Reviewed by Ofeek
02/6/95

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-060-03-003

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 8, 1994

Brady Nagle
Project Manager

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REGISTERED GEOLOGIST
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STATE OF CALIFORNIA

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11107
18501 Hesperian Boulevard
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INTRODUCTION

This report presents the results and findings of the September 9, 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-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-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-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
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

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/applied/analyzed
PACE	Pace, Inc.

NOTES:

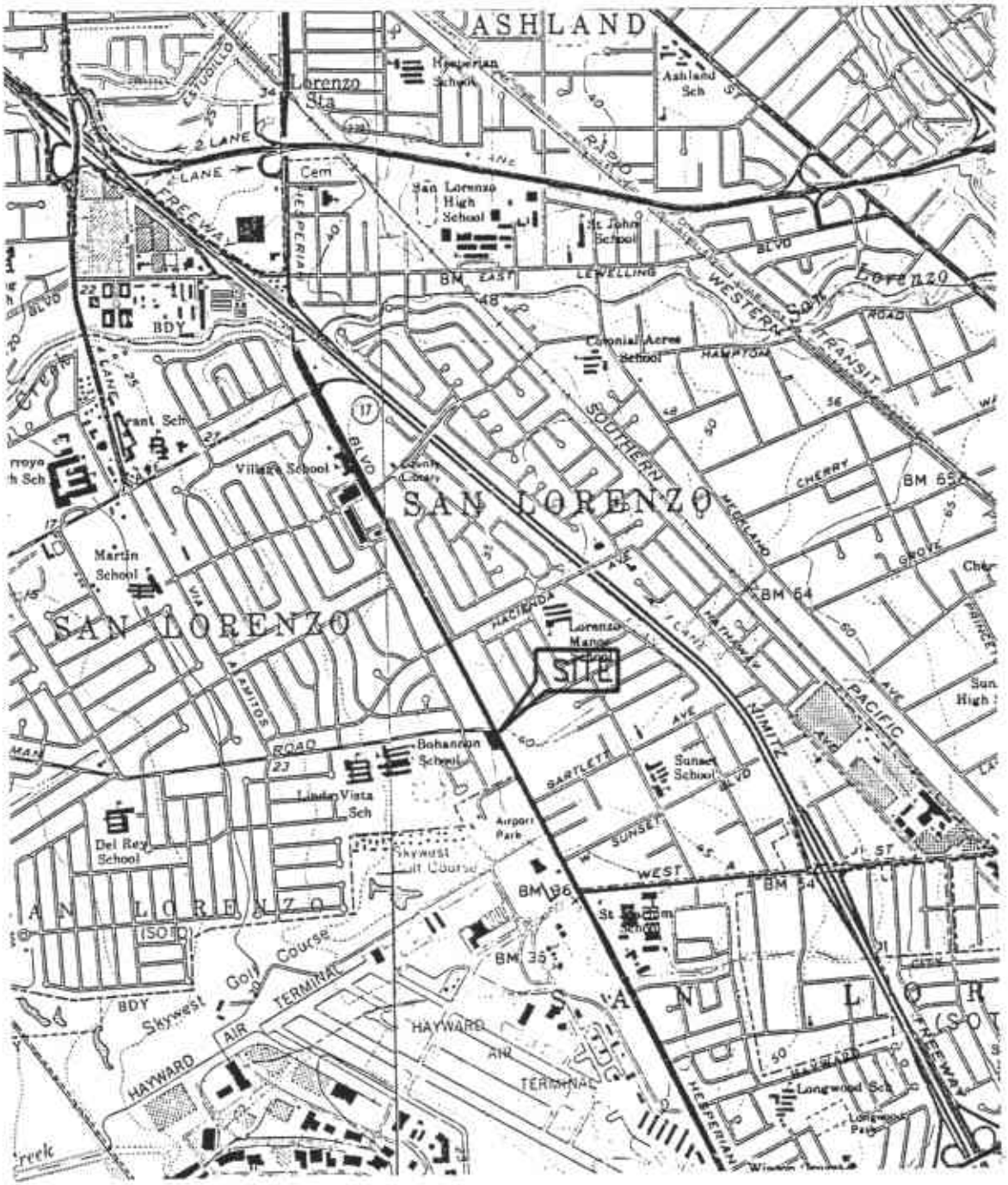
(a) Top of casing elevations surveyed relative to an established benchmark with an elevation of 39.95 feet above mean sea level.

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

(c) Blind duplicate.

(d) Travel blank.

E:\10-060\060-3-3.WQ1



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

N

0 1000' 2000'

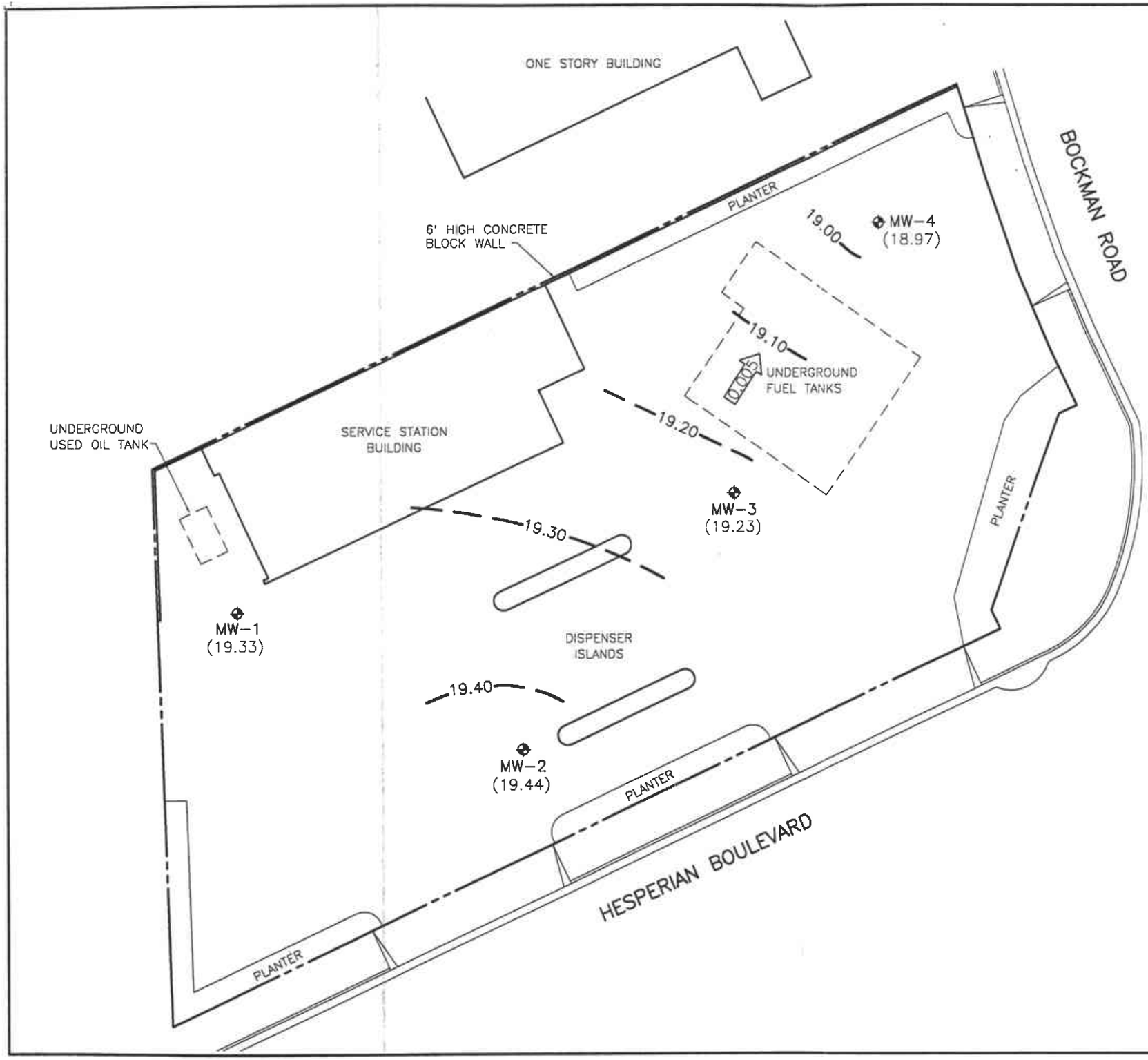
FIGURE 1

VICINITY MAP

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

PROJECT NO. 10-060

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



N

0 20 40

SCALE IN FEET

LEGEND

⊕	GROUNDWATER MONITORING WELL
(18.97)	GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
19.00	GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.10 FOOT)
0.005	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

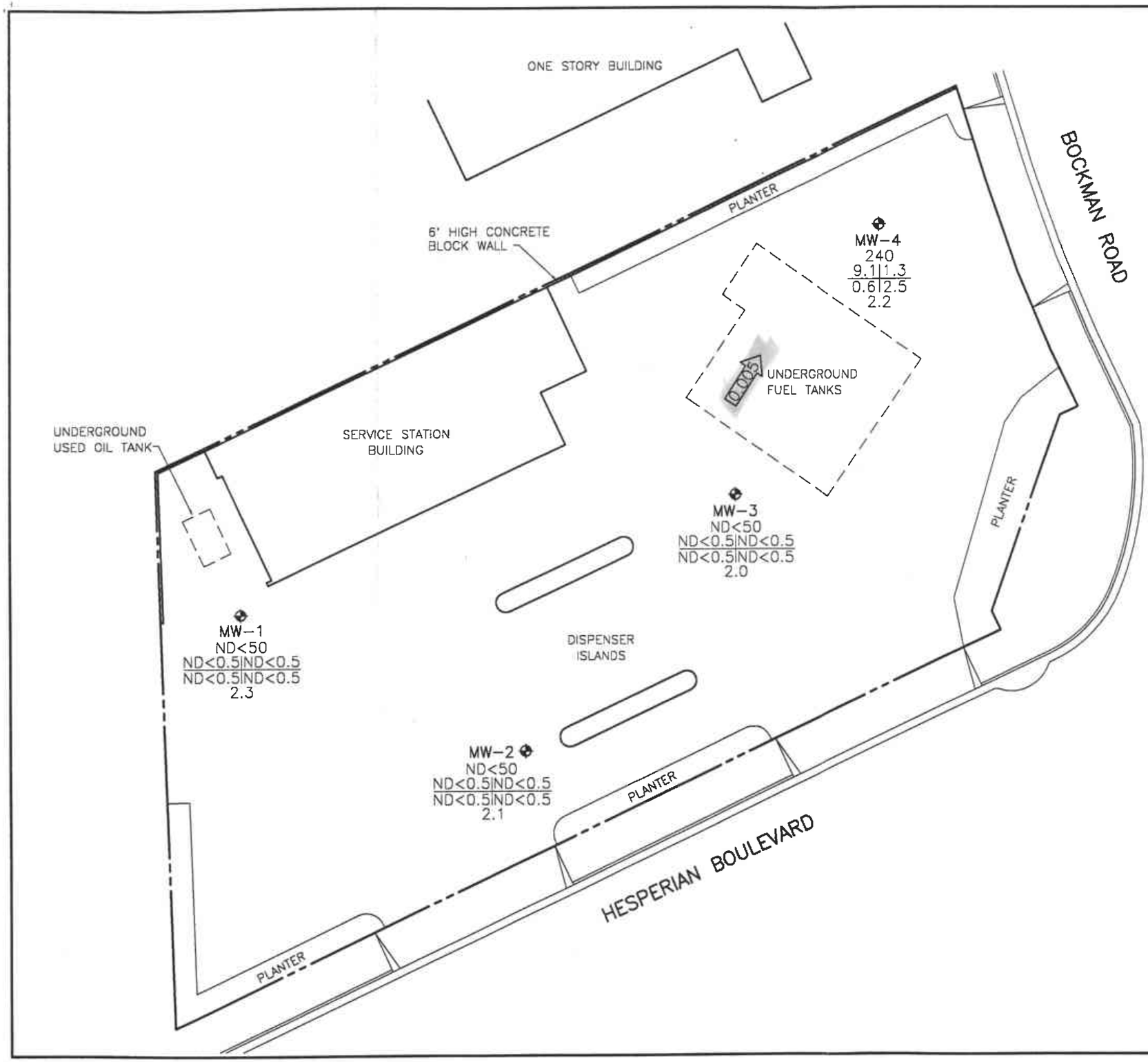
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

SEPTEMBER 9, 1994

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

PROJECT NO. 10–060

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



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
0.005	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

SEPTEMBER 9, 1994

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

PROJECT NO. 10-060

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10060C-4.DWG 9-30-94 MW 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

Ø Groundwater Sampling

Date: 9/9/94 Project No. 10-060-03/0031

Day: Fri Station No. 11107

Weather: Clear Address San Lorenzo, CA

SAMPLER: LB

Well ID	SAMPLE #	WATER DEPTH	Well ID	SAMPLE #	WATER DEPTH	Well ID	SAMPLE	WATER DEPTH
MW-1	S-1	21.74	QC-2	S-6				
MW-2	S-2	21.12						
MW-3	S-3	21.22						
MW-4	S-4	20.27						
QC-1	S-5							

Well ID MW-1 | Depth to Water 21.74 | Diam 2" | Cap/Lock OK | Product Depth Ø | Thickness Ø

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

30.70 - 21.74 = 8.96 X .16 = 1.43 X 3 = 4.29

Purge Method: OSurface Pump ODisp.Tube OWinch XDisp. Bailer(s) 1 OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1	1058	70.6	7.11	1080	2.1
2		70.1	6.93	1060	
3		69.6	6.84	1030	
4.50	1115	69.1	6.79	1030	2.3

O EPA 601 X
O TPH-G/BTEX X
O TPH Diesel X
O TOG 5520 X
Time Sampled 1125 / S-1

Well ID MW-2 | Depth to Water 21.12 | Diam 2" | Cap/Lock OK | Product Depth Ø | Thickness Ø

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

25.00 - 21.12 = 3.98 X .16 = .62 X 3 = 1.86

Purge Method: OSurface Pump ODisp.Tube OWinch XDisp. Bailer(s) 1 OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
.40	1140	71.2	7.21	910	2.0
.80		70.3	7.10	890	
1.20		69.6	7.04	870	
2.00	1159	69.3	6.98	870	2.1

O EPA 601 ___
O TPH-G/BTEX X
O TPH Diesel ___
O TOG 5520 ___
Time Sampled 1210 / S-2

Well ID MW-3 | Depth to Water 21.22 | Diam 2" | Cap/Lock OK | Product Depth Ø | Thickness Ø

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

25.20 - 21.22 = 3.98 X .16 = .64 X 3 = 1.92

Purge Method: OSurface Pump ODisp.Tube OWinch XDisp. Bailer(s) 1 OSys Port

Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
.50	1230	70.7	6.93	1040	2.2
1.00		70.0	7.11	1010	
1.50		69.4	7.14	990	
2.00	1250	69.0	7.10	990	2.0

O EPA 601 ___
O TPH-G/BTEX X
O TPH Diesel ___
O TOG 5520 ___
Time Sampled 1254 / S-3

Well ID MW-4 | Depth to Water 20.27 | Diam 2" | Cap/Lock OK | Product Depth Ø | Thickness Ø

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

25.32 - 20.27 = 5.05 X .16 = .81 X 3 = 2.43

Purge Method: OSurface Pump ODisp.Tube OWinch XDisp. Bailer(s) 1 OSys Port

Comments: QC-1 taken From this well

Gal.	Time	Temp °F	pH	E.C.	D.O.
1.00	1300	70.5	7.71	990	2.4
1.50		70.1	7.82	960	
2.00		69.5	7.73	920	
2.50	1315	69.2	7.69	910	2.2

O EPA 601 ___
O TPH-G/BTEX X
O TPH Diesel ___
O TOG 5520 ___
Time Sampled 1325 / S-4

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Alisto Engineering
1777 Oakland Blvd.
Walnut Creek, CA 94596

September 22, 1994
PACE Project Number: 440913518

Attn: Ms. Patti Yelton

Client Reference: BP Site #11107/10-060-03-003

PACE Sample Number:			70 0393027	
Date Collected:			09/09/94	
Date Received:			09/13/94	
			S-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/17/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	09/17/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/17/94
Benzene	ug/L	0.5	ND	09/17/94
Toluene	ug/L	0.5	ND	09/17/94
Ethylbenzene	ug/L	0.5	ND	09/17/94
Xylenes, Total	ug/L	0.5	ND	09/17/94
HALOGENATED VOLATILE ORGANICS BY 601				
VOLATILE HALOCARBONS BY EPA 601			-	09/17/94
Dichlorodifluoromethane	ug/L	2.0	ND	09/17/94
Chloromethane	ug/L	2.0	ND	09/17/94
Vinyl Chloride	ug/L	2.0	ND	09/17/94
Bromomethane	ug/L	2.0	ND	09/17/94
Chloroethane	ug/L	2.0	ND	09/17/94
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	09/17/94
1,1-Dichloroethene	ug/L	0.5	ND	09/17/94
Methylene Chloride	ug/L	2.0	ND	09/17/94
trans-1,2-Dichloroethene	ug/L	0.5	ND	09/17/94
1,1-Dichloroethane	ug/L	0.5	ND	09/17/94
cis-1,2-Dichloroethene	ug/L	0.5	ND	09/17/94
Chloroform	ug/L	0.5	ND	09/17/94
1,1,1-Trichloroethane (TCA)	ug/L	0.5	ND	09/17/94
Carbon Tetrachloride	ug/L	0.5	ND	09/17/94
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	09/17/94
Trichloroethene (TCE)	ug/L	0.5	ND	09/17/94
1,2-Dichloropropane	ug/L	0.5	ND	09/17/94
Bromodichloromethane	ug/L	0.5	ND	09/17/94
Dibromomethane	ug/L	0.5	ND	09/17/94

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Novato, CA 94949
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REPORT OF LABORATORY ANALYSIS

Ms. Patti Yelton
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September 22, 1994
PACE Project Number: 440913518

Client Reference: BP Site #11107/10-060-03-003

PACE Sample Number:			70 0393027	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
HALOGENATED VOLATILE ORGANICS BY 601				
2-Chloroethylvinyl ether	ug/L	0.5	ND	09/17/94
cis-1,3-Dichloropropene	ug/L	0.5	ND	09/17/94
trans-1,3-Dichloropropene	ug/L	0.5	ND	09/17/94
1,1,2-Trichloroethane	ug/L	0.5	ND	09/17/94
Tetrachloroethene	ug/L	0.5	ND	09/17/94
Dibromochloromethane	ug/L	0.5	ND	09/17/94
Chlorobenzene	ug/L	0.5	ND	09/17/94
1,1,1,2-Tetrachloroethane	ug/L	0.5	ND	09/17/94
Bromoform	ug/L	0.5	ND	09/17/94
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	09/17/94
1,2,3-Trichloropropane	ug/L	0.5	ND	09/17/94
Bromobenzene	ug/L	0.5	ND	09/17/94
1,3-Dichlorobenzene	ug/L	0.5	ND	09/17/94
1,4-Dichlorobenzene	ug/L	0.5	ND	09/17/94
Benzyl Chloride	ug/L	0.5	ND	09/17/94
1,2-Dichlorobenzene	ug/L	0.5	ND	09/17/94
Bromochloromethane (Surrogate Recovery)	%		128	09/17/94
1,4-Dichlorobutane (Surrogate Recovery)	%		104	09/17/94
TOTAL OIL AND GREASE (EPA 9070/413.1)				
Total Oil and Grease (Freon Extractable)	mg/L	5.0	ND	09/19/94
Date Extracted			09/19/94	
EXTRACTABLE FUELS EPA 3510/8015				
Extractable Fuels, as Diesel	mg/L	0.05	ND	09/20/94
Date Extracted			09/16/94	

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REPORT OF LABORATORY ANALYSIS

Ms. Patti Yelton
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September 22, 1994
PACE Project Number: 440913518

Client Reference: BP Site #11107/10-060-03-003

PACE Sample Number:			70 0393035	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/17/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	09/17/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/17/94
Benzene	ug/L	0.5	ND	09/17/94
Toluene	ug/L	0.5	ND	09/17/94
Ethylbenzene	ug/L	0.5	ND	09/17/94
Xylenes, Total	ug/L	0.5	ND	09/17/94

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REPORT OF LABORATORY ANALYSIS

Ms. Patti Yelton
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September 22, 1994
PACE Project Number: 440913518

Client Reference: BP Site #11107/10-060-03-003

PACE Sample Number:			70 0393043	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/17/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	09/17/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/17/94
Benzene	ug/L	0.5	ND	09/17/94
Toluene	ug/L	0.5	ND	09/17/94
Ethylbenzene	ug/L	0.5	ND	09/17/94
Xylenes, Total	ug/L	0.5	ND	09/17/94

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REPORT OF LABORATORY ANALYSIS

Ms. Patti Yelton
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September 22, 1994
PACE Project Number: 440913518

Client Reference: BP Site #11107/10-060-03-003

PACE Sample Number:			70 0393051	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/17/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	240	09/17/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/17/94
Benzene	ug/L	0.5	9.1	09/17/94
Toluene	ug/L	0.5	1.3	09/17/94
Ethylbenzene	ug/L	0.5	0.6	09/17/94
Xylenes, Total	ug/L	0.5	2.5	09/17/94

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REPORT OF LABORATORY ANALYSIS

September 22, 1994
PACE Project Number: 440913518

Client Reference: BP Site #11107/10-060-03-003

PACE Sample Number:			70 0393060	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/17/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	57	09/17/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/17/94
Benzene	ug/L	0.5	1.7	09/17/94
Toluene	ug/L	0.5	ND	09/17/94
Ethylbenzene	ug/L	0.5	ND	09/17/94
Xylenes, Total	ug/L	0.5	0.5	09/17/94

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REPORT OF LABORATORY ANALYSIS

September 22, 1994
PACE Project Number: 440913518

Client Reference: BP Site #11107/10-060-03-003

PACE Sample Number:			70 0393078	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-6	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/17/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	09/17/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/17/94
Benzene	ug/L	0.5	ND	09/17/94
Toluene	ug/L	0.5	ND	09/17/94
Ethylbenzene	ug/L	0.5	ND	09/17/94
Xylenes, Total	ug/L	0.5	ND	09/17/94

These data have been reviewed and are approved for release.

for Darrell C. Cain
Regional Director

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

Ms. Patti Yelton
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FOOTNOTES
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September 22, 1994
PACE Project Number: 440913518

Client Reference: BP Site #11107/10-060-03-003

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

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QUALITY CONTROL DATA

September 22, 1994
PACE Project Number: 440913518

Client Reference: BP Site #11107/10-060-03-003

EXTRACTABLE FUELS EPA 3510/8015
Batch: 70 34171
Samples: 70 0393027

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	180%	143%	23%

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QUALITY CONTROL DATA

September 22, 1994
PACE Project Number: 440913518

Client Reference: BP Site #11107/10-060-03-003

HALOGENATED VOLATILE ORGANICS BY 601
Batch: 70 34065
Samples: 70 0393027

METHOD BLANK:

Parameter	Units	MDL	Method Blank
VOLATILE HALOCARBONS BY EPA 601			-
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

Client Reference: BP Site #11107/10-060-03-003

HALOGENATED VOLATILE ORGANICS BY 601
Batch: 70 34065
Samples: 70 0393027

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)	%		126
1,4-Dichlorobutane (Surrogate Recovery)	%		113

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700392128	Spike	Spike Recv	Spike Dupl Recv	RPD
1,1-Dichloroethane	ug/L	0.5	ND	20	76%	104%	31%
Trichloroethene (TCE)	ug/L	0.5	ND	20	95%	105%	10%
1,1,2-Trichloroethane	ug/L	0.5	ND	20	92%	103%	11%
Tetrachloroethene	ug/L	0.5	ND	20	92%	107%	15%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
1,1-Dichloroethane	ug/L	0.5	20	80%	99%	21%
Trichloroethene (TCE)	ug/L	0.5	20	106%	106%	0%
1,1,2-Trichloroethane	ug/L	0.5	20	98%	99%	1%
Tetrachloroethene	ug/L	0.5	20	100%	103%	3%

Client Reference: BP Site #11107/10-060-03-003

PURGEABLE FUELS AND AROMATICS
Batch: 70 34206
Samples: 70 0393027, 70 0393035, 70 0393043, 70 0393051, 70 0393060
70 0393078

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	700392799	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND	1000	90%	86%	5%

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%	102%	3%

Ms. Patti Yelton
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QUALITY CONTROL DATA

September 22, 1994
PACE Project Number: 440913518

Client Reference: BP Site #11107/10-060-03-003

TOTAL OIL AND GREASE (EPA 9070/413.1)
Batch: 70 34239
Samples: 70 0393027

METHOD BLANK:

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

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Total Oil and Grease (Freon Extractable	mg/L	5.0	20	102%	103%	1%

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FOOTNOTES
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September 22, 1994
PACE Project Number: 440913518

Client Reference: BP Site #11107/10-060-03-003

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

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782041

44093.518

BP

CHAIN OF CUSTODY

No. [illegible] Page ______ of ______

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

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11107	18501 Hesperian Blvd San Lorenzo	10-060-07-003

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
	(510) 295-1650	(510) 295-1825	G223896

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

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

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
Larry Buenvenida			

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.	TYPE (VOL.)	PRESERVATIVE / LAB SAMPLE #	TPH-G, BTEX	TOG 5520	TPH-D	Pb						COMMENTS
S-1	9/9/94		6		393027	X	X	X	X						
S-2	↓		5		393035	↓									
S-3	↓		↓		393043	↓									
S-4	↓		↓		393051	↓									
S-5	↓		↓		393060	↓									
S-6	↓		2		393078	↓									

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	9/10/94	3:30	[signature]	9/12/94	3:30
			[signature] Pace	9/13/94	5:30

ADDITIONAL COMMENTS

lol, c/s

CLV 16722

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