BP OIL

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

January 25, 1995

Q Were HPs performed along sewer lines? Should have been done by 12/19/94 - Yes done and report now w/ S. Hooton - per Paul Graff - 2/1/95

Ms. Eva Chu
Alameda County Health Care Services Agency
1131 Harbour Bay Parkway Room 250
Oakland, CA 94502-6577

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

Dear Ms. Chu:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED December 5, 1994** for the above referenced facility.

You should note that we are awaiting the final report for the cone penetrometer work recently performed by Fugro. You should receive a copy within the next four weeks.

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\ERM11104

cc: Mr. Eddy So, CRWQCB, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, CA 94612

Mr. Scott Kellstedt, Hydro Environmental Technologies, 2363 Mariner Square Drive, Suite 243, Alameda, California 94501

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

cc: **continued**

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. 10-155-03-002

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

December 5, 1994

William Howell
Project Manager

Daniel Salaices
Registered Geologist

REGISTERED GEOLOGIST
DANIEL J.
SALAICES
No. 5162
STATE OF CALIFORNIA

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-155-03-002

December 5, 1994

INTRODUCTION

This report presents the results and findings of the October 13, 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)	DO (ppm)	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	8.51	---	---	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-1		04/26/94	8.51	5.26	3.25	39000	6500	500	1800	1200	6.3	PACE
MW-1		07/25/94	8.51	5.60	2.91	38000	6300	240	1500	1100	1.7	PACE
MW-1		10/13/94	8.51	6.15	2.36	25000	6300	130	1300	830	2.3	PACE
QC-1	(c)	10/13/94	8.51	---	---	25000	7300	120	1200	740	---	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	9.41	---	---	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-2		04/26/94	9.41	5.73	3.68	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7.5	PACE
MW-2		07/25/94	9.41	6.07	3.34	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.4	PACE
MW-2		10/13/94	9.41	6.80	2.61	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.4	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<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-3		04/26/94	9.91	6.18	3.73	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3.1	PACE
MW-3		07/25/94	9.91	6.67	3.24	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.2	PACE
MW-3		10/13/94	9.91	7.43	2.48	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.1	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
MW-4		04/26/94	8.33	5.50	2.83	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7.4	PACE
MW-4		07/25/94	8.33	5.83	2.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7.2	PACE
MW-4		10/13/94	8.33	6.26	2.07	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	6.7	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)	DO (ppm)	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
MW-5		04/26/94	8.17	5.49	2.68	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	7.1	PACE
MW-5		07/25/94	8.17	5.69	2.48	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	6.6	PACE
MW-5		10/13/94	8.17	6.03	2.14	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3.0	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
RW-1		04/26/94	8.37	5.21	3.16	24000	3500	120	800	1700	6.4	PACE
QC-1	(c)	04/26/94	---	---	---	22000	3300	110	700	1700	---	PACE
RW-1		07/25/94	8.37	5.52	2.85	31000	4800	290	1100	1700	5.5	PACE
QC-1	(c)	07/25/94	---	---	---	28000	4400	240	960	1400	---	PACE
RW-1		10/13/94	8.37	6.05	2.32	20000	4200	46	990	440	6.8	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
QC-2	(e)	04/26/94	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2	(e)	07/25/94	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2	(e)	10/13/94	---	---	---	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
DO	Dissolved oxygen
ppb	Parts per billion
ppm	Parts per million
---	Not applicable/available/analyzed/measured
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.

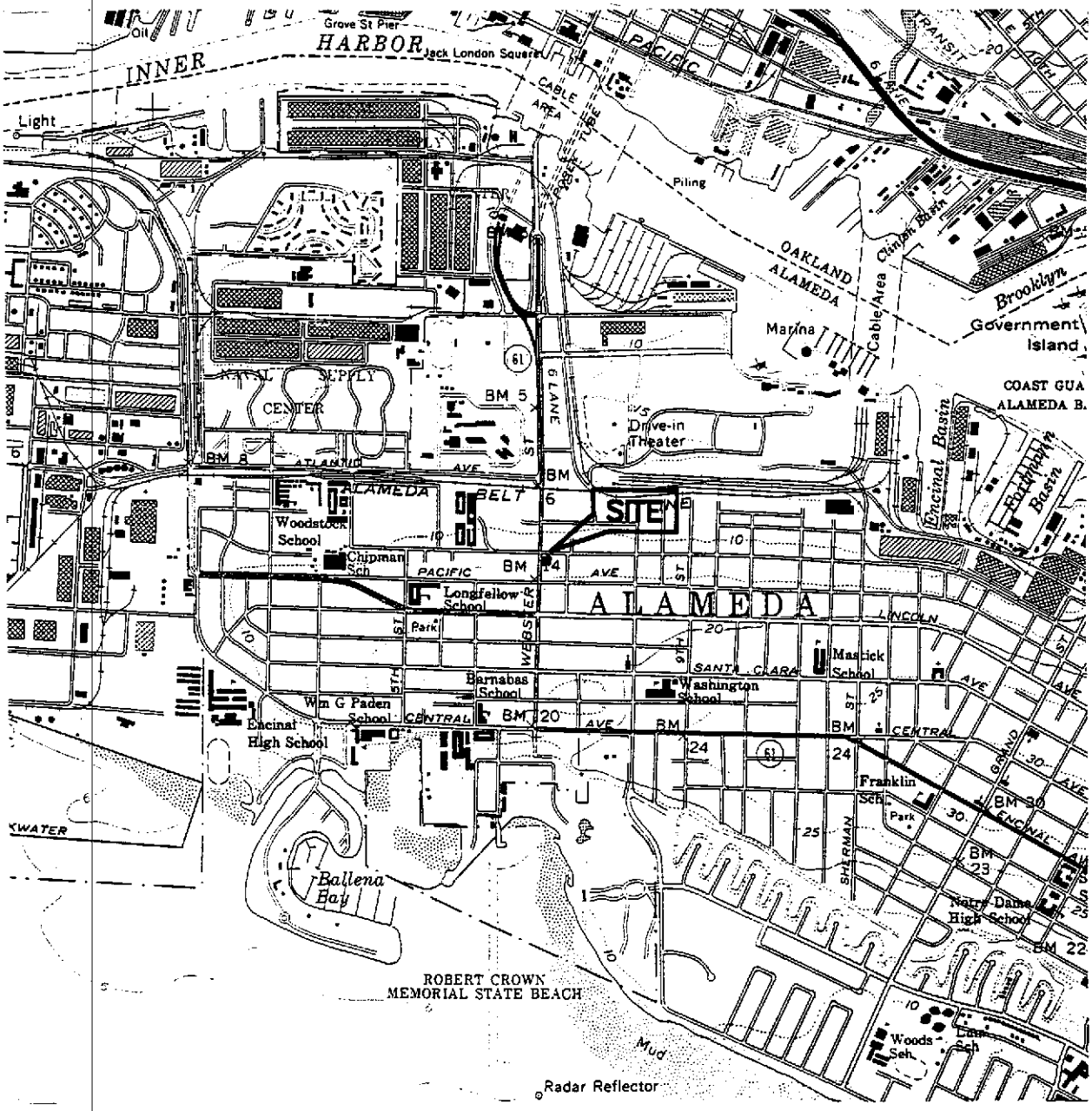
(b) Groundwater elevations in feet above mean sea level.

(c) Blind duplicate.

(d) Sample also analyzed for cadmium, nickle, chromium, lead, and zinc. None were detected above the reported detection limit.

(e) Travel blank.

E:\0\10\155-3-1



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

N

0 1000' 2000'

FIGURE 1

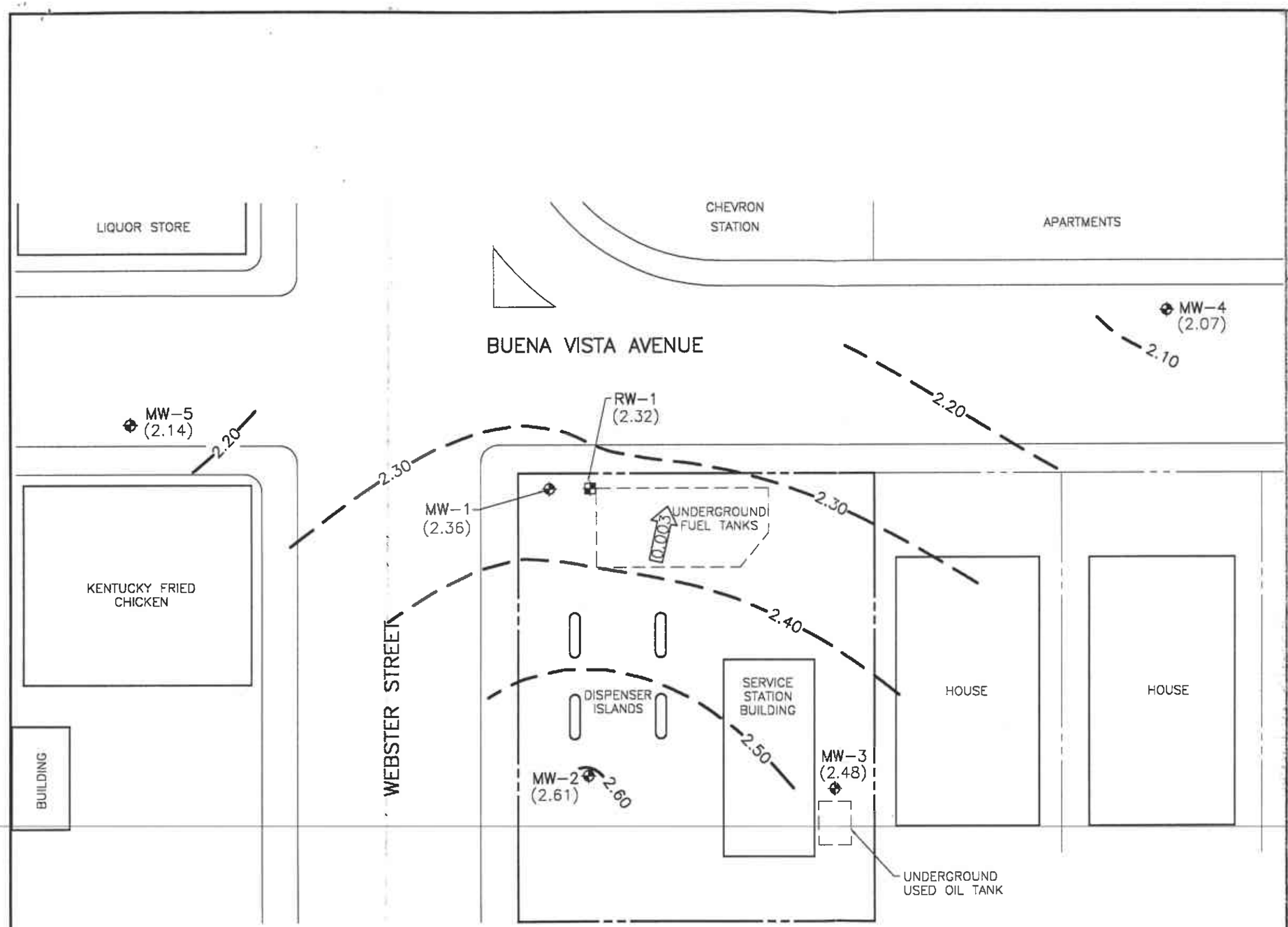
SITE VICINITY MAP

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

PROJECT NO. 10-155

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10155B--DWG 8-10-93 RKM 1=1



N

0 30 60

SCALE IN FEET

LEGEND

- GROUNDWATER MONITORING WELL
- GROUNDWATER RECOVERY WELL
- (2.07) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 2.10 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

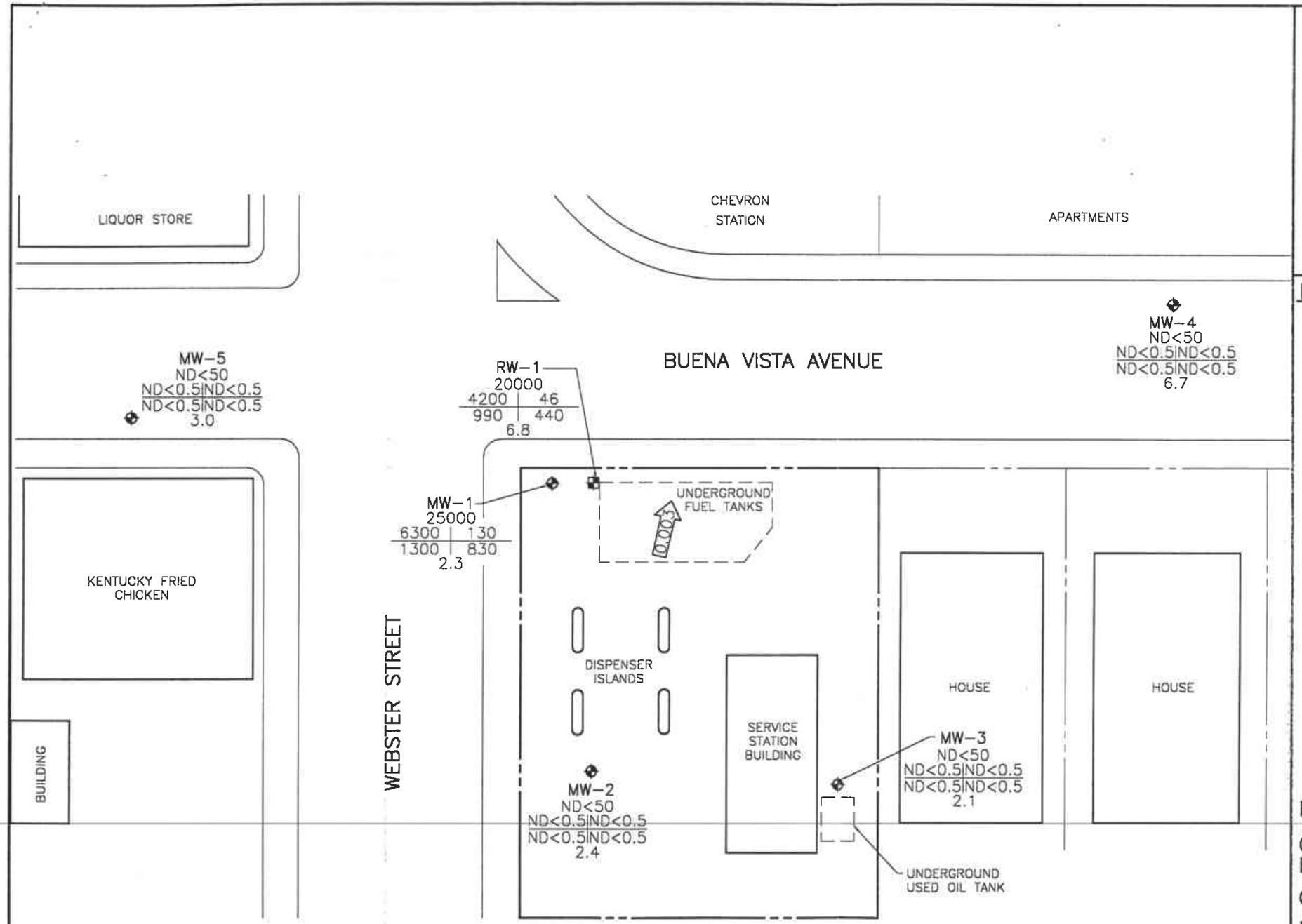
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

OCTOBER 13, 1994

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

PROJECT NO. 10-155

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



N

0 30 60

SCALE IN FEET

LEGEND

◆	GROUNDWATER MONITORING WELL
◆	GROUNDWATER RECOVERY 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

OCTOBER 13, 1994

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

PROJECT NO. 10-155

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10152F-1.DWG 11-7-94 RKW 1=30

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

03-002

⊗ Groundwater Sampling

Date: 10/13/94 Project No. 10-155-~~02~~-003

Day: M T W (Th) F Facility No. 11104

Barometric pres. 759 Temp. 82°F Address 176 Webster St, Alameda CA

SAMPLER:

Well ID	SAMPLE #	WATER, time	Well ID	SAMPLE #	WATER/ time	Well ID	SAMPLE	WATER / time
MW5	S-1	6.03 / 939	MW-1	S-6	6.15 / 1004			
MW4	S-2	6.26 / 948						
MW3	S-3	7.43 / 955						
MW2	S-4	6.80 / 958						
MW-1	S-5	6.05 / 1001						

FIELD INSTRUMENT CALIBRATION DATA

pH METER 4.00 ✓ 7.00 ✓ 10.00 TIME 1215 TEMPERATURE COMPENSATED (Y) N 1.0 @ 1029

TURBIDI METER 5.0 NTU STANDARD OTHER 1cm Dometer 0 soln reading

CONDUCTIVITY METER ✓ 10,000 OTHER

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.	
MW5	6.03	2"	replaced	∅	Y (N)	1.0	1322	72.8	7.60	0.76	3.3	⊗ EPA 601 ~~TPH-G/BTEX~~ HCL
						3.0	1325	72.8	6.96	0.78		O TPH Diesel
						4.5	1328	72.6	6.80	0.77	3.0	O TOG 5520

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

14.94 - 6.03 = 8.91 x .16 = 1.43 x 3 = 4.29

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

Comments:

Time/Sample 5-1 / 1337

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.	
MW4	6.26	2"	replaced	∅	Y (N)	1.5	1245	75.0	7.09	0.51	7.5	⊗ EPA 601 ~~TPH-G/BTEX~~ HCL
						3	1247	72.6	7.84	0.49		O TPH Diesel
						4.75	1251	71.2	7.58	0.48	6.7	O TOG 5520

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

15.90 - 6.26 = 9.64 x .16 = 1.54 x 3 = 4.63

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

Comments:

Time/ Sample 1256 / S-2

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.	
MW3	7.43	2"	OK	∅	Y (N)	1.5	1350	66.7	7.07	0.54	2.6	⊗ EPA 601 ~~TPH-G/BTEX~~ HCL
						3	1352	66.9	6.86	0.58		O TPH Diesel
						4.75	1356	66.9	6.78	0.58	2.1	O TOG 5520

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

17.00 - 7.43 = 9.57 x .16 = 1.53 x 3 = 4.59

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

Comments:

Time /Sample 1400 / S-3

ALISTO

ENGINEERING GROUP
1777 OAKLAND BLVD, STE 200
WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1623

Field Report / Sampling Data Sheet

☒ Groundwater Sampling

Date: 10/13/94 Project No. 10-155-03-02-002
Day: Thur Station No. 11104
Weather: Sunny Address 1716 Webster Ave, Alameda, CA
SAMPLER: DC

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
MW2	6.80	2"	replaced	ϕ	ϕ

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
15.52 - 6.80 = 8.72 x .16 = 1.40 x 3 = 4.19
Purge Method: OSurface Pump ODisp.Tube OWinch ☒Disp. Bailer(s)___ OSye Port
Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1.5	1411	72.2	6.83	0.73	2.5
3	1415	74.2	6.64	0.72	
4.5	1418	73.7	6.71	0.71	2.4

O EPA 601___
☒ TPH-G/BTEX HCL
O TPH Diesel___
O TOG 5520 __
Time Sampled
1424 S-4

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
RW1	6.05	6"	OK	ϕ	ϕ

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
21.61 - 6.05 = 15.56 x 1.47 = 22.87 x 3 = 68.62
Purge Method: ☒Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSye Port
Comments: Stable @ 45 gallons; Sample after 45 gal

Gal.	Time	Temp °F	pH	E.C.	D.O.
15	1435	70.1	6.81	0.86	6.2
30	1440	70.1	7.04	0.85	
45	1450	69.5	7.03	0.85	6.8

O EPA 601___
☒ TPH-G/BTEX HCL
O TPH Diesel___
O TOG 5520 __
Time Sampled
1455 S-5

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
MW1	6.15	2"	OK	ϕ	ϕ

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
16.88 - 6.15 = 10.73 x .16 = 1.72 x 3 = 5.15
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSye Port
Comments: DC-1 from this well (S-7)

Gal.	Time	Temp °F	pH	E.C.	D.O.
2	1514	72.9	6.78	0.91	2.2
4.5	1518	71.8	6.72	0.88	
5.25	1521	70.8	6.65	0.87	2.3

O EPA 601___
☒ TPH-G/BTEX HCL
O TPH Diesel___
O TOG 5520 __
Time Sampled
1525 S-6

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

pace INCORPORATED
THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

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

October 24, 1994
PACE Project Number: 441014522

Attn: Mr. Bill Howell

Client Reference: BP Site #11104/10-155-02-002

PACE Sample Number:			70 0423570	
Date Collected:			10/13/94	
Time Collected:			13:37	
Date Received:			10/14/94	
Client Sample ID:			S-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	0.5	ND	10/18/94
Toluene	ug/L	0.5	ND	10/18/94
Ethylbenzene	ug/L	0.5	ND	10/18/94
Xylenes, Total	ug/L	0.5	ND	10/18/94

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REPORT OF LABORATORY ANALYSIS

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October 24, 1994
PACE Project Number: 441014522

Client Reference: BP Site #11104/10-155-02-002

PACE Sample Number:			70 0423589	
Date Collected:			10/13/94	
Time Collected:			12:56	
Date Received:			10/14/94	
Client Sample ID:			S-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	0.5	ND	10/18/94
Toluene	ug/L	0.5	ND	10/18/94
Ethylbenzene	ug/L	0.5	ND	10/18/94
Xylenes, Total	ug/L	0.5	ND	10/18/94

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REPORT OF LABORATORY ANALYSIS

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October 24, 1994
PACE Project Number: 441014522

Client Reference: BP Site #11104/10-155-02-002

PACE Sample Number:			70 0423597	
Date Collected:			10/13/94	
Time Collected:			14:00	
Date Received:			10/14/94	
Client Sample ID:			S-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	0.5	ND	10/18/94
Toluene	ug/L	0.5	ND	10/18/94
Ethylbenzene	ug/L	0.5	ND	10/18/94
Xylenes, Total	ug/L	0.5	ND	10/18/94

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October 24, 1994
PACE Project Number: 441014522

Client Reference: BP Site #11104/10-155-02-002

PACE Sample Number:			70 0423600	
Date Collected:			10/13/94	
Time Collected:			14:24	
Date Received:			10/14/94	
Client Sample ID:			S-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	0.5	ND	10/18/94
Toluene	ug/L	0.5	ND	10/18/94
Ethylbenzene	ug/L	0.5	ND	10/18/94
Xylenes, Total	ug/L	0.5	ND	10/18/94

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October 24, 1994
PACE Project Number: 441014522

Client Reference: BP Site #11104/10-155-02-002

PACE Sample Number:			70 0423619	
Date Collected:			10/13/94	
Time Collected:			14:55	
Date Received:			10/14/94	
Client Sample ID:			S-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/20/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	500	20000	10/20/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/20/94
Benzene	ug/L	5.0	4200	10/20/94
Toluene	ug/L	5.0	46	10/20/94
Ethylbenzene	ug/L	5.0	990	10/20/94
Xylenes, Total	ug/L	5.0	440	10/20/94

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October 24, 1994
PACE Project Number: 441014522

Client Reference: BP Site #11104/10-155-02-002

PACE Sample Number:			70 0423627	
Date Collected:			10/13/94	
Time Collected:			15:25	
Date Received:			10/14/94	
Client Sample ID:			S-6	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	2500	25000	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	25	6300	10/18/94
Toluene	ug/L	25	130	10/18/94
Ethylbenzene	ug/L	25	1300	10/18/94
Xylenes, Total	ug/L	25	830	10/18/94

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REPORT OF LABORATORY ANALYSIS

October 24, 1994
PACE Project Number: 441014522

Client Reference: BP Site #11104/10-155-02-002

PACE Sample Number:			70 0423635	
Date Collected:			10/13/94	
Date Received:			10/14/94	
Client Sample ID:			S-7	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/20/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	2500	25000	10/20/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/20/94
Benzene	ug/L	25	7300	10/20/94
Toluene	ug/L	2.5	120	10/20/94
Ethylbenzene	ug/L	2.5	1200	10/20/94
Xylenes, Total	ug/L	2.5	740	10/20/94

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REPORT OF LABORATORY ANALYSIS

October 24, 1994
PACE Project Number: 441014522

Client Reference: BP Site #11104/10-155-02-002

PACE Sample Number:			70 0423643	
Date Collected:			10/13/94	
Date Received:			10/14/94	
Client Sample ID:			S-8	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	10/18/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	10/18/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	10/18/94
Benzene	ug/L	0.5	ND	10/18/94
Toluene	ug/L	0.5	ND	10/18/94
Ethylbenzene	ug/L	0.5	ND	10/18/94
Xylenes, Total	ug/L	0.5	ND	10/18/94

These data have been reviewed and are approved for release.

Darrell C. Cain
Regional Director

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FOOTNOTES
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Client Reference: BP Site #11104/10-155-02-002

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 #11104/10-155-02-002

PURGEABLE FUELS AND AROMATICS
Batch: 70 35250
Samples: 70 0423570, 70 0423589, 70 0423597, 70 0423600, 70 0423627
70 0423643

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	700423589 S-2	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	102%	104%	2%
Toluene	ug/L	0.5	ND	100	99%	101%	2%
Ethylbenzene	ug/L	0.5	ND	100	94%	96%	2%
Xylenes, Total	ug/L	0.5	ND	300	99%	101%	2%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	100%	104%	4%
Toluene	ug/L	0.5	100	99%	100%	1%
Ethylbenzene	ug/L	0.5	100	94%	95%	1%
Xylenes, Total	ug/L	0.5	300	99%	99%	0%

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QUALITY CONTROL DATA

October 24, 1994
PACE Project Number: 441014522

Client Reference: BP Site #11104/10-155-02-002

PURGEABLE FUELS AND AROMATICS
Batch: 70 35348
Samples: 70 0423619, 70 0423635

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	700423589 S-2	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	102%	104%	2%
Toluene	ug/L	0.5	ND	100	99%	101%	2%
Ethylbenzene	ug/L	0.5	ND	100	94%	96%	2%
Xylenes, Total	ug/L	0.5	ND	300	99%	101%	2%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	100%	104%	4%
Toluene	ug/L	0.5	100	99%	100%	1%
Ethylbenzene	ug/L	0.5	100	94%	95%	1%
Xylenes, Total	ug/L	0.5	300	99%	99%	0%

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FOOTNOTES
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Client Reference: BP Site #11104/10-155-02-002

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

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441014.522

CHAIN OF CUSTODY

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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
11104	1716 Webster Ave, Alameda CA	10-155-02-002

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
Bill Howell	(510) 295 1050	(510) 295 7823	
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	David Cusack		Courier

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

AIRBILL NUMBER:

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE / TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	HCL TPH-G BTEX	COMMENTS
S-1 1337	10/13/94	H_2O	3	VOA	42357.0	X	
S-2 1256					42358.9		
S-3 1400					42359.7		
S-4 1424					42360.0		
S-5 1455					42361.9		
S-6 1525					42362.7		
S-7 —					42363.5		
S-8 —			1		42364.3		

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
David Cusack Alisto	10/14/94	1:30	Brenda D	10/14/94	1:30
Brenda D	10/14/94	5:30	McIntosh	10/14/94	5:30

ADDITIONAL COMMENTS

CLV-16722

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