



BP OIL

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

March 25, 1994

Mr. Brian Oliva
Alameda County Dept. of Environmental Health
Haz. Mat. Division
80 Swan Way, Room 200,
Oakland, CA 94621

RE: BP OIL FACILITY #11104
1716 Webster Street
Oakland, CA

Alameda

Dear Mr. Oliva:

Attached please find our GROUNDWATER MONITORING AND SAMPLING REPORT DATED FEBRUARY, 24, 1994 for the above referenced facility.

If you have any questions please call me at 206-251-0689.

Respectfully,

Scott T. Hooton
Environmental Resources Management

STH:aa ERM11104

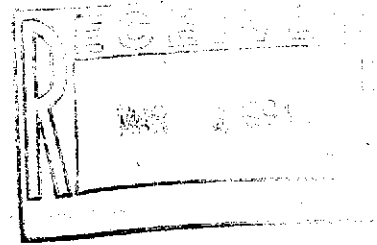
cc: Mr. Eddie So, California Regional Water Quality Control Board, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, CA 94621

Mr. Scott Kellstedt, Hydro-Environmental Technologies, Inc.
2363 Mariner Square Drive, Suite 243, Alameda, CA

Mr. Robert Merriken, Mobil Oil Corp, 3225 Gallows Road,
Fairfax, VA 22037

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. 11104
1716 Webster Street
Alameda, California**

Project No. 10-155-01-003

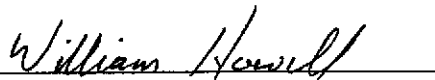
Prepared for:

**BP Oil Company
Environmental Resources Management
295 S.W. 41st Street
Building 13, Suite N
Renton, Washington 98055**

Prepared by:

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

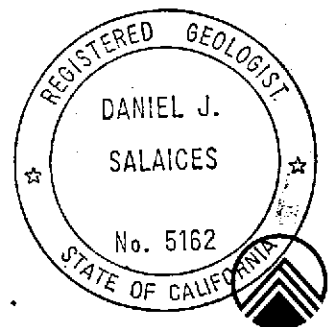
February 24, 1994



**William Howell
Project Manager**



**Daniel Salaices
Registered Geologist**



GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11104
1716 Webster Street
Alameda, California

Project No. 10-155-01-003

February 24, 1994

INTRODUCTION

This report presents the results and findings of the January 6, 1994 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11104, 1716 Webster Street, Alameda, 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 for 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 groundwater 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. 11104
 1716 WEBSTER STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-155

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	LAB
MW-1	07/21/92	8.51	5.91	2.60	34000	7000	1700	2500	6900	--
MW-1	10/20/92	8.51	6.66	1.85	--	--	--	--	--	--
MW-1	03/05/93	8.51	4.56	3.95	--	--	--	--	--	--
MW-1	04/01/93	8.51	4.57	3.94	--	--	--	--	--	--
MW-1	07/09/93	8.51	5.25	3.26	77000	15000	1400	2100	7400	PACE
QC-1 (c)	07/09/93	--	--	--	79000	16000	1500	2200	7700	PACE
MW-1	10/08/93	8.51	6.01	2.50	42000	7100	270	2700	4700	PACE
MW-1	01/06/94	8.51	6.24	2.27	45000	12000	4300	3000	6700	PACE
MW-2	07/21/92	9.41	6.44	2.97	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--
MW-2	10/20/92	9.41	7.39	2.02	--	--	--	--	--	--
MW-2	03/05/93	9.41	4.91	4.50	--	--	--	--	--	--
MW-2	04/01/93	9.41	4.92	4.49	--	--	--	--	--	--
MW-2	07/09/93	9.41	5.60	3.81	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
MW-2	10/08/93	9.41	6.50	2.91	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
QC-1 (c)	10/08/93	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
MW-2	01/06/94	9.41	6.25	3.16	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
MW-3 (d)	07/21/92	9.91	7.07	2.84	ND<50	0.95	ND<0.5	ND<0.5	ND<0.5	--
MW-3	10/20/92	9.91	8.06	1.85	--	--	--	--	--	--
MW-3	03/05/93	9.91	5.16	4.75	--	--	--	--	--	--
MW-3	04/01/93	9.91	5.25	4.66	--	--	--	--	--	--
MW-3	07/09/93	9.91	5.80	4.11	ND<50	0.6	ND<0.5	ND<0.5	ND<0.5	PACE
MW-3	10/08/93	9.91	7.17	2.74	ND<50	0.6	ND<0.5	ND<0.5	ND<0.5	PACE
MW-3	01/06/94	9.91	6.94	2.97	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	PACE
MW-4	03/05/93	8.33	4.81	3.52	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--
MW-4	04/01/93	8.33	4.80	3.53	--	--	--	--	--	--
MW-4	07/09/93	8.33	5.54	2.79	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
MW-4	10/08/93	8.33	6.28	2.05	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
MW-4	01/06/94	8.33	5.82	2.51	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11104
 1716 WEBSTER STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-155

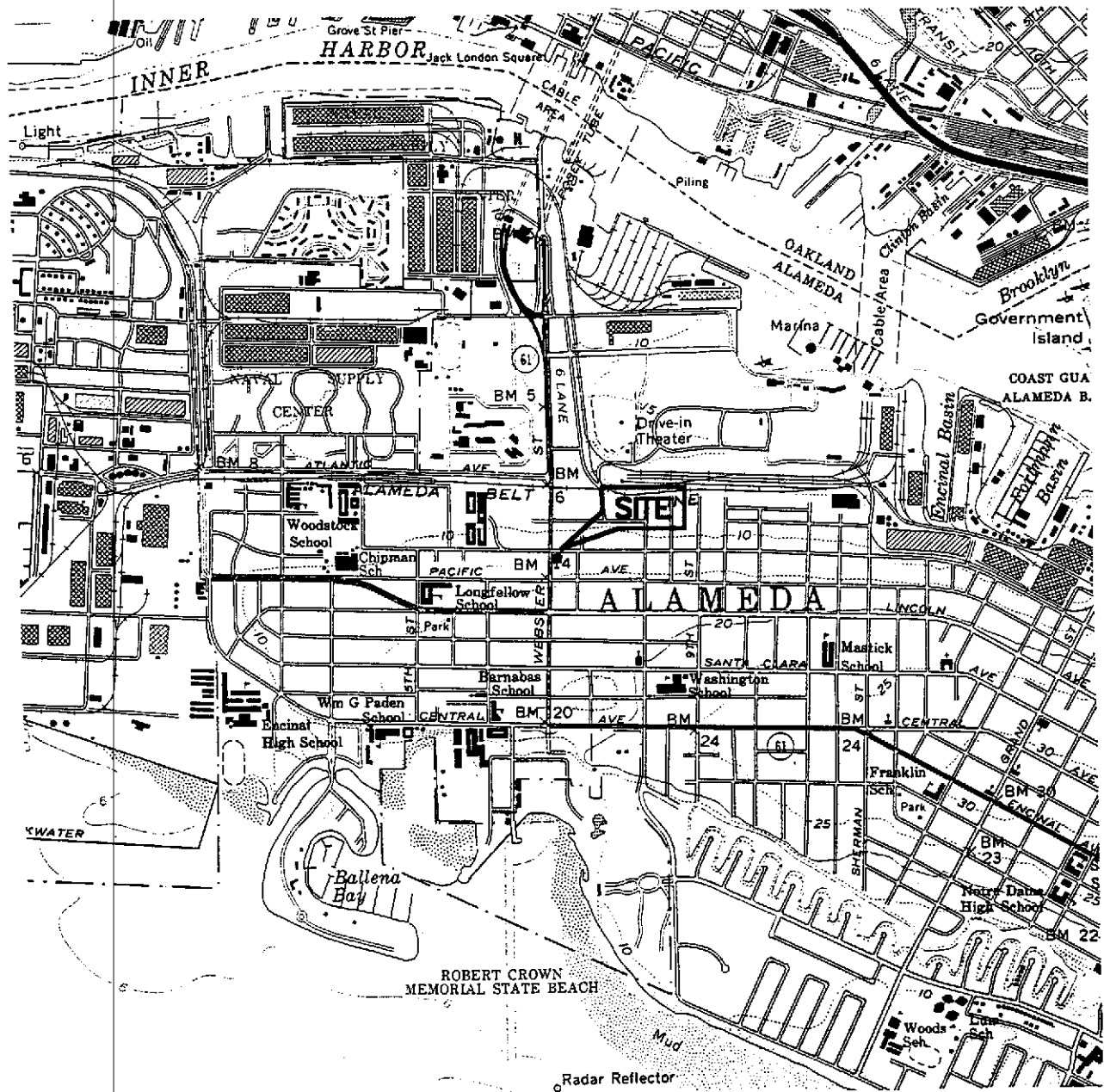
WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	LAB
MW-5	04/01/93	8.17	4.77	3.40	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—
MW-5	07/09/93	8.17	5.40	2.77	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
MW-5	10/08/93	8.17	5.87	2.30	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
MW-5	01/06/94	8.17	5.75	2.42	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
RW-1	01/06/94	8.37	5.59	2.78	23000	3800	210	840	2100	PACE
QC-1 (c)	01/06/94	—	—	—	24000	3700	210	830	2000	PACE
QC-2 (e)	07/09/93	—	—	—	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
QC-2 (e)	10/08/93	—	—	—	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE
QC-2 (e)	01/06/94	—	—	—	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	PACE

ABBREVIATIONS:

TPH-G Total petroleum hydrocarbons as gasoline
 B Benzene
 T Toluene
 E Ethylbenzene
 X Total xylenes
 ppb Parts per billion
 — Not analyzed/available/applicable
 ND Not detected above reported detection limit
 PACE Pace, Inc.

NOTES:

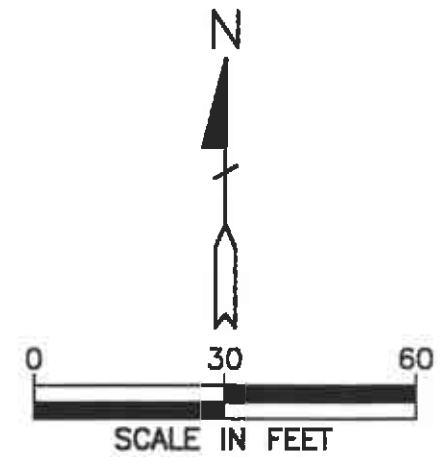
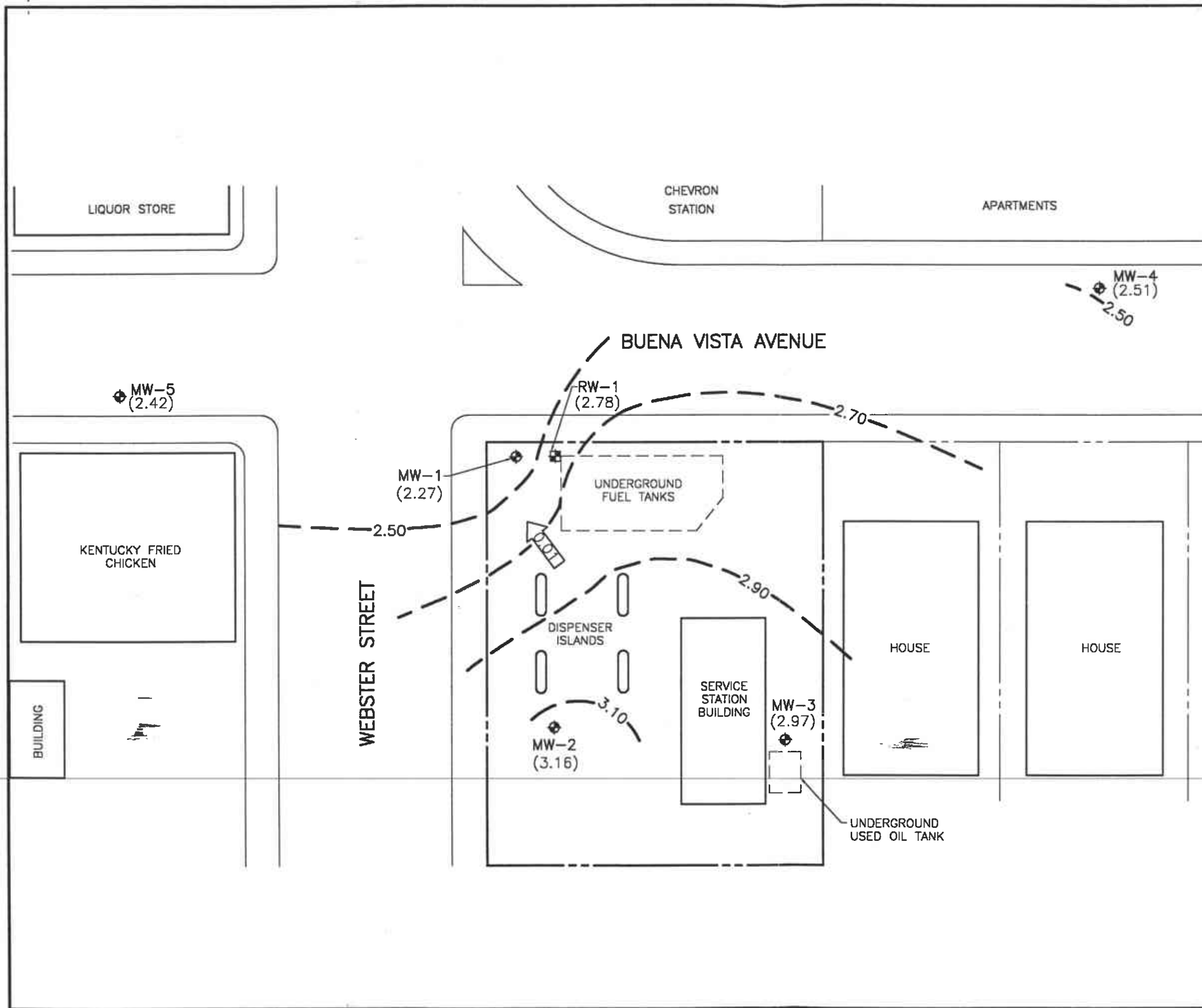
- (a) Top of casing elevations surveyed in reference to USGS benchmark (7.68 feet above mean sea level) at northwest corner of Webster Street and Buena Vista Avenue.
- (b) Groundwater elevations in feet above mean sea level.
- (c) Blind duplicate.
- (d) Sample also analyzed for cadmium, nickel, chromium, lead, and zinc. None were detected above the reported detection limit.
- (e) Travel blank.



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

FIGURE 1
SITE VICINITY MAP
 BP OIL SERVICE STATION NO. 11104
 1716 WEBSTER STREET
 ALAMEDA, CALIFORNIA
 PROJECT NO. 10-155

 **ALISTO ENGINEERING GROUP**
 WALNUT CREEK, CALIFORNIA



LEGEND

- ⊕ GROUNDWATER MONITORING WELL
- ⊞ GROUNDWATER RECOVERY WELL
- (2.51) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 2.50 - GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL - 0.20 FOOT)
- ← 0.01 ← CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

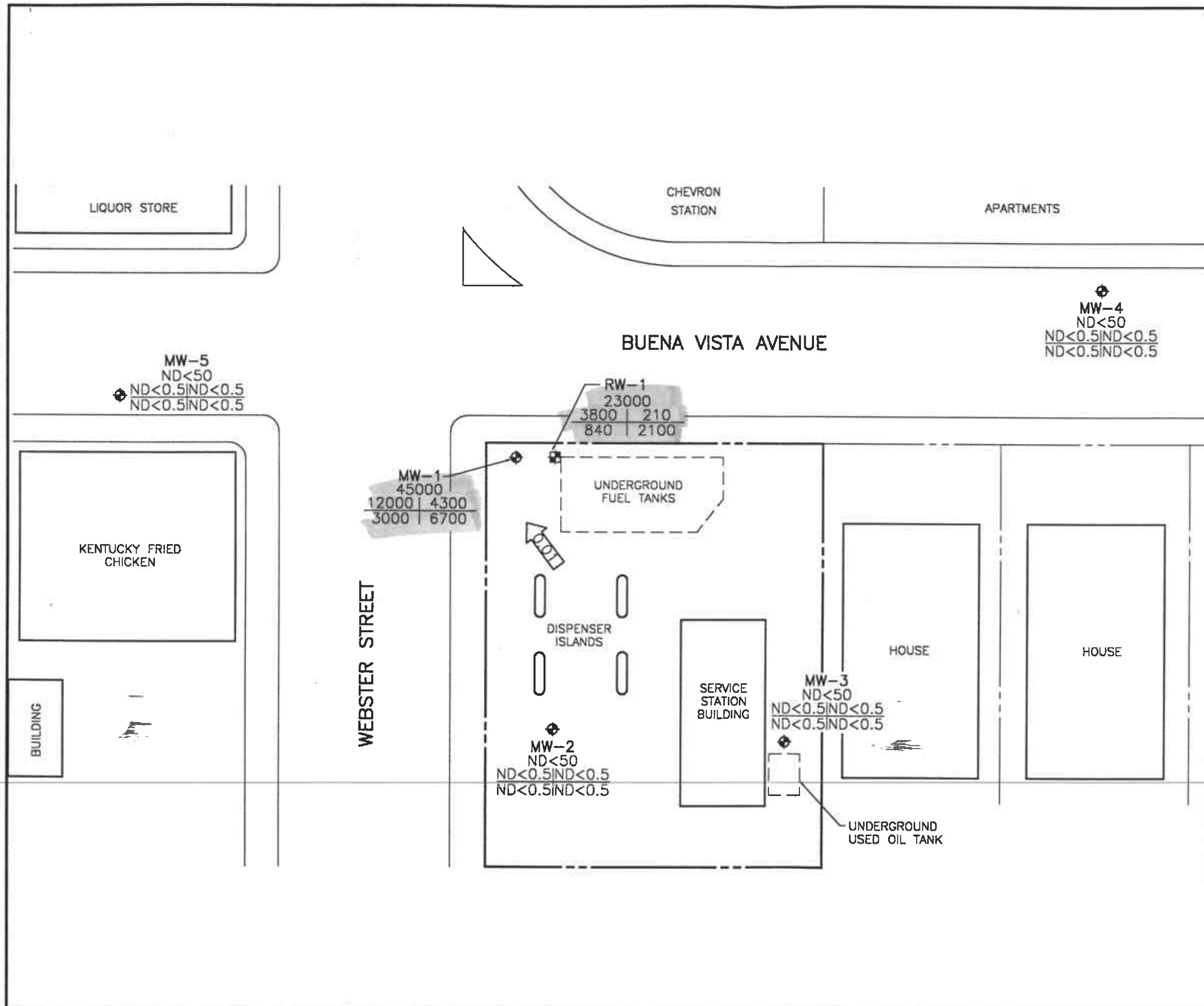
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

JANUARY 6, 1994

BP OIL SERVICE STATION NO. 11104
1716 WEBSTER STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-155





LEGEND

- ◆ GROUNDWATER MONITORING WELL
- ⊕ GROUNDWATER RECOVERY 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
- ← 0.01 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3
CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER
JANUARY 6, 1994
 BP OIL SERVICE STATION NO. 11104
 1716 WEBSTER STREET
 ALAMEDA, CALIFORNIA
 PROJECT NO. 10-155

APPENDIX A
WATER SAMPLING FIELD SURVEY FORMS

Birch
Technical
Services

Field Report / Data Sheet

Groundwater Sampling Groundwater Monitoring Well Development Drill Support Stockpile Sampling

116 Liberty st
Santa Cruz, Ca 95060
(408) 459-0718

Firm:
ALISTO
Project Number:
0-155-01-003

Date: **1/16/94**

Station #: **11104**

Day: M Tu W **Th** F

Field Technician:

Address: **1716
Webster St.
ALAMEDA**

Weather:

Clear

DJ BIRCH

Well ID	Well Diam	Cap Lock	Total Depth (feet)	1st Depth to Water (feet)	2nd Depth to Water (feet)	Depth to Product (feet)	Product Thickness	Comments
MW-1	2"	ok	16.88	6.24	6.24			
MW-2	2"	ok	15.52	6.25	6.25			
MW-3	2"	ok	17.00	6.94	6.94			Behind Station.
MW-4	2"	ok	15.90	5.82	5.82			Beuna Vista Sheitar 11.
MW-5	2"	ok	14.94	5.75	5.75			KFC well.
RW-1	6"	ok	21.61	5.59	5.59			MW well, QC-1 New lock on RW-1

Notes:

CALIBRATION

pH 7.00 7.00 pH 4.00 4.00 pH 10.00 _____ at 71 °F

116 Liberty Street
 Santa Cruz, Ca 95060
 (408) 459-0718

Well Number: MW-3

Project Number: 10-155

Station Number: BP11104

Date: 1/6/94

Sample Type: Groundwater Trip Blank Duplicate of _____

Sampled by: DAN BIRCH

WELL PURGING

PURGE VOLUME

Casing Diameter (inches) 2" 3" 4" 4.5" 6" _____
 Volume Factors: 0.1632 0.3672 0.6528 0.826 1.469 _____

Total Depth of Well 17.00

Initial Water Level: 6.94

PURGE METHOD:

- Honda Pump
- Disposable Poly Tubing (____ ft)
- Speed Winch
- Disposable PVC Bailer(s) (____)
- Other _____

Total Volume Purged: _____

Time Elapsed: _____

Calculated Purge Volume:

$$\frac{17.00 - 6.94}{10.06} \times \frac{.16}{1.6} \times 3 = 4.8 \text{ (gallons)}$$

Total Depth
Water Level
Well Vol. Fac.
of vol. to Purge
Calculated Purge Volume

COMMENTS:

Subjective Analysis Prior to Purging

SHEEN No Yes
 Depth to Product _____ (ft)
 Product Thickness _____ (ft)

SAMPLING METHOD

PVC Disposable Bailer
 Teflon Bailer
 Other: _____
 Time Sampled (24 hour clock) 1304

WELL SAMPLING PARAMETERS

Gallons Removed	Time	pH	Temp °F	Cond. (umhos/cm)
2	1241	7.15	60.9	0.49
4	1253	7.05	61-2	0.49
6	1304	7.04	61.0	0.47

Analysis Required	No. of	Container Type	Preservatives
EPA 601		VOA's	
<input checked="" type="checkbox"/> TPH-G/BTEX	3	VOA's	HCl
TPH- Diesel		Amber Liter	
TOG 5520 BF		Amber Liter	H ₂ SO ₄

116 Liberty Street
 Santa Cruz, Ca 95060
 (408) 459-0718

Well Number: RW-1

Project Number: 10-155

Sample Type: Groundwater Trip Blank Duplicate of _____

Station Number: BA11104

Sampled by: Dan Birch

Date: 1/6/94

WELL PURGING

PURGE VOLUME

Casing Diameter (inches) 0 2" 0 3" 0 4" 0 4.5" 0 6" 0 _____
 Volume Factors: 0.1632 0.3672 0.6528 0.826 1.469 _____

Total Depth of Well 21.61

Initial Water Level: 5.59

PURGE METHOD:

- Honda Pump
- Disposable Poly Tubing (22 ft)
- Speed Winch
- Disposable PVC Bailer(s) (____)
- Other _____

Total Volume Purged: _____

Time Elapsed: _____

Calculated Purge Volume:

$$\frac{21.61}{\text{Total Depth}} - \frac{5.59}{\text{Water Level}} = \frac{16.02}{\text{Well Vol. Fac.}} \times \frac{1.47}{\text{Well Vol. Fac.}} = \frac{23.5}{\text{Well Vol. Fac.}} \times \frac{3}{\text{# of vol. to Purge}} = \frac{70.6}{\text{Calculated Purge Volume}} \text{ (gallons)}$$

COMMENTS:

Purged dry after 40 gallons.

*QC-1 from
 RW-1.*

New lock.

Subjective Analysis Prior to Purging

SHEEN Depth to Product Product Thickness
 O Yes No None (ft) None (ft)

SAMPLING METHOD

O PVC Disposable Bailer Time Sampled
 O Teflon Bailer (24 hour clock)
 O Other: _____ 1412

WELL SAMPLING PARAMETERS

Gallons Removed	Time	pH	Temp °F	Cond. (umhos/cm)
15	1420	6.36	64.7	0.72
25	1431	6.27	64.8	0.80
40	1442	6.30	65.2	0.80

Analysis Required	No. of	Container Type	Preservatives
EPA 601		VOA's	
<input checked="" type="checkbox"/> TPH-G/BTEX	3	VOA's	HCl
TPH- Diesel		Amber Liter	
TOG 5520 BF		Amber Liter	H ₂ SO ₄

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

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

January 17, 1994
 PACE Project Number: 440110501

Attn: Mr. Bill Howell

Client Reference: BP Station # 11104/10-155-01-003

PACE Sample Number: 70 0225914
 Date Collected: 01/06/94
 Date Received: 01/10/94
 Client Sample ID: MW-1

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

<u>PURGEABLE FUELS AND AROMATICS</u>			
TOTAL FUEL HYDROCARBONS, (LIGHT):		-	01/11/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	2500	45000
PURGEABLE AROMATICS (BTXE BY EPA 8020M):		-	01/11/94
Benzene	ug/L	25	12000
Toluene	ug/L	25	4300
Ethylbenzene	ug/L	25	3000
Xylenes, Total	ug/L	25	6700

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
 Page 2

January 17, 1994
 PACE Project Number: 440110501

Client Reference: BP Station # 11104/10-155-01-003

PACE Sample Number: 70 0225922
 Date Collected: 01/06/94
 Date Received: 01/10/94
 Client Sample ID: MW-2

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS			
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

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
 Page 3

January 17, 1994
 PACE Project Number: 440110501

Client Reference: BP Station # 11104/10-155-01-003

PACE Sample Number: 70 0225930
 Date Collected: 01/06/94
 Date Received: 01/10/94
 Client Sample ID: MW-3

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>		<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):				
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	-	01/11/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				
Benzene	ug/L	0.5	ND	01/11/94
Toluene	ug/L	0.5	ND	01/11/94
Ethylbenzene	ug/L	0.5	ND	01/11/94
Xylenes, Total	ug/L	0.5	ND	01/11/94

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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January 17, 1994
 PACE Project Number: 440110501

Client Reference: BP Station # 11104/10-155-01-003

PACE Sample Number: 70 0225949
 Date Collected: 01/06/94
 Date Received: 01/10/94
 Client Sample ID: MW-4

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS			
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

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
 Page 5

January 17, 1994
 PACE Project Number: 440110501

Client Reference: BP Station # 11104/10-155-01-003

PACE Sample Number: 70 0225957
 Date Collected: 01/06/94
 Date Received: 01/10/94
 Client Sample ID: MW-5

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>		<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	01/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	01/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	01/12/94
Benzene	ug/L	0.5	ND	01/12/94
Toluene	ug/L	0.5	ND	01/12/94
Ethylbenzene	ug/L	0.5	ND	01/12/94
Xylenes, Total	ug/L	0.5	ND	01/12/94

Mr. Bill Howell
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January 17, 1994
 PACE Project Number: 440110501

Client Reference: BP Station # 11104/10-155-01-003

PACE Sample Number: 70 0225965
 Date Collected: 01/06/94
 Date Received: 01/10/94
 Client Sample ID: QC-1

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS			
TOTAL FUEL HYDROCARBONS, (LIGHT):			01/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	1000	24000
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			01/12/94
Benzene	ug/L	10	3700
Toluene	ug/L	10	210
Ethylbenzene	ug/L	10	830
Xylenes, Total	ug/L	10	2000

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
 Page 7

January 17, 1994
 PACE Project Number: 440110501

Client Reference: BP Station # 11104/10-155-01-003

PACE Sample Number: 70 0225973
 Date Collected: 01/06/94
 Date Received: 01/10/94
 Client Sample ID: QC-2

<u>Parameter</u>	<u>Units</u>	<u>MDL</u>		<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):				
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	-	01/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):				
Benzene	ug/L	0.5	ND	01/12/94
Toluene	ug/L	0.5	ND	01/12/94
Ethylbenzene	ug/L	0.5	ND	01/12/94
Xylenes, Total	ug/L	0.5	ND	01/12/94

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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January 17, 1994
 PACE Project Number: 440110501

Client Reference: BP Station # 11104/10-155-01-003

PACE Sample Number: 70 0225981
 Date Collected: 01/06/94
 Date Received: 01/10/94
 Client Sample ID: RW-1

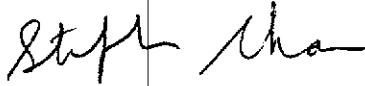
<u>Parameter</u>	<u>Units</u>	<u>MDL</u>	<u>DATE ANALYZED</u>
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ORGANIC ANALYSIS

PURGEABLE FUELS AND AROMATICS

TOTAL FUEL HYDROCARBONS, (LIGHT):			-	01/12/94
Purgeable Fuels, as Gasoline (EPA 8015M) ug/L	1200	23000		01/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	01/12/94
Benzene ug/L	12	3800		01/12/94
Toluene ug/L	12	210		01/12/94
Ethylbenzene ug/L	12	840		01/12/94
Xylenes, Total ug/L	12	2100		01/12/94

These data have been reviewed and are approved for release.



for Darrell C. Cain
 Regional Director

Mr. Bill Howell
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FOOTNOTES
for pages 1 through 8

January 17, 1994
PACE Project Number: 440110501

Client Reference: BP Station # 11104/10-155-01-003

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

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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QUALITY CONTROL DATA

January 17, 1994
PACE Project Number: 440110501

Client Reference: BP Station # 11104/10-155-01-003

PURGEABLE FUELS AND AROMATICS

Batch: 70 27627

Samples: 70 0225949, 70 0225957, 70 0225965, 70 0225973, 70 0225981

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	700224691	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	1000	108%	112%	3%
Benzene	ug/L	0.5	ND	40	111%	91%	19%
Toluene	ug/L	0.5	ND	40	117%	90%	26%
Ethylbenzene	ug/L	0.5	ND	40	118%	92%	24%
Xylenes, Total	ug/L	0.5	ND	120	113%	90%	22%

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	113%	113%	0%
Benzene	ug/L	0.5	40	97%	92%	5%
Toluene	ug/L	0.5	40	101%	93%	8%
Ethylbenzene	ug/L	0.5	40	101%	94%	7%
Xylenes, Total	ug/L	0.5	120	98%	93%	5%

Mr. Bill Howell
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QUALITY CONTROL DATA

January 17, 1994
 PACE Project Number: 440110501

Client Reference: BP Station # 11104/10-155-01-003

PURGEABLE FUELS AND AROMATICS

Batch: 70 27643
 Samples: 70 0225914, 70 0225922, 70 0225930

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	700226201	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	54	1000	105%	97%	7%
Benzene	ug/L	0.5	3.8	100	90%	102%	12%
Toluene	ug/L	0.5	15	100	95%	108%	12%
Ethylbenzene	ug/L	0.5	2.1	100	95%	107%	11%
Xylenes, Total	ug/L	0.5	11	300	100%	111%	10%

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%	97%	4%
Benzene	ug/L	0.5	100	91%	95%	4%
Toluene	ug/L	0.5	100	99%	101%	2%
Ethylbenzene	ug/L	0.5	100	96%	97%	1%
Xylenes, Total	ug/L	0.5	300	100%	101%	0%

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FOOTNOTES
for pages 10 through 11

January 17, 1994
PACE Project Number: 440110501

Client Reference: BP Station # 11104/10-155-01-003

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



440110.501

CHAIN OF CUSTODY

No. 051391 Page 1 of 1

CONSULTANT'S NAME ALISTO ENGINEERING		ADDRESS 1777 OAKLAND BLVD, STE 200 WALNUT CREEK CA		CITY	STATE	ZIP CODE
BP SITE NUMBER BP11104	BP CORNER ADDRESS/CITY 1716 Webster St., ALAMEDA			CONSULTANT PROJECT NUMBER 10-155-01-003		
CONSULTANT PROJECT MANAGER BILL HOWELL		PHONE NUMBER 510 295 1650	FAX NUMBER		CONSULTANT CONTRACT NUMBER	
BP CONTACT SCOTT HOOTEN		BP ADDRESS	PHONE NUMBER		FAX NO.	
LAB CONTACT JIM OYES		LABORATORY ADDRESS 11 Digital Dr. Novato	PHONE NUMBER		FAX NO.	
SAMPLED BY (Please Print Name) DAN BIRCH		SAMPLED BY (Signature) <i>[Signature]</i>		SHIPMENT DATE		SHIPMENT METHOD Per Courier

TAT: 24 Hours 48 Hours 1 Week Standard 2 Weeks

ANALYSIS REQUIRED

AIRBILL NUMBER

SAMPLE DESCRIPTION	COLLECTION DATE	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE	PH GAS SEA	COMMENTS
	COLLECTION TIME		NO.	TYPE (VOL.)	LAB SAMPLE #		
MW-1	1/6/94	W	3	VOA	22591.4	X	
MW-2	}	}	}	}	22592.2	X	
MW-3					22593.0	X	
MW-4					22594.9	X	
MW-5					22595.7	X	
QC-1					22596.5	X	
QC-2					22597.3	X	
RW-1	1-6-94	W	3	VOA	22596.1	X	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
<i>[Signature]</i>	1/6/94	2:10	<i>[Signature]</i> MCLWOSL PAC	1/10/94	12:10	15/3