BP OIL

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

May 26, 1994

Mr. Eddy 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 Blvd.
San Lorenzo, California

Dear Mr. So:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED MAY 13, 1994** for the above referenced facility.

If you have questions regarding this submission please call me at (206) 251-0689.

Respectfully,

Scott T. Hooton
Environmental Resources Management

STH:aa ERM11107

cc: Ms. Juliet Shin, Alameda County Health Care Service Agency, 80 Swan Way, Room 200, Oakland, CA 94621

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

Site file

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-060-03-001

Prepared for:

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

Prepared by:

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

May 13, 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. 10-060-03-001

May 13, 1994

INTRODUCTION

This report presents the results and findings of the February 24, 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)	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-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-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-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
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

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
ppb	Parts per billion
ND	Not detected above reported detection limit
---	Not analyzed/applicable
PACE	Pace, Inc.

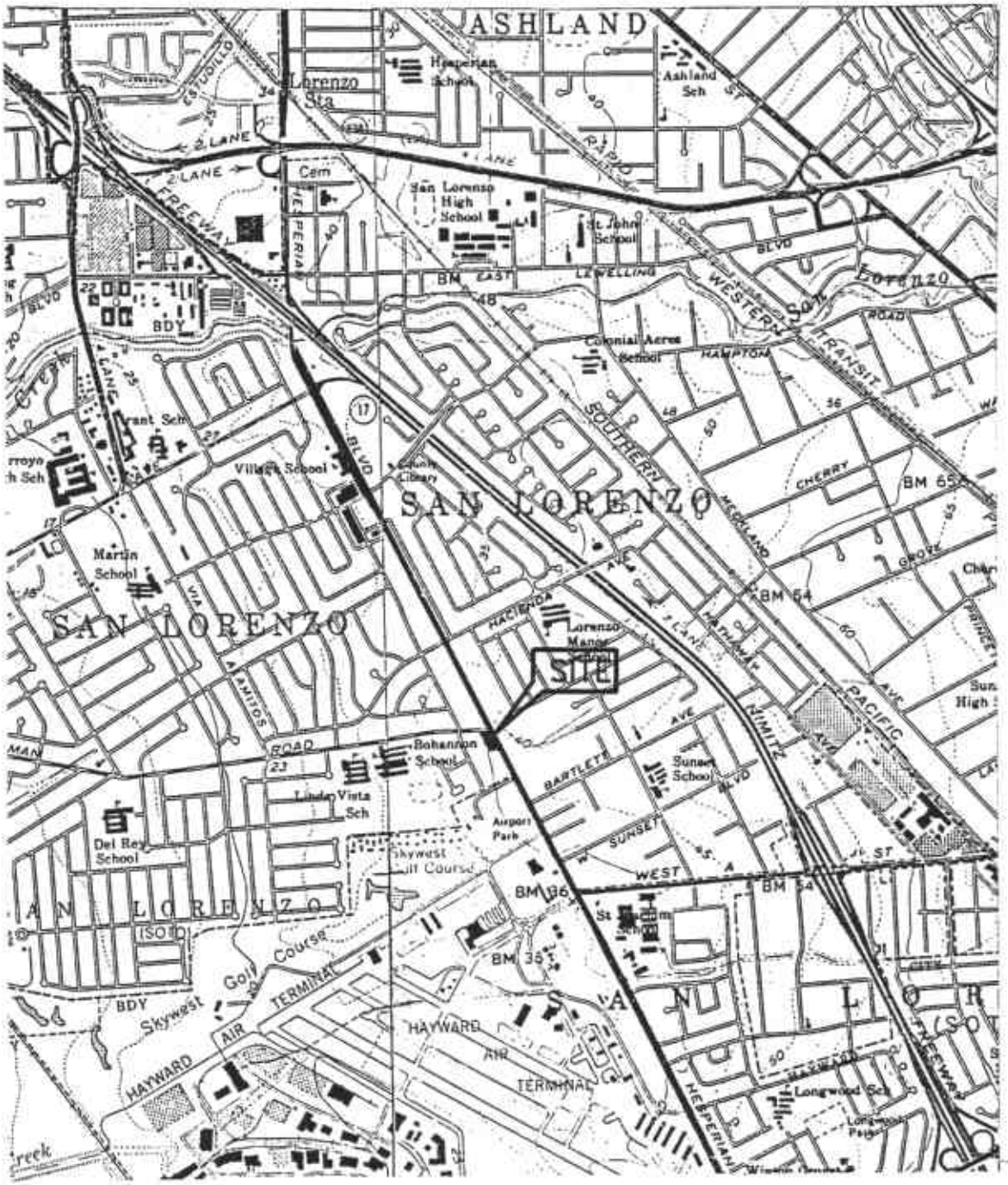
NOTES:

(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.



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

N

0 1000' 2000'

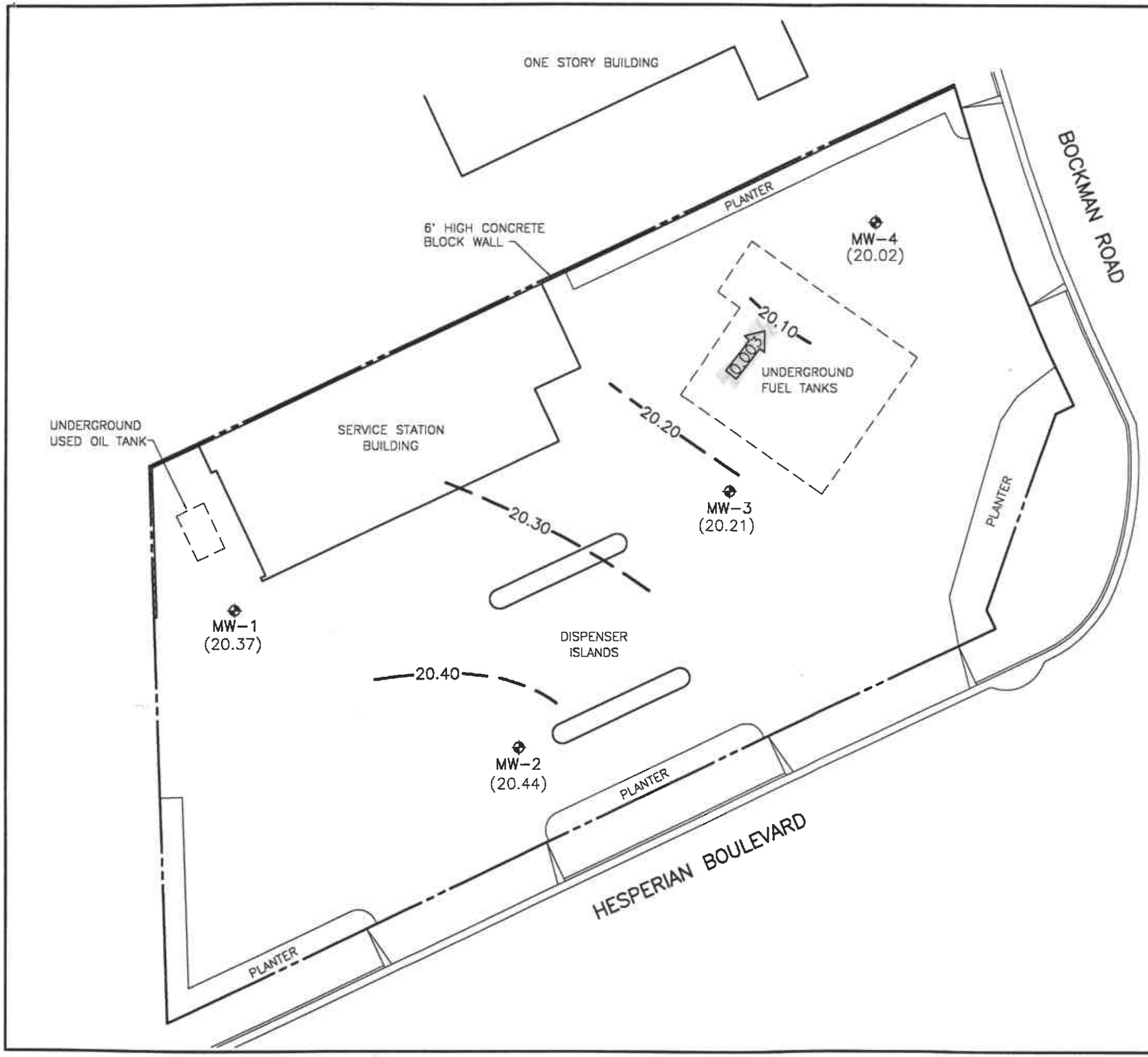
FIGURE 1

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
- (20.02) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 20.10 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.10 FOOT)
- 0.003 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

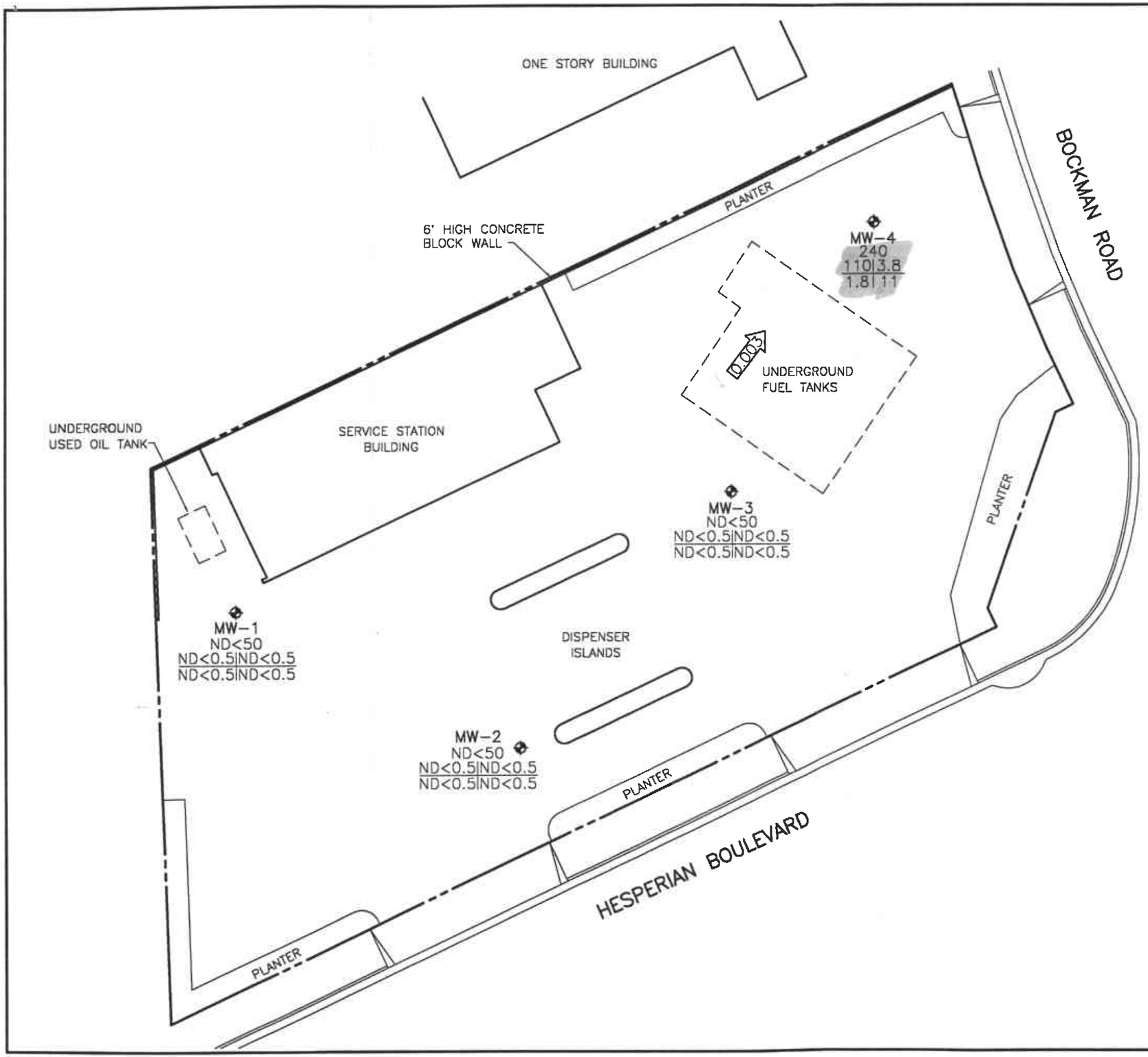
FEBRUARY 24, 1994

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

PROJECT NO. 10–060

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10600D-1DWG 3-12-94 RKW 1=20



N

0 20 40

SCALE IN FEET

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
0.003	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

FEBRUARY 24, 1994

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

PROJECT NO. 10–060

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10060Z-LDWG 3-12-94 RRM 1=20

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO ENGINEERING GROUP
GROUNDWATER MONITORING

Client: TSP
Alisto Project No: 0-060-03-001
Service Station No: 4107

Date: 2-24-94
Field Personnel: CER
Site Address: 18501 Hesperian Blvd San Lorenzo CA

FIELD ACTIVITY:

___ Groundwater Monitoring
X Groundwater Sampling
___ Well Development

QUALITY CONTROL SAMPLES:

MW4 QC-1 Sample Duplicate (Well ID)
X 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
MW-1	2"	1	30.70	20.70	/	/	
MW-2		2	25.0	20.12	-		
MW-3		3	25.20	20.24			Box full
MW-4		4	25.32	18.22	V	V	Box full

Notes:

FORM: FS2/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-060-03-001
Service Station No: 11107

Date: 2-24-94
Field Personnel: CES/R
Address: 18501 Hesperian San Lorenzo

Well ID: MW-1 Field Activity: ___Well Development ✓Well Sampling ___Product Bailing

Casing Diameter:

X 2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
___4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

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

Well Data:

___Depth to Product
___Product Thickness
20.70 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___Steam Cleaned

Calculated Purge Volume

30.70 (Total Depth of Well) - 20.70 (Depth to Water) = 10.0 ft (Water Column) X 0.16 Gal/Ft (Conversion Factor) = 1.6 Gal (Casing Vol) X 3 (Vols to Purge) = 4.8 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/ Turbidity
1:58	64.1	6.88	1.04	1	clear
	64.2	6.41	1.09	2	slight silty
	64.3	6.36	1.06	3	↓
2:16	64.1	6.33	1.06	4	

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

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: TSP
Alisto Project No: 10-060-05-001
Service Station No: 11107

Date: 2-24-94
Field Personnel: CER
Address: 18501 Hesperian Blvd San Lorenzo CA

Well ID: MW-2 Field Activity: ___Well Development ___Well Sampling ___Product Bailing

Casing Diameter:

X 2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
___4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

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

Well Data:

___Depth to Product
___Product Thickness
~~20.12~~ ___Depth to Water
20.12

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

25.0 (Total Depth of Well) - 20.12 (Depth to Water) = 4.88 ft (Water Column) X 0.16 Gal/Ft (Conversion Factor) = 0.78 Gal (Casing Vol) X 3 (Vols to Purge) = 2.34 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/ Turbidity
2:31	65.3	7.01	0.88	1	clear
	64.1	6.53	0.89	1.5	↓
	64.1	6.41	0.91	2.0	↓
2:48	64.0	6.44	0.88	2.5	cloudy

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

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: TSP
Alisto Project No: 10-060-03-001
Service Station No: 11107

Date: 2-24-94
Field Personnel: CDC
Address: 18501 Hesperian San Lorenzo

Well ID: MW-3 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:

X 2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
___4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

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

Well Data:

___Depth to Product
___Product Thickness
20.24 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

25.20 (Total Depth of Well) - 20.24 (Depth to Water) = 4.96 ft (Water Column) X 0.16 Gal/Ft (Conversion Factor) = 0.79 Gal (Casing Vol) X 3 (Vols to Purge) = 2.38 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/ Turbidity
3:02	67.3	6.88	1,00	1	cloudy
	65.1	7.02	1,03	1.5	
	64.1	6.43	1,01	2	
3:28	64.4	6.41	1,02	2.5	

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

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-060-03-001
Service Station No: 11107

Date: 2-24-94
Field Personnel: [illegible]
Address: 18501 Hesperian
San Lorenzo

Well ID: MW-4 Field Activity: ___Well Development ✓ Well Sampling ___Product Bailing

Casing Diameter:

X 2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
___4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

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

Well Data:

___Depth to Product
___Product Thickness
19.22 Depth to Water

QC-1 collected from MW-4

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

___ Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

25.32 (Total Depth of Well) - 19.22 (Depth to Water) = 6.10 ft (Water Column) X 0.16 Gal/Ft (Conversion Factor) = 0.97 Gal (Casing Vol) X 3 (Vols to Purge) = 2.92 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm)	Purge Vol (Gal)	Comments/ Turbidity
3:51	64.7	7.43	0.90	1	clear
	64.6	7.61	0.91	2	cloudy
	64.1	7.21	0.90	3	↓
4:08	64.2	7.11	0.88	3.5	↓

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

FORM: FS3/121592

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

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

March 07, 1994
PACE Project Number: 440225523

Attn: Mr. Brady Nagle

Client Reference: BP Station # 11107/10-060-03-001

PACE Sample Number:			70 0254272	
Date Collected:			02/24/94	
Date Received:			02/25/94	
			MW-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	03/01/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	03/01/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	03/01/94
Benzene	ug/L	0.5	ND	03/01/94
Toluene	ug/L	0.5	ND	03/01/94
Ethylbenzene	ug/L	0.5	ND	03/01/94
Xylenes, Total	ug/L	0.5	ND	03/01/94
EXTRACTABLE FUELS EPA 3510/8015				
Extractable Fuels, as Diesel	mg/L	0.05	ND	03/02/94
Date Extracted			03/01/94	
OIL AND GREASE, SILICA GEL (LUFT)				
Oil and Grease, Gravimetric (SM5520)	mg/L	5.0	ND	03/04/94
Date Extracted			03/02/94	
HALOGENATED VOLATILE COMPOUNDS EPA 8010				
Dichlorodifluoromethane	ug/L	2.0	ND	03/01/94
Chloromethane	ug/L	2.0	ND	03/01/94
Vinyl Chloride	ug/L	2.0	ND	03/01/94
Bromomethane	ug/L	2.0	ND	03/01/94
Chloroethane	ug/L	2.0	ND	03/01/94
Trichlorofluoromethane (Freon 11)	ug/L	2.0	ND	03/01/94
1,1-Dichloroethene	ug/L	0.5	ND	03/01/94
Methylene Chloride	ug/L	2.0	ND	03/01/94
trans-1,2-Dichloroethene	ug/L	0.5	ND	03/01/94
cis-1,2-Dichloroethene	ug/L	0.5	ND	03/01/94
1,1-Dichloroethane	ug/L	0.5	ND	03/01/94
Chloroform	ug/L	0.5	ND	03/01/94
1,1,1-Trichloroethane (TCA)	ug/L	0.5	1.5	03/01/94

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

REPORT OF LABORATORY ANALYSIS

Mr. Brady Nagle
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March 07, 1994
PACE Project Number: 440225523

Client Reference: BP Station # 11107/10-060-03-001

PACE Sample Number:			70 0254272	
Date Collected:			02/24/94	
Date Received:			02/25/94	
Client Sample ID:			MW-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
HALOGENATED VOLATILE COMPOUNDS EPA 8010				
Carbon Tetrachloride	ug/L	0.5	ND	03/01/94
1,2-Dichloroethane (EDC)	ug/L	0.5	ND	03/01/94
Trichloroethene (TCE)	ug/L	0.5	ND	03/01/94
1,2-Dichloropropane	ug/L	0.5	ND	03/01/94
Bromodichloromethane	ug/L	0.5	ND	03/01/94
2-Chloroethylvinyl ether	ug/L	0.5	ND	03/01/94
cis-1,3-Dichloropropene	ug/L	0.5	ND	03/01/94
trans-1,3-Dichloropropene	ug/L	0.5	ND	03/01/94
1,1,2-Trichloroethane	ug/L	0.5	ND	03/01/94
Tetrachloroethene	ug/L	0.5	0.9	03/01/94
Dibromochloromethane	ug/L	0.5	ND	03/01/94
Chlorobenzene	ug/L	0.5	ND	03/01/94
Bromoform	ug/L	0.5	ND	03/01/94
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND	03/01/94
1,3-Dichlorobenzene	ug/L	0.5	ND	03/01/94
1,4-Dichlorobenzene	ug/L	0.5	ND	03/01/94
1,2-Dichlorobenzene	ug/L	0.5	ND	03/01/94
Bromochloromethane (Surrogate Recovery)	%		91	03/01/94
1,4-Dichlorobutane (Surrogate Recovery)	%		117	03/01/94

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

REPORT OF LABORATORY ANALYSIS

Mr. Brady Nagle
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March 07, 1994
PACE Project Number: 440225523

Client Reference: BP Station # 11107/10-060-03-001

PACE Sample Number:			70 0254280	
Date Collected:			02/24/94	
Date Received:			02/25/94	
Client Sample ID:			MW-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	03/01/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	03/01/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	03/01/94
Benzene	ug/L	0.5	ND	03/01/94
Toluene	ug/L	0.5	ND	03/01/94
Ethylbenzene	ug/L	0.5	ND	03/01/94
Xylenes, Total	ug/L	0.5	ND	03/01/94

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

REPORT OF LABORATORY ANALYSIS

Mr. Brady Nagle
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March 07, 1994
PACE Project Number: 440225523

Client Reference: BP Station # 11107/10-060-03-001

PACE Sample Number:			70 0254299	
Date Collected:			02/24/94	
Date Received:			02/25/94	
Client Sample ID:			MW-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	03/01/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	03/01/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	03/01/94
Benzene	ug/L	0.5	ND	03/01/94
Toluene	ug/L	0.5	ND	03/01/94
Ethylbenzene	ug/L	0.5	ND	03/01/94
Xylenes, Total	ug/L	0.5	ND	03/01/94

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

REPORT OF LABORATORY ANALYSIS

Mr. Brady Nagle
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March 07, 1994
PACE Project Number: 440225523

Client Reference: BP Station # 11107/10-060-03-001

PACE Sample Number:			70 0254302	
Date Collected:			02/24/94	
Date Received:			02/25/94	
Client Sample ID:			MW-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	03/01/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	240	03/01/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	03/01/94
Benzene	ug/L	0.5	110	03/01/94
Toluene	ug/L	0.5	3.8	03/01/94
Ethylbenzene	ug/L	0.5	1.8	03/01/94
Xylenes, Total	ug/L	0.5	11	03/01/94

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REPORT OF LABORATORY ANALYSIS

March 07, 1994
PACE Project Number: 440225523

Client Reference: BP Station # 11107/10-060-03-001

PACE Sample Number:			70 0254310	
Date Collected:			02/24/94	
Date Received:			02/25/94	
Client Sample ID:			QC-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	03/01/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	310	03/01/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	03/01/94
Benzene	ug/L	0.5	95	03/01/94
Toluene	ug/L	0.5	5.3	03/01/94
Ethylbenzene	ug/L	0.5	2.2	03/01/94
Xylenes, Total	ug/L	0.5	17	03/01/94

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REPORT OF LABORATORY ANALYSIS

Mr. Brady Nagle
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March 07, 1994
PACE Project Number: 440225523

Client Reference: BP Station # 11107/10-060-03-001

PACE Sample Number:			70 0254329	
Date Collected:			02/24/94	
Date Received:			02/25/94	
Client Sample ID:			QC-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	03/01/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	03/01/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	03/01/94
Benzene	ug/L	0.5	ND	03/01/94
Toluene	ug/L	0.5	ND	03/01/94
Ethylbenzene	ug/L	0.5	ND	03/01/94
Xylenes, Total	ug/L	0.5	ND	03/01/94

These data have been reviewed and are approved for release.

Darrell C. Cain
Regional Director

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Mr. Brady Nagle | FOOTNOTES | March 07, 1994
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Client Reference: BP Station # 11107/10-060-03-001

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 Station # 11107/10-060-03-001

EXTRACTABLE FUELS EPA 3510/8015
Batch: 70 28423
Samples: 70 0254272

METHOD BLANK AND SAMPLE DUPLICATE:

Parameter	Units	MDL	Method Blank	700254558	Duplicate of 70 0254558	RPD
Extractable Fuels, as Diesel	mg/L	0.05	ND	4.2	4.1	2%
n-Pentacosane (Surrogate Recovery)	%			M/I I	M/I I	

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	78%	81%	3%

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QUALITY CONTROL DATA

March 07, 1994
PACE Project Number: 440225523

Client Reference: BP Station # 11107/10-060-03-001

HALOGENATED VOLATILE COMPOUNDS EPA 8010
Batch: 70 28653
Samples: 70 0254272

METHOD BLANK:

Parameter	Units	MDL	Method Blank
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
1,1-Dichloroethene	ug/L	0.5	ND
Methylene Chloride	ug/L	2.0	ND
trans-1,2-Dichloroethene	ug/L	0.5	ND
cis-1,2-Dichloroethene	ug/L	0.5	ND
1,1-Dichloroethane	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
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
Bromoform	ug/L	0.5	ND
1,1,2,2-Tetrachloroethane	ug/L	0.5	ND
1,3-Dichlorobenzene	ug/L	0.5	ND
1,4-Dichlorobenzene	ug/L	0.5	ND
1,2-Dichlorobenzene	ug/L	0.5	ND
Bromochloromethane (Surrogate Recovery)	%		102
1,4-Dichlorobutane (Surrogate Recovery)	%		121

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

March 07, 1994
PACE Project Number: 440225523

Client Reference: BP Station # 11107/10-060-03-001

HALOGENATED VOLATILE COMPOUNDS EPA 8010
Batch: 70 28653
Samples: 70 0254272

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
1,1-Dichloroethane	ug/L	0.5	20	89%	89%	0%
Trichloroethene (TCE)	ug/L	0.5	20	90%	89%	1%
1,1,2-Trichloroethane	ug/L	0.5	20	106%	110%	3%
Tetrachloroethene	ug/L	0.5	20	93%	91%	2%

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QUALITY CONTROL DATA

March 07, 1994
PACE Project Number: 440225523

Client Reference: BP Station # 11107/10-060-03-001

OIL AND GREASE, SILICA GEL (LUFT)
Batch: 70 28627
Samples: 70 0254272

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	95%	95%	0%

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QUALITY CONTROL DATA

March 07, 1994
PACE Project Number: 440225523

Client Reference: BP Station # 11107/10-060-03-001

PURGEABLE FUELS AND AROMATICS
Batch: 70 28607
Samples: 70 0254272, 70 0254280, 70 0254299, 70 0254302, 70 0254310
70 0254329

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	700254302 MW-4	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	110	100	96%	90%	6%
Toluene	ug/L	0.5	3.8	100	103%	101%	1%
Ethylbenzene	ug/L	0.5	1.8	100	104%	101%	2%
Xylenes, Total	ug/L	0.5	11	300	105%	102%	2%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	108%	109%	0%
Toluene	ug/L	0.5	100	104%	103%	0%
Ethylbenzene	ug/L	0.5	100	107%	105%	1%
Xylenes, Total	ug/L	0.5	300	108%	106%	1%

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Client Reference: BP Station # 11107/10-060-03-001

I	Surrogate recovery could not be quantified due to matrix interference.
MDL	Method Detection Limit
ND	Not detected at or above the MDL.
RPD	Relative Percent Difference

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440225.523

CHAIN OF CUSTODY

No. 051338 Page ____ of ____

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

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11107	18501 Hesperian, San Lorenzo	10-060-03-001

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
Brady Nasle	510 295 1650	295 1827	F937601
BP CONTACT	**BP ADDRESS**	**PHONE NUMBER**	**FAX NO.**
~~Mike~~ Scott Haxton	Renton WA	206 251 0689	
LAB CONTACT	**LABORATORY ADDRESS**	**PHONE NUMBER**	**FAX NO.**
Pace	Novato		
SAMPLED BY (Please Print Name)	**SAMPLED BY (Signature)**	**SHIPMENT DATE**	**SHIPMENT METHOD**
Chris Reinheimer			

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

ANALYSIS REQUIRED

AIRBILL NUMBER

SAMPLE DESCRIPTION	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH-G (LUFT)	TPH-D	TOG 5520	HVOC 8010	COMMENTS
MW-1	2-24-94	water	6	2-40 ml VOA	25427.2	X	X	X	X	
MW-2			3		25428.0					
MW-3			3		25429.9					
MW-4			3		25430.2					
QC-1			2		25431.0					
QC-2			2		25432.9	X				

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	2-25-94	1548	Donald Jokarski Pace	2/25/94	1548
Donald Jokarski Pace	2-25-94	1723	[illegible] Pace	2/25/94	1723

ADDITIONAL COMMENTS

15/2 B/S

CLV-16722

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