BP OIL

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

December 14, 1994

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

RE: BP OIL FACILITY #11133
2220 98th Avenue
Oakland CA

Dear Mr. Hiett:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED November 22, 1994** for the above referenced facility.

If you should have any questions regarding this site, I may be reached at (206) 251-0689.

Respectfully,

Scott T. Hooton
Environmental Resources Management
Group Leader

STH:mu msword\ERM11133

cc: Ms. Eva Chu, Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, 2nd Floor, Alameda California 94542-6577

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

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

Site File

NOV 2 1994

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11133
2220 98th Avenue
Oakland, California ① Need add'l MW(s) further D.G. AND next to residential property. ② Want status of remed. sys.!

Project No. 10-025-04-001

Prepared for:

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

Per Brady Nagle
12/28/94 Waiting EBMUD permit for discharge
May take another 2 months!

Prepared by:

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

November 22, 1994

Brady Nagle
Project Manager

Dan Salaices
Registered Geologist

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

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11133
2220 98th Avenue
Oakland, California

Project No. 10-025-04-001
November 22, 1994

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. 11133, 2220 98th Avenue, Oakland, 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 in reference to mean sea level. 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.

FREE PRODUCT MONITORING AND RECOVERY

Product recovery canisters have been installed in Monitoring Wells MW-1 and RW-1 to recover liquid-phase product. Product thicknesses for this and previous monitoring events are presented in Table 1. The volume of product recovered is presented in Table 2.

SAMPLING AND ANALYTICAL RESULTS

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. 11133
2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	DO (ppm)	LAB
MW-1	04/05/91	34.46	---	---	---	---	---	---	---	---	---	---
MW-1	04/01/92	34.46	11.25	0.01	23.22	---	---	---	---	---	---	---
MW-1	07/06/92	34.46	13.61	0.02	20.87	---	---	---	---	---	---	---
MW-1	10/07/92	34.46	15.15	0.09	19.38	---	---	---	---	---	---	---
MW-1	01/14/93	34.46	10.73	0.01	23.74	---	---	---	---	---	---	---
MW-1	04/22/93	34.46	11.64	0.16	22.94	---	---	---	---	---	---	---
MW-1	07/15/93	34.46	13.50	1.11	21.79	---	---	---	---	---	---	---
MW-1	10/21/93	34.46	15.21	1.00	20.00	---	---	---	---	---	---	---
MW-1	01/27/94	34.46	17.48	0.81	17.59	---	---	---	---	---	---	---
MW-1	04/21/94	34.46	10.94	---	23.52	110000	1400	9100	3400	30000	1.6	PACE
MW-1	09/09/94	34.46	13.80	---	20.66	---	---	---	---	---	---	---
MW-2	04/05/91	35.50	16.62	---	18.88	ND<50	0.6	0.9	ND<0.3	ND<0.3	---	SUP
MW-2	04/01/92	35.50	11.25	---	24.25	---	---	---	---	---	---	---
MW-2	04/02/92	35.50	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	APP
MW-2	07/06/92	35.50	12.72	---	22.78	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-2	10/07/92	35.50	15.08	---	20.42	ND<50	ND<0.5	1.8	ND<0.5	2.3	---	ANA
MW-2	01/14/93	35.50	9.69	---	25.81	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-2	04/22/93	35.50	10.46	---	25.04	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-2	07/15/93	35.50	12.02	---	23.48	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-2	10/21/93	35.50	13.12	---	22.38	ND<50	0.7	0.9	ND<0.5	0.9	---	PACE
MW-2	01/27/94	35.50	12.01	---	23.49	ND<50	0.6	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-2	04/21/94	35.50	10.60	---	24.90	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.1	PACE
MW-2	09/09/94	35.50	12.42	---	23.08	ND<50	ND<0.5	ND<0.5	ND<0.5	0.6	2.2	PACE
MW-3	04/05/91	36.53	17.84	---	18.69	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	----	SUP
MW-3	04/01/92	36.53	15.64	---	20.89	---	---	---	---	---	---	---
MW-3	04/02/92	36.53	---	---	---	ND<50	1.4	ND<0.5	ND<0.5	ND<0.5	---	APP
MW-3	07/06/92	36.53	19.03	---	17.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-3	10/07/92	36.53	21.83	---	14.70	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
MW-3	01/14/93	36.53	15.96	---	20.57	350	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-3	04/22/93	36.53	16.20	---	20.33	2800	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-3	07/15/93	36.53	16.82	---	19.71	1400	1.2	ND<0.5	2.0	3.5	---	PACE
MW-3	10/21/93	36.53	18.84	---	17.69	370	2.1	2.3	2.3	6.0	---	PACE
MW-3	01/27/94	36.53	18.00	---	18.53	1300	6.3	ND<0.5	ND<0.5	ND<0.5	---	PACE
MW-3	04/21/94	36.53	16.62	---	19.91	2000	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.4	PACE
MW-3	09/09/94	36.53	18.38	---	18.15	1300	ND<0.5	ND<0.5	0.5	1.2	3.0	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11133
2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	DO (ppm)	LAB
AW-1	04/05/91	38.11	25.44	---	12.67	4100	1500	69	100	83	---	SUP
AW-1	04/01/92	38.11	23.22	—	14.89	---	---	---	---	---	—	—
AW-1	04/02/92	38.11	---	---	---	11000	1800	210	210	490	---	APP
AW-1	07/06/92	38.11	24.89	---	13.22	6500	4000	40	290	530	---	ANA
AW-1	10/07/92	38.11	26.55	---	11.56	4700	1500	41	47	300	---	ANA
QC-1 (c)	10/07/92	38.11	---	—	---	2900	1200	25	37	210	---	ANA
AW-1	01/14/93	38.11	23.73	---	14.38	2800	830	31	140	240	---	PACE
QC-1 (c)	01/14/93	38.11	---	---	--	4100	1700	28	130	230	---	PACE
AW-1	04/22/93	38.11	22.29	---	15.82	39000	14000	530	1800	6100	---	PACE
AW-1	07/15/93	38.11	22.50	---	15.61	6200	2200	28	210	540	—	PACE
AW-1	10/21/93	38.11	24.32	---	13.79	2400	820	13	55	120	—	PACE
AW-1	01/27/94	38.11	23.72	---	14.39	3500	1400	26	130	220	---	PACE
AW-1	04/21/94	38.11	22.48	---	15.63	40000	12000	1900	1600	5000	1.4	PACE
AW-1	09/09/94	38.11	23.04	—	15.07	3500	1600	5.0	200	250	2.1	PACE
QC-1 (c)	09/09/94	38.11	—	---	---	3900	1900	5.5	190	240	---	PACE

AW-2	04/05/91	36.83	22.36	---	14.47	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	SUP
AW-2	04/01/92	36.83	20.81	—	16.02	---	---	---	---	---	---	---
AW-2	04/02/92	36.83	—	—	---	130	25	2.3	0.7	2.1	—	APP
AW-2	07/06/92	36.83	23.57	---	13.26	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
AW-2	10/07/92	36.83	25.24	---	11.59	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
AW-2	01/14/93	36.83	20.82	---	16.01	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-2	04/22/93	36.83	19.37	---	17.46	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-2	07/15/93	36.83	21.29	—	15.54	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-2	10/21/93	36.83	23.14	---	13.69	ND<50	1.3	1.1	0.9	2.1	---	PACE
AW-2	01/27/94	36.83	22.34	—	14.49	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-2	04/21/94	36.83	21.15	—	15.68	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.0	PACE
AW-2	09/09/94	36.83	22.09	---	14.74	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4.1	PACE
AW-3	04/05/91	39.13	23.90	---	15.23	5200	980	450	95	310		SUP
AW-3	04/01/92	39.13	22.50	---	16.63	4700	890	47	43	110	---	APP
AW-3	07/06/92	39.13	23.26	—	15.87	3900	3100	30	80	99	---	ANA
AW-3	10/07/92	39.13	24.75	---	14.38	5000	2600	ND<0.5	ND<0.5	59	---	ANA
AW-3	01/14/93	39.13	23.59	—	15.54	350	250	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-3	04/22/93	39.13	19.42	—	19.71	240	71	2.4	0.6	4.0	---	PACE
AW-3	07/15/93	39.13	20.09	---	19.04	650	71	2.8	1.5	1.1	---	PACE
AW-3	10/21/93	39.13	21.88	—	17.25	160	4.8	1.7	1.6	3.6	---	PACE
QC-1 (c)	10/21/93	39.13	—	---	---	170	6.1	2.0	1.7	4.4	---	PACE
AW-3	01/27/94	39.13	22.33	—	16.80	92	2.1	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-1 (c)	01/27/94	39.13	—	---	---	90	2.9	0.5	ND<0.5	ND<0.5	---	PACE
AW-3	04/21/94	39.13	20.96	---	18.17	150	3.6	0.8	0.9	2.5	1.3	PACE
AW-3	09/09/94	39.13	21.60	—	17.53	53	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.8	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11133
2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	DO (ppm)	LAB
AW-4	04/05/91	39.08	25.12	---	13.96	110000	40000	13000	2000	5500	---	SUP
AW-4	04/01/92	39.08	23.56	---	15.52	230000	57000	31000	2900	7600	---	APP
AW-4 (d)	04/01/92	39.08	23.56	---	15.52	210000	55000	23000	2900	7000	---	APP
AW-4	07/06/92	39.08	25.87	---	13.21	38000	16000	5400	2000	6100	---	ANA
AW-4	10/07/92	39.08	27.53	---	11.55	120000	41000	26000	4700	13000	---	ANA
AW-4	01/14/93	39.08	24.12	---	14.96	62000	18000	14000	2700	7700	---	PACE
AW-4	04/22/93	39.08	21.47	---	17.61	18000	1100	2100	320	3500	---	PACE
AW-4	07/15/93	39.08	23.30	---	15.78	21000	820	2300	590	3800	---	PACE
AW-4	10/21/93	39.08	25.08	---	14.00	11000	570	83	630	2300	---	PACE
AW-4	01/27/94	39.08	24.61	---	14.47	12000	420	460	600	2200	---	PACE
AW-4	04/21/94	39.08	22.96	---	16.12	12000	110	250	150	1900	1.5	PACE
QC-1 (c)	04/21/94	39.13	---	---	---	14000	71	160	29	1200	---	PACE
AW-4	09/09/94	39.08	23.85	---	15.23	9700	75	64	280	2000	2.1	PACE
AW-5	04/05/91	38.51	25.48	---	13.03	420	31	7.5	20	68	---	SUP
AW-5	04/01/92	38.51	23.95	---	14.56	---	---	---	---	---	---	---
AW-5	04/02/92	38.51	---	---	---	4000	270	63	190	290	---	APP
AW-5	07/06/92	38.51	26.48	---	12.03	1400	160	ND<2.5	250	58	---	ANA
AW-5	10/07/92	38.51	28.18	---	10.33	360	12	0.6	8.7	5	---	ANA
AW-5	01/14/93	38.51	24.15	---	14.36	1700	270	7.5	130	62	---	PACE
AW-5	04/22/93	38.51	22.43	---	16.08	2700	780	30	220	180	---	PACE
QC-1	04/22/93	38.51	---	---	---	3500	780	29	240	210	---	PACE
AW-5	07/15/93	38.51	24.31	---	14.20	1300	69	16	67	120	---	PACE
QC-1	07/15/93	38.51	---	---	---	1300	68	8.3	64	99	---	PACE
AW-5	10/21/93	38.51	26.05	---	12.46	510	9.6	1.5	17	45	---	PACE
AW-5	10/21/93	38.51	26.05	---	12.46	510	9.6	1.5	17	45	---	PACE
AW-5	01/27/94	38.51	26.42	---	12.09	420	3.3	ND<0.5	1.0	0.9	---	PACE
AW-5	04/21/94	38.51	24.36	---	14.15	1000	110	25	56	27	1.3	PACE
AW-5	09/09/94	38.51	24.55	---	13.96	210	ND<0.5	ND<0.5	0.5	0.9	2.7	PACE
AW-6	04/05/91	37.08	22.48	---	14.60	1100	80	19	1.4	230	---	SUP
AW-6	04/01/92	37.08	22.50	---	14.58	---	---	---	---	---	---	---
AW-6	04/02/92	37.08	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	APP
AW-6	07/06/92	37.08	22.74	---	14.34	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
AW-6	10/07/92	37.08	24.64	---	12.44	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
AW-6	01/14/93	37.08	22.36	---	14.72	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-6	04/22/93	37.08	22.82	---	14.26	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-6	07/15/93	37.08	20.49	---	16.59	ND<50	ND<0.5	ND<0.5	ND<0.5	0.8	---	PACE
AW-6	10/21/93	37.08	22.84	---	14.24	ND<50	0.5	0.6	ND<0.5	0.7	---	PACE
AW-6	01/27/94	37.08	22.33	---	14.75	ND<50	ND<0.5	0.9	3.1	12	---	PACE
AW-6	04/21/94	37.08	20.66	---	16.42	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.7	PACE
AW-6	09/09/94	37.08	21.57	---	15.51	ND<50	0.9	ND<0.5	ND<0.5	0.5	2.9	PACE

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ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	DO (ppm)	LAB
AW-7	04/05/91	37.60	23.38	---	14.22	ND<50	0.4	0.7	ND<0.3	ND<0.3	---	SUP
AW-7	04/01/92	37.60	21.92	—	15.68	---	---	---	---	---	---	---
AW-7	04/02/92	37.60	---	---	---	ND<50	ND<0.5	3.2	1.0	5.4	---	APP
AW-7	07/06/92	37.60	24.50	---	13.10	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
AW-7	10/07/92	37.60	26.18	---	11.42	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
AW-7	01/14/93	37.60	22.03	—	15.57	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-7	04/22/93	37.60	21.18	—	16.42	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-7	07/15/93	37.60	22.09	---	15.51	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	PACE
AW-7	10/21/93	37.60	24.05	---	13.55	51	5.0	4.2	3.5	8.2	---	PACE
AW-7	01/27/94	37.60	23.40	—	14.20	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	PACE
AW-7	04/21/94	37.60	22.24	---	15.36	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.5	PACE
AW-7	09/09/94	37.60	22.94	—	14.66	ND<50	ND<0.5	ND<0.5	ND<0.5	0.5	4.3	PACE
AW-8	04/05/91	40.86	26.68	---	14.18	80	1.9	2.2	0.5	1.3	---	SUP
AW-8	04/01/92	40.86	25.11	---	15.75	73	ND<0.5	0.7	ND<0.5	0.6	---	APP
AW-8	07/06/92	40.86	26.43	---	14.43	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
AW-8	10/07/92	40.86	28.59	---	12.27	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
AW-8	01/14/93	40.86	25.55	---	15.31	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-8	04/22/93	40.86	22.29	—	18.57	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-8	07/15/93	40.86	23.42	---	17.44	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
AW-8	10/21/93	40.86	25.15	---	15.71	ND<50	1.9	1.8	1.3	3.3	---	PACE
AW-8	01/27/94	40.86	25.42	---	15.44	ND<50	ND<0.5	0.5	0.6	8.5	---	PACE
AW-8	04/21/94	40.86	24.14	—	16.72	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1.5	PACE
AW-8	09/09/94	40.86	24.55	---	16.31	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	2.4	PACE

RW-1	04/05/91	37.73	---	—	---	---	---	---	---	---	---	—
RW-1	04/01/92	37.73	22.81	0.30	15.14	---	—	—	---	---	---	---
RW-1	07/06/92	37.73	26.92	0.41	11.12	---	---	---	---	---	---	---
RW-1	10/07/92	37.73	28.51	1.26	10.16	---	—	---	---	---	---	---
RW-1	01/14/93	37.73	23.75	0.25	14.17	---	---	---	---	---	---	—
RW-1	04/22/93	37.73	22.70	1.38	16.07	---	—	---	---	---	---	---
RW-1	07/15/93	37.73	26.10	0.81	12.24	---	---	—	—	—	---	—
RW-1	10/21/93	37.73	25.40	0.49	12.70	---	—	—	---	---	---	---
RW-1	10/21/93	37.73	25.40	0.49	12.70	---	---	—	---	---	---	---
RW-1	01/27/94	37.73	28.02	0.37	9.99	---	---	---	---	---	---	---
RW-1	04/21/94	37.73	23.10	0.91	15.31	---	---	---	---	---	---	---
RW-1	09/09/94	37.73	24.39	1.04	14.12	---	—	—	—	—	---	---

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11133
2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	DO (ppm)	LAB
QC-2 (e)	10/07/92	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	ANA
QC-2 (e)	01/14/93	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2 (e)	04/22/93	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2 (e)	07/15/93	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2 (e)	10/21/93	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2 (e)	01/27/94	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2 (e)	04/21/94	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	PACE
QC-2 (e)	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
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
DO	Dissolved oxygen
ppb	Parts per billion
ppm	Parts per million
---	Not measured/available/analyzed
ND	Not detected above reported detection limit
PACE	Pace, Inc.
SUP	Superior Analytical Laboratories, Inc.
APP	Applied Analytical Laboratory
ANA	Anametrix, Inc.

NOTES:

(a) Top of casing elevations surveyed to the nearest 0.01 foot above mean sea level.

(b) Groundwater elevations adjusted assuming a specific gravity of 0.75 for free product.

(c) Blind duplicate.

(d) Duplicate.

(e) Travel blank.

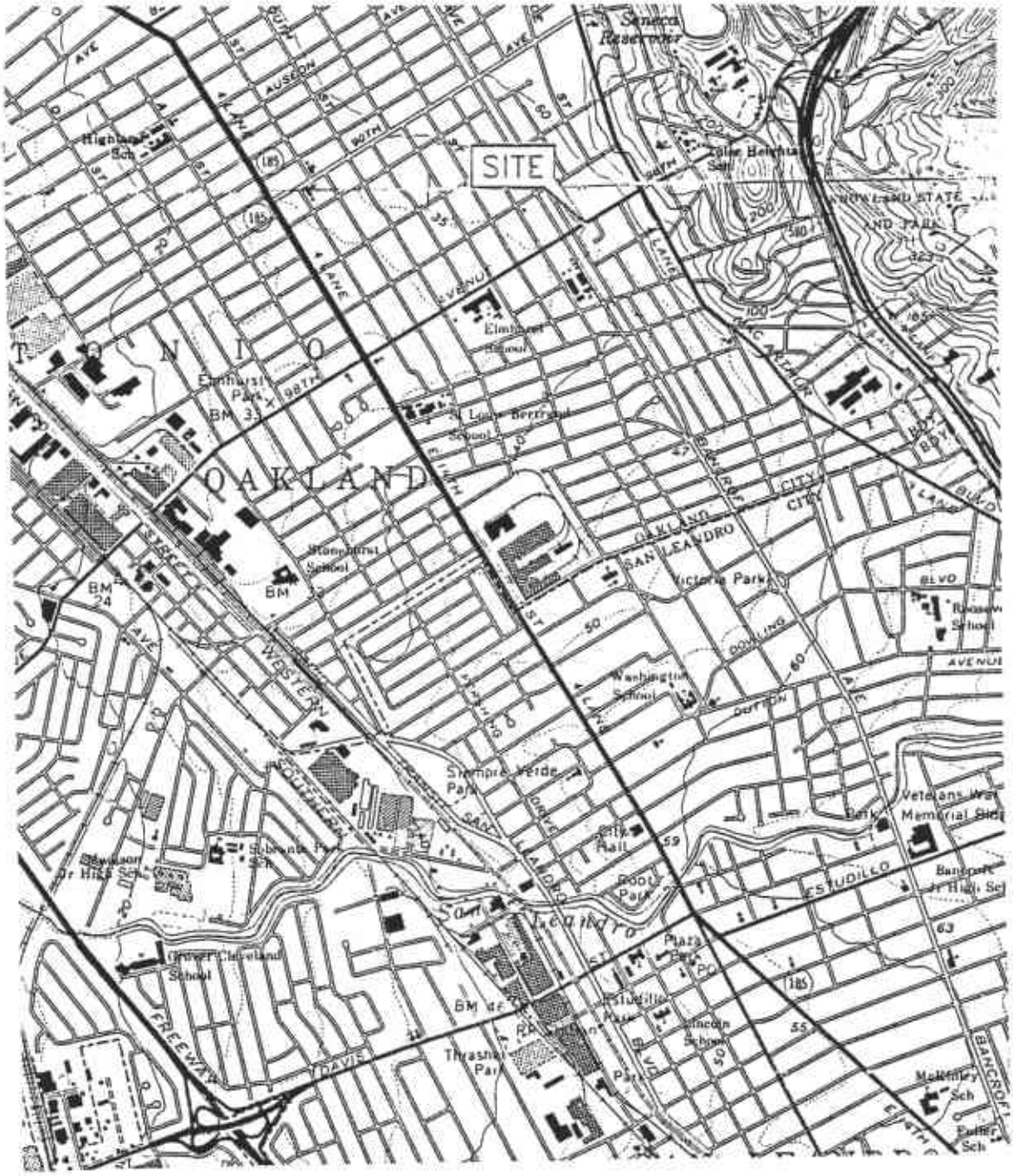
E:\00\10-025\025-4-1.WQ2

TABLE 2 - PRODUCT REMOVAL STATUS

BP OIL COMPANY SERVICE STATION NO. 11133
2220 98TH STREET, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)
RW-1	10/06/93	1.00	1.00
	10/14/94	1.00	2.00
	10/20/94	18.00	20.00
	10/26/94	3.00	23.00
	11/02/93	5.00	28.00
	11/10/94	6.00	34.00
	11/16/94	2.50	36.50
	11/23/94	5.00	41.50
	11/30/93	2.00	43.50
	12/07/93	4.00	47.50
	12/17/93	1.50	49.00
	01/04/94	5.00	54.00
	01/12/94	3.50	57.50
	01/20/94	2.50	60.00
	02/11/94	4.00	64.00
	02/18/93	3.50	67.50
	02/25/94	3.00	70.50
	03/04/94	3.50	74.00
	03/18/94	5.50	79.50
	03/30/94	4.00	83.50
	04/13/94	4.60	88.10
	04/21/94	4.20	92.30
	04/29/94	4.50	96.80
	05/06/94	5.50	102.30
	05/13/94	3.50	105.80
	05/20/94	3.50	109.30
	05/26/94	4.50	113.80
	06/02/94	3.50	117.30
	06/09/94	2.50	119.80
	06/16/94	3.50	123.30
	06/23/94	4.00	127.30
	06/29/94	2.50	129.80
	07/07/94	2.00	131.80
	07/12/94	3.00	134.80
	07/20/94	1.50	136.30
	07/29/94	3.50	139.80
	08/05/94	1.50	141.30
	08/12/94	2.00	143.30
	08/18/94	2.50	145.80
	09/09/94	3.50	149.30
	09/16/94	4.00	153.30
	09/23/94	2.00	155.30
MW-1	10/20/93	0.10	0.1
	11/10/93	0.10	0.2
	09/09/94	SHEEN	0.2
	10/26/94	SHEEN	0.2



SOURCE:
USGS MAP, OAKLAND EAST AND SAN LEANDRO QUADRANGLES, CALIFORNIA. 7.5 MINUTE SERIES. 1956. PHOTOREVISED 1980.

FIGURE 1

SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11133
2220 98TH AVENUE
OAKLAND, CALIFORNIA

PROJECT NO. 10-025

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

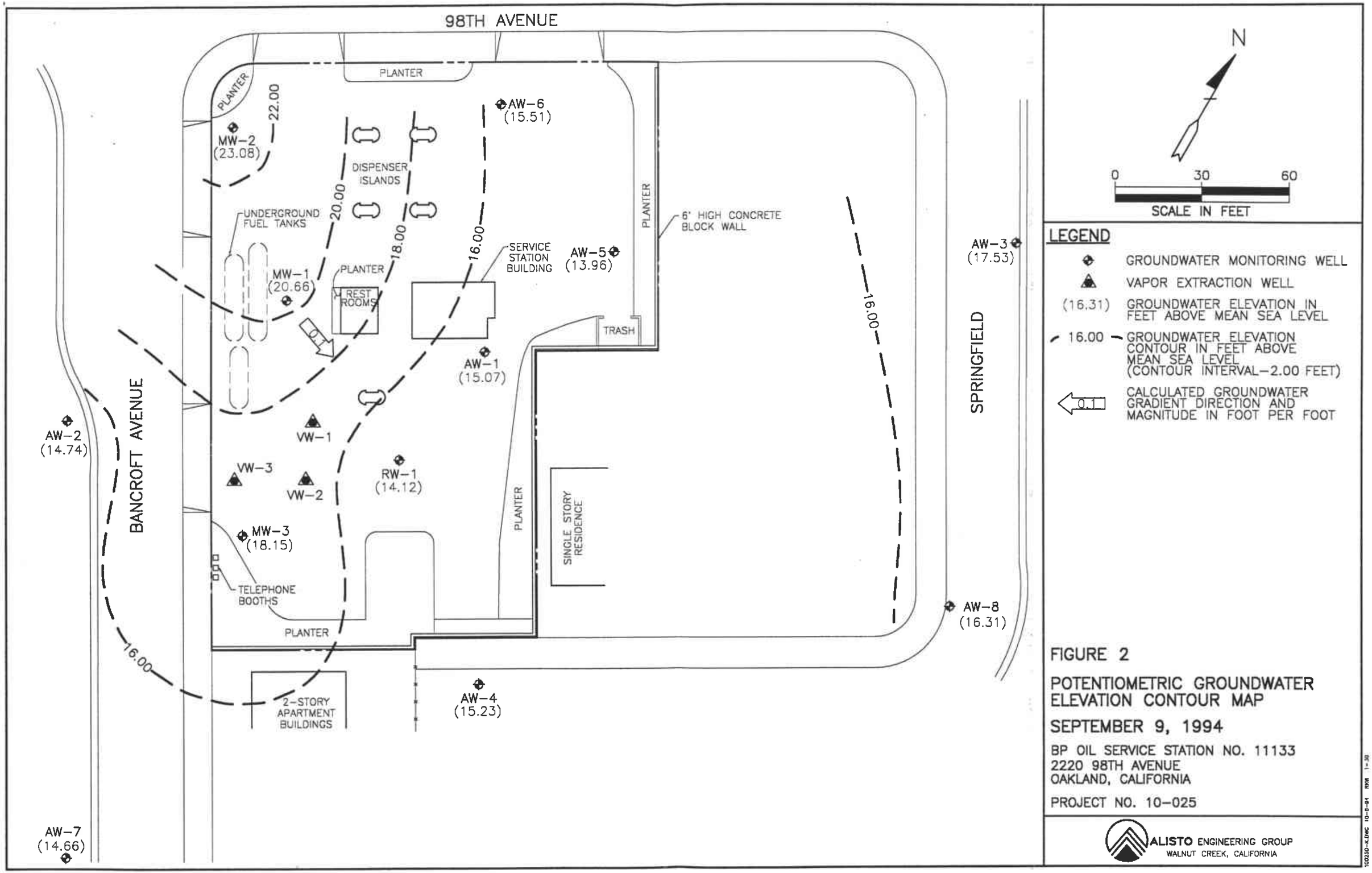


FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

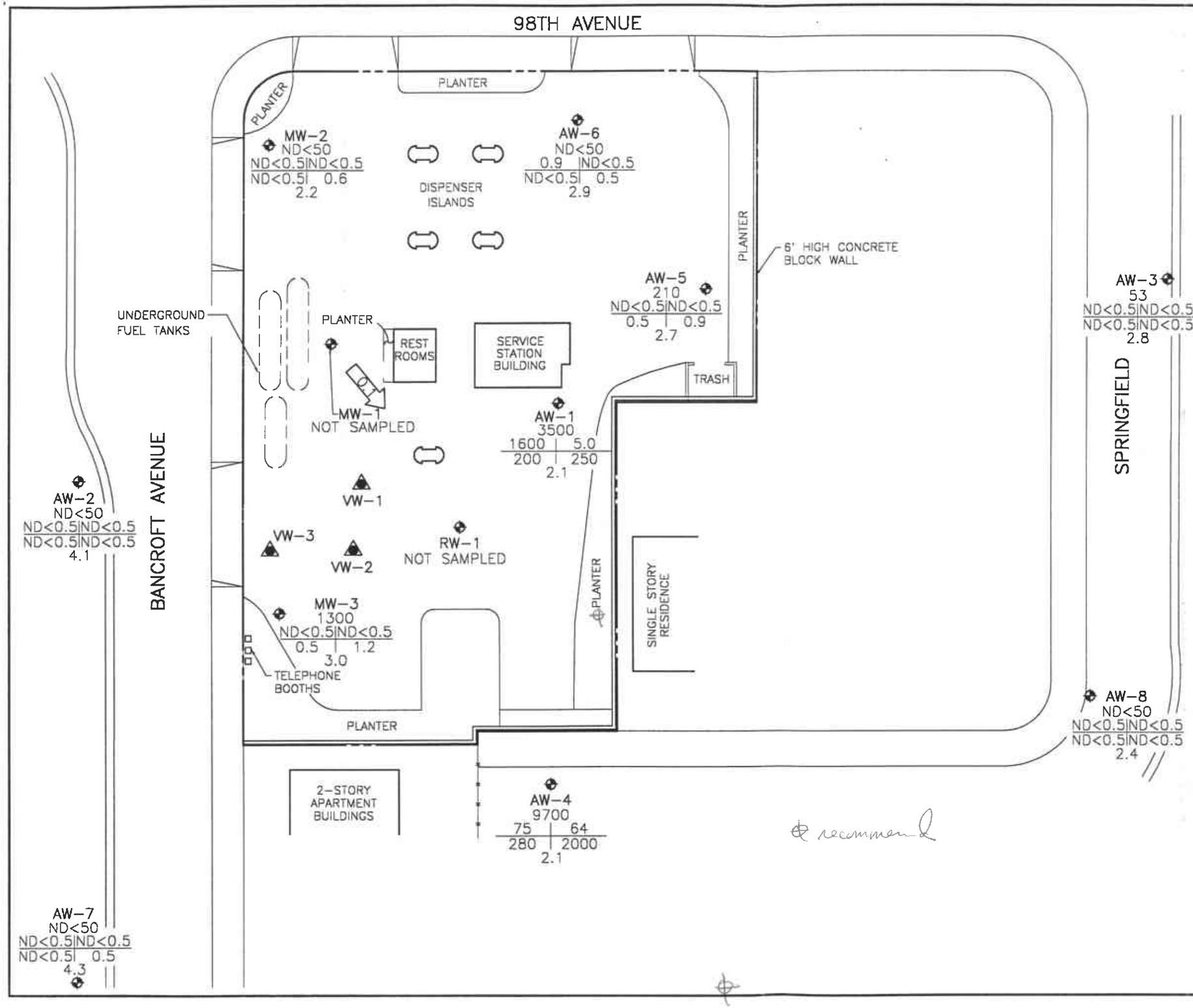
SEPTEMBER 9, 1994

BP OIL SERVICE STATION NO. 11133
2220 98TH AVENUE
OAKLAND, CALIFORNIA

PROJECT NO. 10-025

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10025D-K.DWG 10-5-94 RKB 1=30



LEGEND

◆	GROUNDWATER MONITORING WELL
▲	VAPOR EXTRACTION 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
⟵ 0.1	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. 11133
2220 98TH AVENUE
OAKLAND, CALIFORNIA

PROJECT NO. 10-025

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO ENGINEERING GROUP
GROUNDWATER MONITORING

Client: BP
Alisto Project No: 10-025-04-001
Service Station No: 11133

Date: 9/9/94
Field Personnel: DC
Site Address: 98th Ave Oakland

FIELD ACTIVITY:

- ✓ Groundwater Monitoring
- ✓ Groundwater Sampling
- ___ Well Development

QUALITY CONTROL SAMPLES:

- AW-1 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 time
AW7	2"	1	32.30	22.94	⌀	⌀	857
AW2	2"	2	35.20	22.09			859
MW2	2"	3	31.40	12.42			901
AW6	4"	4	34.20	21.57			903
AW8	2"	5	39.20	24.55			905
AW3	2"	6	35.25	21.60			907
AW5	4"	7	42.90	24.55			909
MW3	2"	8	34.10	18.38			912
AW4	2"	9	33.90	23.85			915
AW1	2"	10	38.60	23.04	↓	↓	920
MW1	2"	11	Nm	13.80	Sheen	⌀	1540
RW1	6"	12	Nm	24.35	23.35	1.04	1555

Notes:

Serviced RW-1 PPRS ; had 3gal FP in it. bailed 2gal .5 was FP the last was water
Serviced MW1 PPRS had 1/4 gal of H2O w/ a Sheen to it

Barrels: ___Soil ___Water ___Dbl Contained ___Empty ___Soil Pile (Cu Yds)

FORM: PS2/121592

ALISTO

ENGINEERING

GROUP

1777 OAKLAND BLVD, STE 200

WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

Field Report / Sampling Data Sheet

⊗ Groundwater Sampling

Date: 9/9/04 Project No. 10-025-04-001

Day: M T W Th (F) Facility No. 11133

Barometric pres. 759 Temp. 73.7°F Address 98th Ave, Oakland CA

SAMPLER:

Well ID	SAMPLE #	WATER time	Well ID	SAMPLE #	WATER/ time	Well ID	SAMPLE	WATER / time
AW7	S-1	22.94	AW3	S-6	21.60	MW1	NS	
AW2	S-2	22.09	AW5	S-7	24.55	RW1	NS	
MW2	S-3	12.42	AW3	S-8	18.38			
AW6	S-4	21.57	AW4	S-9	23.85			
AW8	S-5	24.35	AW1	S-10	23.04			

FIELD INSTRUMENT CALIBRATION DATA

Ph METER 4.00 √ 7.00 √ 10.00 TIME 1005 TEMPERATURE COMPENSATED (Y) N

TURBIDI METER 5.0 NTU STANDARD OTHER DO 0° ready - 1.0 @ 1015

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.
AW7	22.94	2"	OK	Ø	Y (N)	1.5	1028	70.4	6.28	0.58	4.6
						3	1032	69.1	6.65	0.55	
						4.75	1036	68.2	6.80	0.54	4.3

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

32.30 - 22.94 = 9.36 x .16 = 1.50 x 3 = 4.49

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

Comments:

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

Time/Sample 1038

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
AW2	22.09	2"	OK	Ø	Y (N)	2	1048	68.4	6.79	0.45	3.8
						4	1053	68.1	6.75	0.44	
						6.5	1059	67.8	6.74	0.44	4.1

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

35.20 - 22.09 = 13.11 x .16 = 2.10 x 3 = 6.29

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

Comments:

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

Time/ Sample 1101

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW2	12.42	2"	OK	Ø	Y (N)	3	1312	75.8	7.69	0.39	2.2
						6	1317	72.0	7.38	0.35	
						9.25	1321	72.0	7.26	0.35	2.2

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

31.40 - 12.42 = 18.98 x .16 = 3.04 x 3 = 9.11

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

Comments:

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

Time /Sample 1324

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1777 OAKLAND BLVD, STE 200
WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

Groundwater Sampling

Date: 9/9/94 Project No. 10-025-04-001
Day: Fri Station No. 11137
Weather: Sunny Address 98th Ave Oakland CA
SAMPLER: AC

Well ID: AW6 | Depth to Water: 21.57 | Diam: 4" | Cap/Lock: replace | Product Depth: Ø | Thickness: Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
34.20 - 21.57 = 12.63 x .65 = 8.21 x 3 = 24.63

Purge Method: OSurface Pump ODisp.Tube OWinch XDisp. Bailer(s)___ OSys Port
Comments: Went dry @ 19 gallons; Strong

Gal.	Time	Temp °F	pH	E.C.	D.O.
8	1344	70.4	6.81	0.52	2.4
16	1347	68.3	6.75	0.52	
~~24.75~~	1355	67.8	6.62	0.53	2.9
19					

O EPA 601___
X TPH-G/BTEX HCl
O TPH Diesel___
O TOG 5520 __
Time Sampled: 1400

Well ID: AW8 | Depth to Water: 24.55 | Diam: 2" | Cap/Lock: OK | Product Depth: Ø | Thickness: Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
39.20 - 24.55 = 14.65 x .16 = 2.34 x 3 = 7.03

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

Gal.	Time	Temp °F	pH	E.C.	D.O.
2.5	1115	67.8	6.97	1.04	2.1
5	~~1123~~ 1170	67.2	7.11	1.02	
7.25	1130	66.7	7.20	1.02	2.4

X TPH-G/BTEX HCl
O TPH Diesel___
O TOG 5520 __
Time Sampled: 1136

Well ID: AW3 | Depth to Water: 21.60 | Diam: 2" | Cap/Lock: replace | Product Depth: Ø | Thickness: Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
35.75 - 21.60 = 14.15 x .16 = 2.26 x 3 = 6.79

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

Gal.	Time	Temp °F	pH	E.C.	D.O.
2.5	1152	67.7	6.93	1.27	2.1
5	1157	66.3	6.97	1.25	
7	1205	66.2	7.02	1.24	2.8

X TPH-G/BTEX HCl
O TPH Diesel___
O TOG 5520 __
Time Sampled: 1208

Well ID: AW5 | Depth to Water: 24.55 | Diam: 4" | Cap/Lock: OK | Product Depth: Ø | Thickness: Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
42.90 - 24.55 = 18.35 x .65 = 11.93 x 3 = 35.78

Purge Method: OSurface Pump ODisp.Tube OWinch XDisp. Bailer(s)___ OSys Port
Comments: Feels like cristeze type cover; damaged

Gal.	Time	Temp °F	pH	E.C.	D.O.
12	1415	69.7	6.73	0.66	2.8
24	1423	69.3	6.78	0.64	
36	1430	69.0	6.86	0.62	2.7

X TPH-G/BTEX HCl
O TPH Diesel___
O TOG 5520 __
Time Sampled: 1432

Well ID: MW3 | Depth to Water: 18.38 | Diam: 2" | Cap/Lock: OK | Product Depth: Ø | Thickness: Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
34.10 - 18.38 = 15.72 x .16 = 2.52 x 3 = 7.55

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

Gal.	Time	Temp °F	pH	E.C.	D.O.
2.5	1447	70.3	7.12	0.41	2.4
5	1451	69.8	7.05	0.39	
7.75	1455	69.4	6.97	0.39	3.0

X TPH-G/BTEX HCl
O TPH Diesel___
O TOG 5520 __
Time Sampled: 1500

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. 10-075-04-001
Day: Fri Station No. 11133
Weather: Sunny Address 98th Ave Oakland CA
SAMPLER: D

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp °F	pH	E.C.	D.O.	
AW4	23.85	2"	replace	Ø	Ø	1.5	1221	69.4	6.62	0.96	2.3	O EPA 601 ___
						3	1225	68.0	6.54	1.00		Ø TPH-G/BTEX HCl
						5	1229	68.3	6.49	1.04	2.1	O TPH Diesel ___
												O TOG 5520 ___
Total Depth - Water Level =	x Well Vol. Factor =	x#vol. to Purge =	PurgeVol.									Time Sampled
33.90 - 23.85 = 10.05	x .16 = 1.61	x 3 = 4.82										1235

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

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp °F	pH	E.C.	D.O.	
AW1	~~23.85~~ 23.04	2"	OK	Ø	Ø	2.5	1511	70.3	6.36	1.29	2.3	O EPA 601 ___
						5	1515	69.2	6.41	1.08		Ø TPH-G/BTEX HCl
						7.5	1519	68.5	6.47	1.06	2.1	O TPH Diesel ___
												O TOG 5520 ___
Total Depth - Water Level =	x Well Vol. Factor =	x#vol. to Purge =	PurgeVol.									Time Sampled
38.60 - 23.04 = 15.56	x .16 = 2.50	x 3 = 7.50										1521

Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments: QC-1 from this well (5-11)

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp °F	pH	E.C.	D.O.	
												O EPA 601 ___
												O TPH-G/BTEX ___
												O TPH Diesel ___
												O TOG 5520 ___
Total Depth - Water Level =	x Well Vol. Factor =	x#vol. to Purge =	PurgeVol.									Time Sampled

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

Had to sample AW2, AW3, & AW4 out of order because cement was being poured on 98th Ave. The road construction crew member said I could get my truck in at this time. Sample I.D.'s will remain the same as noted on page 1.

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

September 22, 1994
PACE Project Number: 440913520

Attn: Mr. Bill Howell

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392632	
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	0.5	09/17/94

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

Mr. Bill Howell
Page 2

September 22, 1994
PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392640	
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):			-	09/22/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	09/22/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/22/94
Benzene	ug/L	0.5	ND	09/22/94
Toluene	ug/L	0.5	ND	09/22/94
Ethylbenzene	ug/L	0.5	ND	09/22/94
Xylenes, Total	ug/L	0.5	ND	09/22/94

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September 22, 1994
PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392659	
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	0.6	09/17/94

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September 22, 1994
PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392667	
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	ND	09/17/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/17/94
Benzene	ug/L	0.5	0.9	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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September 22, 1994
PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392675	
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	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

September 22, 1994
PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392683	
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	53	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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September 22, 1994
PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392691	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-7	
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	210	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	0.5	09/17/94
Xylenes, Total	ug/L	0.5	0.9	09/17/94

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September 22, 1994
PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392705	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-8	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/21/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	1300	09/21/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/21/94
Benzene	ug/L	0.5	ND	09/21/94
Toluene	ug/L	0.5	ND	09/21/94
Ethylbenzene	ug/L	0.5	0.5	09/21/94
Xylenes, Total	ug/L	0.5	1.2	09/21/94

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PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392713	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-9	
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	500	9700	09/17/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/17/94
Benzene	ug/L	5.0	75	09/17/94
Toluene	ug/L	5.0	64	09/17/94
Ethylbenzene	ug/L	5.0	280	09/17/94
Xylenes, Total	ug/L	5.0	2000	09/17/94

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REPORT OF LABORATORY ANALYSIS

September 22, 1994
PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392721	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-10	
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	500	3500	09/17/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/17/94
Benzene	ug/L	5.0	1600	09/17/94
Toluene	ug/L	5.0	5.0	09/17/94
Ethylbenzene	ug/L	5.0	200	09/17/94
Xylenes, Total	ug/L	5.0	250	09/17/94

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PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392730	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-11	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	09/19/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	500	3900	09/19/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	09/19/94
Benzene	ug/L	5.0	1900	09/19/94
Toluene	ug/L	0.5	5.5	09/19/94
Ethylbenzene	ug/L	0.5	190	09/19/94
Xylenes, Total	ug/L	0.5	240	09/19/94

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PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PACE Sample Number:			70 0392748	
Date Collected:			09/09/94	
Date Received:			09/13/94	
Client Sample ID:			S-12	
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

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Client Reference: BP Site #11133/10-025-04-001

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: 440913520

Client Reference: BP Site #11133/10-025-04-001

PURGEABLE FUELS AND AROMATICS
Batch: 70 34053
Samples: 70 0392632, 70 0392640, 70 0392659, 70 0392667

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	700389577	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	105%	105%	0%
Toluene	ug/L	0.5	ND	100	104%	103%	1%
Ethylbenzene	ug/L	0.5	ND	100	99%	98%	1%
Xylenes, Total	ug/L	0.5	ND	300	105%	104%	1%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	106%	107%	1%
Toluene	ug/L	0.5	100	104%	106%	2%
Ethylbenzene	ug/L	0.5	100	99%	101%	2%
Xylenes, Total	ug/L	0.5	300	106%	107%	1%

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QUALITY CONTROL DATA

September 22, 1994
PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PURGEABLE FUELS AND AROMATICS
Batch: 70 34159
Samples: 70 0392713, 70 0392721, 70 0392748

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	700392780	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND	1000	88%	87%	1%

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	110%	103%	7%

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Client Reference: BP Site #11133/10-025-04-001

PURGEABLE FUELS AND AROMATICS
Batch: 70 34161
Samples: 70 0392675, 70 0392683, 70 0392691

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	700389194	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	107%	110%	3%
Toluene	ug/L	0.5	ND	100	109%	110%	1%
Ethylbenzene	ug/L	0.5	ND	100	105%	104%	1%
Xylenes, Total	ug/L	0.5	1.6	300	110%	107%	3%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	107%	111%	4%
Toluene	ug/L	0.5	100	109%	110%	1%
Ethylbenzene	ug/L	0.5	100	102%	104%	2%
Xylenes, Total	ug/L	0.5	300	106%	108%	2%

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QUALITY CONTROL DATA

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PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PURGEABLE FUELS AND AROMATICS
Batch: 70 34163
Samples: 70 0392730

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	700392780	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	ND	1000	88%	87%	1%

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	110%	103%	7%

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QUALITY CONTROL DATA

September 22, 1994
PACE Project Number: 440913520

Client Reference: BP Site #11133/10-025-04-001

PURGEABLE FUELS AND AROMATICS
Batch: 70 34225
Samples: 70 0392705

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	700392705 S-8	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	108%	104%	4%
Toluene	ug/L	0.5	ND	100	103%	101%	2%
Ethylbenzene	ug/L	0.5	0.5	100	98%	97%	1%
Xylenes, Total	ug/L	0.5	1.2	300	102%	101%	1%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	97%	98%	1%
Toluene	ug/L	0.5	100	96%	98%	2%
Ethylbenzene	ug/L	0.5	100	95%	97%	2%
Xylenes, Total	ug/L	0.5	300	99%	100%	1%

Client Reference: BP Site #11133/10-025-04-001

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

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440913.520

BP

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

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11133	98th Ave, Oakland California	10-025-04-001

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

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

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

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
David Cosack	DAVID COSACK		Courier

AIRBILL NUMBER:

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

ANALYSIS REQUIRED

SAMPLE DESCRIPTION (time)	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	HCL TPH Gas BTEX										COMMENTS
S-1 1038	9/12/94	392632	3	VOA		X										
S-2 1101	↓	392640	↓	↓		↓										
S-3 1324	↓	392659	↓	↓		↓										
S-4 1400	↓	392667	↓	↓		↓										
S-5 1136	↓	392675	↓	↓		↓										
S-6 1208	↓	392683	↓	↓		↓										
S-7 1432	↓	392691	↓	↓		↓										
S-8 1500	↓	392705	↓	↓		↓										
S-9 1235	↓	392713	↓	↓		↓										
S-10 1521	↓	392721	↓	↓		↓										
S-11 —	↓	392730	↓	↓		↓										
S-12 —	↓	392748	2	↓		↓										

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
David Cosack Alisto	9/12/94	3:30	Brenda [illegible]	9/12/94	3:30
			[illegible] McIntosh PACE	9/13/94	530

ADDITIONAL COMMENTS: 10/1

CEV 16722

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