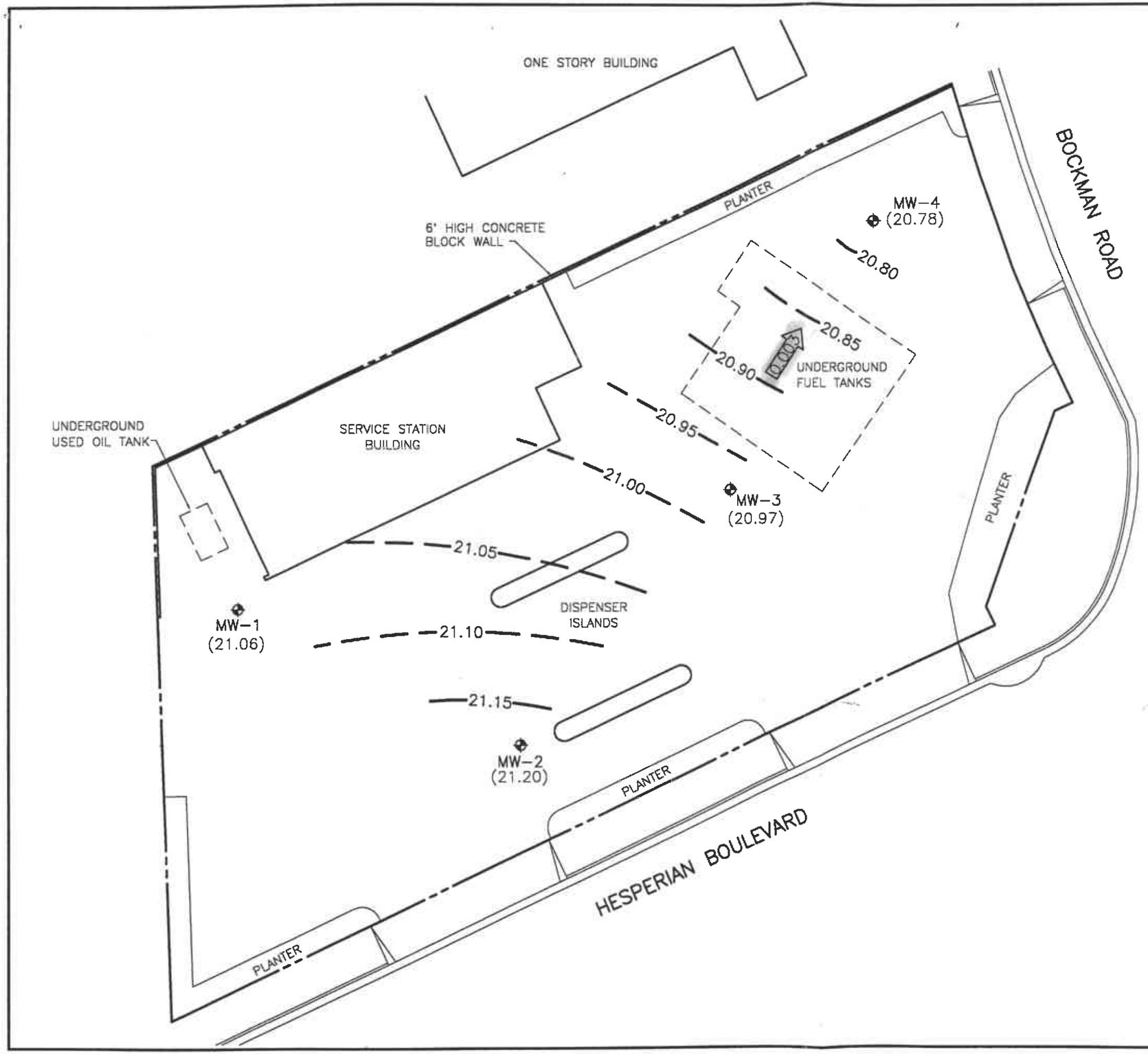
VICINITY MAP

BP OIL SERVICE STATION NO. 11107
18501 HESPERIAN BOULEVARD
SAN LORENZO, CALIFORNIA

PROJECT NO. 10-060

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10060---.DWG 3-12-04 RKW 1=1



N

0 20 40

SCALE IN FEET

LEGEND

- ◆ GROUNDWATER MONITORING WELL
- (20.78) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 20.80 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL—0.05 FOOT)
- 0.003 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

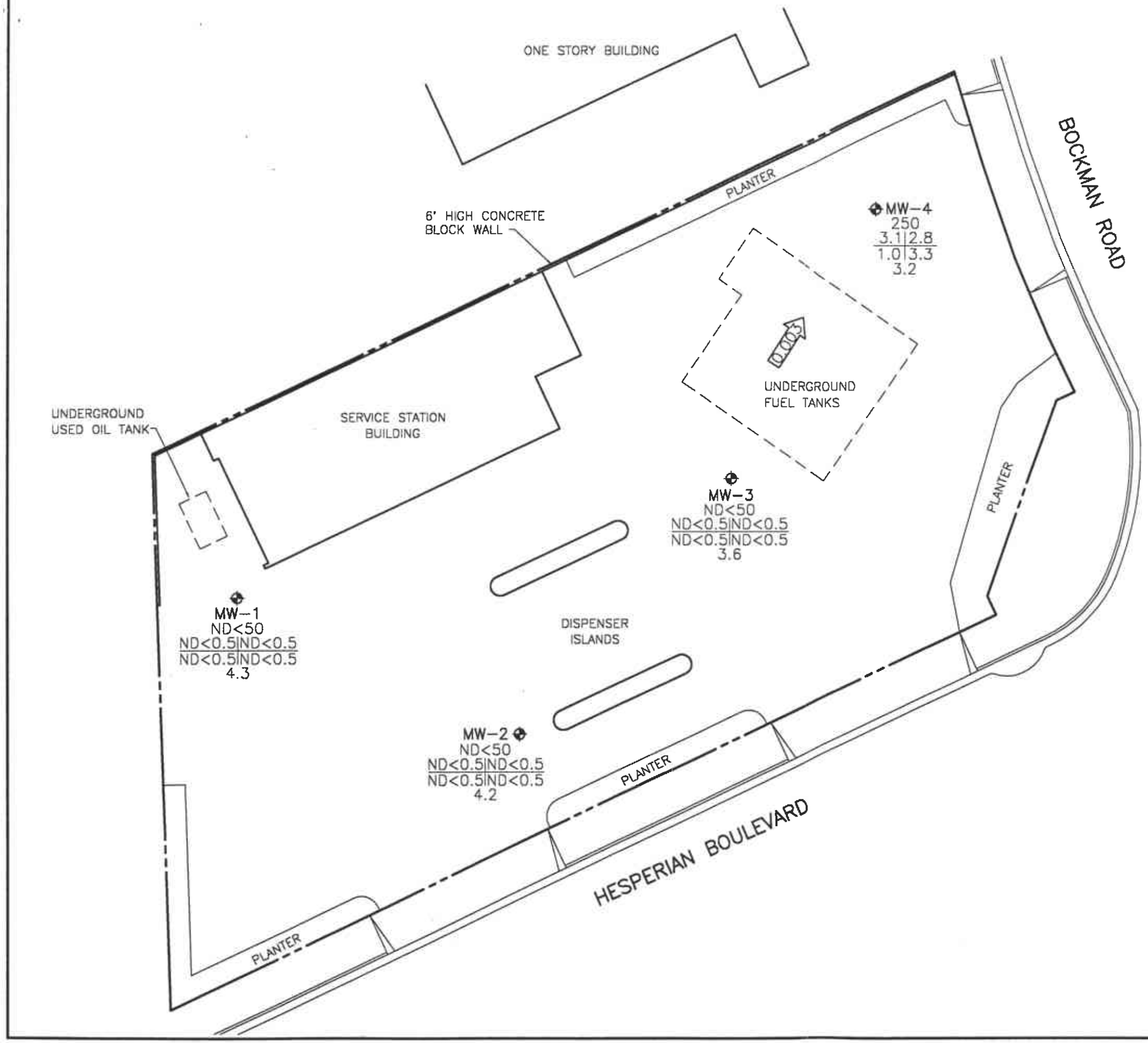
NOVEMBER 3, 1994

BP OIL SERVICE STATION NO. 11107
18501 HESPERIAN BOULEVARD
SAN LORENZO, CALIFORNIA

PROJECT NO. 10—060

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10060D-L.DWG 12-15-94 ROW 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
0.003	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

NOVEMBER 3, 1994

BP OIL SERVICE STATION NO. 11107
18501 HESPERIAN BOULEVARD
SAN LORENZO, CALIFORNIA

PROJECT NO. 10-060

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

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

Barometric pres. 752

Date: 11/3/94
Day: M T W (Th) F
Temp. 63°F
SAMPLER: DC

Project No. 10-060-03-004
Facility No. 11107
Address Hesperian Blvd, San Lorenzo CA

Well ID	SAMPLE #	WATER/time	Well ID	SAMPLE #	WATER/time	Well ID	SAMPLE	WATER/time
MW-1	S-1	20.01/1316						
MW-2	S-2	19.36/1319						
MW-3	S-3	19.48/1322						
MW-4	S-4	19.46/1327						

FIELD INSTRUMENT CALIBRATION DATA

Ph METER Hydac 4.00 ✓ 7.00 ✓ 10.00 ____ TIME 1336 TEMPERATURE COMPENSATED (Y) N

TURBIDI METER ____ 5.0 NTU STANDARD ____ OTHER ____ Icm DO meter O soln 1.0 @ 1345

CONDUCTIVITY METER Hydac 10,000 ✓ OTHER ____

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
MW-1	20.01	2"	replaced	Φ	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
30.70 - 20.01 = 10.69 x .16 = 1.71 x 3 = 5.13

Purge Method: OSurface Pump ODisp.Tube OWinch ⊗Disp. Bailer(s) OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1.5	1350	68.6	7.08	0.75	4.4
3	1353	66.2	7.14	0.74	
5.25	1357	65.7	7.16	0.72	4.3

⊗ EPA 601 HCl
⊗ TPH-G/BTEX HCl
⊗ TPH Diesel —
⊗ TOG 5520 —

Time/Sample 1405 / S-1

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
MW-2	19.36	2"	replaced	Φ	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
25.00 - 19.36 = 5.64 x .16 = 0.90 x 3 = 2.70

Purge Method: OSurface Pump ODisp.Tube OWinch ⊗Disp. Bailer(s) OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1	1425	66.0	7.59	0.70	4.2
2	1428	67.1	7.37	0.71	
2.75	1431	66.8	7.31	0.71	4.2

O EPA 601 ____
⊗ TPH-G/BTEX HCl
O TPH Diesel ____
O TOG 5520 ____

Time/ Sample 1435 / S-2

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence
MW-3	19.48	2"	replaced	Φ	Y (N)

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
25.20 - 19.48 = 5.72 x .16 = 0.92 x 3 = 2.75

Purge Method: OSurface Pump ODisp.Tube OWinch ⊗Disp. Bailer(s) OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1	1447	66.4	7.36	0.72	3.5
2	1450	67.2	7.20	0.73	
3	1455	67.0	7.20	0.74	3.6

O EPA 601 ____
⊗ TPH-G/BTEX HCl
O TPH Diesel ____
O TOG 5520 ____

Time /Sample 1500 / S-3

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: 11/3/94 Project No. 10-060-03-004
Day: Thur Station No. 11107
Weather: Sunny Address Hesperian Blvd, San Lorenzo CA
SAMPLER: DC

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
MW-4	18.46	2"	Vented	Φ	Φ

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
25.32 - 18.46 = 6.86 x .16 = 1.10 x 3 = 3.30

Purge Method: OSurface Pump ODisp.Tube OWinch ☒Disp. Bailer(s) OSys Port

Comments: QC-1 from this well (S-5)

Gal.	Time	Temp °F	pH	E.C.	D.O.
1	1507	67.2	7.38	0.72	3.2
2	1511	66.1	7.23	0.73	
3.5	1514	65.5	7.22	0.73	3.2

O EPA 601 ____
☒ TPH-G/BTEX ____
O TPH Diesel ____
O TOG 5520 ____
Time Sampled: 1515 / 3-4

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.

Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.

O EPA 601 ____
O TPH-G/BTEX ____
O TPH Diesel ____
O TOG 5520 ____
Time Sampled:

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.

Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.

O EPA 601 ____
O TPH-G/BTEX ____
O TPH Diesel ____
O TOG 5520 ____
Time Sampled:

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

PACE INCORPORATED
ENVIRONMENTAL LABORATORIES

REPORT OF LABORATORY ANALYSIS

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

November 15, 1994
PACE Project Number: 441104510

Attn: Mr. Bill Howell

Client Reference: BP Site #11107 10-060-03-004

PACE Sample Number:			70 0436150	
Date Collected:			11/03/94	
Time Collected:			14:05	
Date Received:			11/04/94	
			S-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	11/07/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	11/07/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	11/07/94
Benzene	ug/L	0.5	ND	11/07/94
Toluene	ug/L	0.5	ND	11/07/94
Ethylbenzene	ug/L	0.5	ND	11/07/94
Xylenes, Total	ug/L	0.5	ND	11/07/94
EXTRACTABLE FUELS EPA 3510/8015				
Extractable Fuels, as Diesel	mg/L	0.05	0.05	11/10/94
Date Extracted			11/08/94	
OIL AND GREASE, SILICA GEL (LUFT)				
Oil and Grease, Gravimetric (SM5520)	mg/L	5.0	ND	11/07/94
Date Extracted			11/07/94	
HALOGENATED VOLATILE ORGANICS BY 8010				
VOLATILE HALOCARBONS BY EPA 8010			-	11/08/94
Dichlorodifluoromethane	ug/L	2.0	ND	11/08/94
Chloromethane	ug/L	2.0	ND	11/08/94
Vinyl Chloride	ug/L	2.0	ND	11/08/94
Bromomethane	ug/L	2.0	ND	11/08/94
Chloroethane	ug/L	2.0	ND	11/08/94
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	11/08/94
FREON 113	ug/L	1.0	ND	11/08/94
1,1-Dichloroethene	ug/L	0.5	ND	11/08/94
Methylene Chloride	ug/L	2.0	ND	11/08/94
trans-1,2-Dichloroethene	ug/L	0.5	ND	11/08/94
1,1-Dichloroethane	ug/L	0.5	ND	11/08/94
cis-1,2-Dichloroethene	ug/L	0.5	ND	11/08/94

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

pace INCORPORATED
ENVIRONMENTAL LABORATORIES

REPORT OF LABORATORY ANALYSIS

November 15, 1994
PACE Project Number: 441104510

Client Reference: BP Site #11107 10-060-03-004

PACE Sample Number:			70 0436150	
Date Collected:			11/03/94	
Time Collected:			14:05	
Date Received:			11/04/94	
Client Sample ID:			S-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
HALOGENATED VOLATILE ORGANICS BY 8010				
Chloroform	ug/L	0.5	ND	11/08/94
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	11/08/94
Carbon Tetrachloride	ug/L	0.5	ND	11/08/94
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	11/08/94
Trichloroethene (TCE)	ug/L	0.5	ND	11/08/94
1,2-Dichloropropane	ug/L	0.5	ND	11/08/94
Bromodichloromethane	ug/L	0.5	ND	11/08/94
Dibromomethane	ug/L	0.5	ND	11/08/94
2-Chloroethylvinyl ether	ug/L	0.5	ND	11/08/94
cis-1,3-Dichloropropene	ug/L	0.5	ND	11/08/94
trans-1,3-Dichloropropene	ug/L	0.5	ND	11/08/94
1,1,2-Trichloroethane	ug/L	0.5	ND	11/08/94
Tetrachloroethene	ug/L	0.5	ND	11/08/94
Dibromochloromethane	ug/L	0.5	ND	11/08/94
Chlorobenzene	ug/L	0.5	ND	11/08/94
1,1,1,2-Tetrachloroethane	ug/L	0.5	ND	11/08/94
Bromoform	ug/L	0.5	ND	11/08/94
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	11/08/94
1,2,3-Trichloropropane	ug/L	0.5	ND	11/08/94
Bromobenzene	ug/L	0.5	ND	11/08/94
1,3-Dichlorobenzene	ug/L	0.5	ND	11/08/94
1,4-Dichlorobenzene	ug/L	0.5	ND	11/08/94
Benzyl Chloride	ug/L	0.5	ND	11/08/94
1,2-Dichlorobenzene	ug/L	0.5	ND	11/08/94
Bromochloromethane (Surrogate Recovery)	%		107	11/08/94
1,4-Dichlorobutane (Surrogate Recovery)	%		116	11/08/94

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

REPORT OF LABORATORY ANALYSIS

November 15, 1994
PACE Project Number: 441104510

Client Reference: BP Site #11107 10-060-03-004

PACE Sample Number:			70 0436168	
Date Collected:			11/03/94	
Time Collected:			14:35	
Date Received:			11/04/94	
Client Sample ID:			S-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	11/07/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	11/07/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	11/07/94
Benzene	ug/L	0.5	ND	11/07/94
Toluene	ug/L	0.5	ND	11/07/94
Ethylbenzene	ug/L	0.5	ND	11/07/94
Xylenes, Total	ug/L	0.5	ND	11/07/94

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pace INCORPORATED
ENVIRONMENTAL LABORATORIES

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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November 15, 1994
PACE Project Number: 441104510

Client Reference: BP Site #11107 10-060-03-004

PACE Sample Number:			70 0436176	
Date Collected:			11/03/94	
Time Collected:			15:00	
Date Received:			11/04/94	
Client Sample ID:			S-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	11/08/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	11/08/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	11/08/94
Benzene	ug/L	0.5	ND	11/08/94
Toluene	ug/L	0.5	ND	11/08/94
Ethylbenzene	ug/L	0.5	ND	11/08/94
Xylenes, Total	ug/L	0.5	ND	11/08/94

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REPORT OF LABORATORY ANALYSIS

November 15, 1994
PACE Project Number: 441104510

Client Reference: BP Site #11107 10-060-03-004

PACE Sample Number:			70 0436184	
Date Collected:			11/03/94	
Time Collected:			15:15	
Date Received:			11/04/94	
Client Sample ID:			S-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	11/07/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	250	11/07/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	11/07/94
Benzene	ug/L	0.5	3.1	11/07/94
Toluene	ug/L	0.5	2.8	11/07/94
Ethylbenzene	ug/L	0.5	1.0	11/07/94
Xylenes, Total	ug/L	0.5	3.3	11/07/94

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REPORT OF LABORATORY ANALYSIS

November 15, 1994
PACE Project Number: 441104510

Client Reference: BP Site #11107 10-060-03-004

PACE Sample Number:			70 0436192	
Date Collected:			11/03/94	
Date Received:			11/04/94	
Client Sample ID:			S-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	11/09/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	110	11/09/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	11/09/94
Benzene	ug/L	0.5	2.4	11/09/94
Toluene	ug/L	0.5	ND	11/09/94
Ethylbenzene	ug/L	0.5	ND	11/09/94
Xylenes, Total	ug/L	0.5	ND	11/09/94

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November 15, 1994
PACE Project Number: 441104510

Client Reference: BP Site #11107 10-060-03-004

PACE Sample Number:			70 0436206	
Date Collected:			11/03/94	
Date Received:			11/04/94	
Client Sample ID:			S-6	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	11/07/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	11/07/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	11/07/94
Benzene	ug/L	0.5	ND	11/07/94
Toluene	ug/L	0.5	ND	11/07/94
Ethylbenzene	ug/L	0.5	ND	11/07/94
Xylenes, Total	ug/L	0.5	ND	11/07/94

These data have been reviewed and are approved for release.

for Darrell C. Cain
Regional Director

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REPORT OF LABORATORY ANALYSIS

FOOTNOTES
for pages 1 through 7

Client Reference: BP Site #11107 10-060-03-004

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

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Client Reference: BP Site #11107 10-060-03-004

EXTRACTABLE FUELS EPA 3510/8015
Batch: 70 36160
Samples: 70 0436150

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	46%	38%	19%

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Client Reference: BP Site #11107 10-060-03-004

HALOGENATED VOLATILE ORGANICS BY 8010.
Batch: 70 36083
Samples: 70 0436150

METHOD BLANK:

Parameter	Units	MDL	Method Blank
VOLATILE HALOCARBONS BY EPA 8010			-
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
FREON 113	ug/L	1.0	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
1,1-Dichloroethane	ug/L	0.5	ND
cis-1,2-Dichloroethene	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
Dibromomethane	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
1,1,1,2-Tetrachloroethane	ug/L	0.5	ND
Bromoform	ug/L	0.5	ND
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND
1,2,3-Trichloropropane	ug/L	0.5	ND

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QUALITY CONTROL DATA

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PACE Project Number: 441104510

Client Reference: BP Site #11107 10-060-03-004

HALOGENATED VOLATILE ORGANICS BY 8010
Batch: 70 36083
Samples: 70 0436150

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Bromobenzene	ug/L	0.5	ND
1,3-Dichlorobenzene	ug/L	0.5	ND
1,4-Dichlorobenzene	ug/L	0.5	ND
Benzyl Chloride	ug/L	0.5	ND
1,2-Dichlorobenzene	ug/L	0.5	ND
Bromochloromethane (Surrogate Recovery)	%		104
1,4-Dichlorobutane (Surrogate Recovery)	%		108

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700421276	Spike	Spike Recv	Spike Dupl Recv	RPD
1,1-Dichloroethane	ug/L	0.5	ND	20	110%	97%	13%
Trichloroethene (TCE)	ug/L	0.5	ND	20	93%	94%	1%
1,1,2-Trichloroethane	ug/L	0.5	ND	20	93%	99%	6%
Tetrachloroethene	ug/L	0.5	ND	20	104%	96%	8%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
1,1-Dichloroethane	ug/L	0.5	20	91%	93%	2%
Trichloroethene (TCE)	ug/L	0.5	20	82%	92%	11%
1,1,2-Trichloroethane	ug/L	0.5	20	99%	98%	1%
Tetrachloroethene	ug/L	0.5	20	94%	91%	3%

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REPORT OF LABORATORY ANALYSIS

QUALITY CONTROL DATA

Client Reference: BP Site #11107 10-060-03-004

OIL AND GREASE, SILICA GEL (LUFT)
Batch: 70 36186
Samples: 70 0436150

METHOD BLANK:

Parameter	Units	MDL	Method Blank
Oil and Grease, Gravimetric (SM5520)	mg/L	5.0	ND

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Oil and Grease, Gravimetric (SM5520)	mg/L	5.0	20.0	90%	83%	8%

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QUALITY CONTROL DATA

November 15, 1994
PACE Project Number: 441104510

Client Reference: BP Site #11107 10-060-03-004

PURGEABLE FUELS AND AROMATICS
Batch: 70 36066
Samples: 70 0436150, 70 0436168, 70 0436184, 70 0436206

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	700434734	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	150	1000	91%	89%	2%

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	104%	101%	3%

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QUALITY CONTROL DATA

November 15, 1994
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PURGEABLE FUELS AND AROMATICS
Batch: 70 36102
Samples: 70 0436176, 70 0436192

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	700436176 S-3	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	98%	103%	5%
Toluene	ug/L	0.5	ND	100	99%	104%	5%
Ethylbenzene	ug/L	0.5	ND	100	94%	99%	5%
Xylenes, Total	ug/L	0.5	ND	300	100%	104%	4%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	108%	105%	3%
Toluene	ug/L	0.5	100	105%	102%	3%
Ethylbenzene	ug/L	0.5	100	99%	97%	2%
Xylenes, Total	ug/L	0.5	300	104%	102%	2%

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Client Reference: BP Site #11107 10-060-03-004

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

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441104.510

BP

CHAIN OF CUSTODY

No. 052481 | Page 1 of 1

CONSULTANT'S NAME	ADDRESS	CITY	STATE	ZIP CODE
Alisto Engineering	1777 Oakland Blvd, Ste 200	Walnut Creek	CA	94596

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11107	Hesperian Blvd, San Lorenzo CA	10-060-03-004

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

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

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

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
David Cusack	[signature]		Courier

AIRBILL NUMBER:

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

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE / LAB SAMPLE #	HCl TPH Gas BTEX	HCl 601	— TPH Diesel	— TOC						COMMENTS
S-1 1405	11/3/94	H2O	3 l 6 VOA	3 l 6 VOA	43615.0	X	X	X	X						
S-2 1435	↓	↓	3	VOA	43616.8	↓									
S-3 1500	↓	↓	↓	↓	43617.6	↓									
S-4 1515	↓	↓	↓	↓	43618.4	↓									
S-5 —	↓	↓	↓	↓	43619.2	↓									
S-6 —	↓	↓	2	↓	43620.6	↓									

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature] Alisto	11/4	2:20	Brenda [signature]	11/4	2:20
Brenda [signature]	11/4/94	4:30	[signature] McIntosh	11/4/94	430

ADDITIONAL COMMENTS: Courier Rec'd AT 1.0°

CLV-16722

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