BP OIL

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

September 26, 1994

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

RE: BP OIL FACILITY #11109
4280 Foothill Blvd
Oakland CA

BC

Dear Mr. So:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED SEPTEMBER 6, 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:aa msword\ERM11109

cc: Mr. Barney Chan, Alameda County Health Care Services Agency
1131 Harbour Bay Parkway, Room 250, Alameda CA 94502-6577

Mr. Mark Miller, Chevron U.S.A., 2410 Camino Ramon, San Ramon, CA 94583

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

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

Site File

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11109
4280 Foothill Boulevard
Oakland, California

Project No. 10-014-03-001

#102

Prepared for:

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

Prepared by:

295-1650

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

September 6, 1994

Brady Nagle
Project Manager

Al Sevilla, P.E.
Principal

REGISTERED PROFESSIONAL ENGINEER
ALBERTO SANCHEZ SEVILLA
26392
Exp. Date 3/31/96
CIVIL
STATE OF CALIFORNIA

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11109
4280 Foothill Boulevard
Oakland, California

Project No. 10-014-03-001

September 6, 1994

INTRODUCTION

This report presents the results and findings of the July 6, 1994 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11109, 4280 Foothill Boulevard, 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 relative 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.

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. 11109
4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-014

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	DO (ppm)	LAB
MW-1	01/31/90	38.19	15.41	0.00	22.78	—	—	—	—	—	—	—	—	—	—
MW-1 (c)	02/05/90	—	—	0.00	—	—	—	—	—	—	—	—	—	—	—
MW-2	02/05/90	41.22	21.91	0.00	19.31	1300	—	14	ND<1.0	9	13	—	—	—	SUP
MW-2	02/14/91	41.22	21.16	0.00	20.06	ND<50	ND<10000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	51 (d)	—	SUP
MW-2	05/13/91	41.22	21.32	0.00	19.90	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	6000	0.5 (e)	—	SUP
MW-2	07/24/91	41.22	22.92	0.00	18.30	—	—	—	—	—	—	—	—	—	—
MW-2	10/03/91	41.22	24.90	0.00	16.32	ND<50	ND<50	ND<0.3	0.8	ND<0.3	ND<0.3	ND<5000	0.7 (e)	—	SUP
MW-2	10/15/91	41.22	24.10	0.00	17.12	—	—	—	—	—	—	—	—	—	—
MW-2	12/04/91	41.22	INACCESSIBLE	—	—	—	—	—	—	—	—	—	—	—	—
MW-2	12/16/91	41.22	23.95	0.00	17.27	—	—	—	—	—	—	—	—	—	—
MW-2	01/06/92	41.22	23.30	0.00	17.92	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<5000	ND	—	ANA
MW-2	01/22/92	41.22	23.14	0.00	18.08	—	—	—	—	—	—	—	—	—	—
MW-2	01/28/92	41.22	22.99	0.00	18.23	—	—	—	—	—	—	—	—	—	—
MW-2	02/05/92	41.22	22.63	0.00	18.59	—	—	—	—	—	—	—	—	—	—
MW-2	02/12/92	41.22	22.04	0.00	19.18	—	—	—	—	—	—	—	—	—	—
MW-2	02/17/92	41.22	20.84	0.00	20.38	—	—	—	—	—	—	—	—	—	—
MW-2	04/03/92	41.22	18.29	0.00	22.93	—	—	—	—	—	—	—	—	—	—
MW-2	04/08/92	41.22	18.86	0.00	22.36	ND<50	63	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	—	ANA
MW-2	04/14/92	41.22	19.45	0.00	21.77	—	—	—	—	—	—	—	—	—	—
MW-2	04/29/92	41.22	20.35	0.00	20.87	—	—	—	—	—	—	—	—	—	—
MW-2	05/07/92	41.22	20.84	0.00	20.38	—	—	—	—	—	—	—	—	—	—
MW-2	07/03/92	41.22	22.34	0.00	18.88	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	ANA
MW-2	10/08/92	41.22	23.73	0.00	17.49	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	ANA
MW-2	12/31/92	41.22	21.12	0.00	20.10	ND<50	—	ND<0.5	ND<0.6	ND<0.5	ND<0.5	—	—	—	ANA
MW-2	04/21/93	41.22	17.68	0.00	23.54	ND<50	ND<50 (f)	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<5000	ND	—	PACE
MW-2	07/07/93	41.22	20.30	0.00	20.92	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	1.0 (e)	—	PACE
MW-2	09/21/93	41.22	21.93	0.00	19.29	ND<50	—	0.9	0.7	0.7	2.6	—	—	—	PACE
MW-2	12/17/93	41.22	21.48	—	19.74	—	—	—	—	—	—	—	—	—	—
MW-2	12/23/93	—	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	0.7	—	—	—	PACE
MW-2	04/07/94	41.22	20.25	—	20.97	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	5.9	PACE
MW-2	07/06/94	41.22	20.59	—	20.63	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	3.1	PACE

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BP OIL COMPANY SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-014

WELL ID		DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)		DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	DO (ppm)	LAB
MW-3		02/05/90	40.74		17.45	0.00	23.29	1400	---	15	ND<2.5	11	8	---	---	---	SUP
MW-3		02/14/91	40.74		18.52	0.00	22.22	320	---	8	ND<0.3	8	1	---	---	---	SUP
MW-3		05/13/91	40.74		19.32	0.00	21.42	640	---	13	ND<0.3	18	1	---	---	---	SUP
MW-3		07/24/91	40.74		20.69	0.00	20.05	---	---	---	---	---	---	---	---	---	---
MW-3		10/03/91	40.74		19.47	0.00	21.27	940	---	21	ND<0.3	23	2.1	---	---	---	SUP
MW-3		10/15/91	40.74		20.46	0.00	20.28	---	---	---	---	---	---	---	---	---	---
MW-3		12/04/91	40.74		18.29	0.00	22.45	---	---	---	---	---	---	---	---	---	---
MW-3		12/16/91	40.74		18.34	0.00	22.40	---	---	---	---	---	---	---	---	---	---
MW-3		01/06/92	40.74		18.50	0.00	22.24	580	---	6.1	1	6.1	7.1	---	---	---	ANA
MW-3		01/22/92	40.74		17.86	0.00	22.88	---	---	---	---	---	---	---	---	---	---
MW-3		01/28/92	40.74		15.84	0.00	24.90	---	---	---	---	---	---	---	---	---	---
MW-3		02/05/92	40.74		17.53	0.00	23.21	---	---	---	---	---	---	---	---	---	---
MW-3		02/12/92	40.74		17.15	0.00	23.59	---	---	---	---	---	---	---	---	---	---
MW-3		02/17/92	40.74		16.18	0.00	24.56	---	---	---	---	---	---	---	---	---	---
MW-3		04/03/92	40.74		14.80	0.00	25.94	---	---	---	---	---	---	---	---	---	---
MW-3		04/08/92	40.74		17.06	0.00	23.68	1100	---	30	4.6	32	11	---	---	---	ANA
MW-3		04/14/92	40.74		15.22	0.00	25.52	---	---	---	---	---	---	---	---	---	---
MW-3		04/29/92	40.74		15.90	0.00	24.84	---	---	---	---	---	---	---	---	---	---
MW-3		05/07/92	40.74		16.35	0.00	24.39	---	---	---	---	---	---	---	---	---	---
MW-3		07/03/92	40.74		17.74	0.00	23.00	1200	---	38	ND<2.5	24	ND<2.5	---	---	---	ANA
MW-3		10/08/92	40.74		19.06	0.00	21.68	1400	---	31	ND<0.5	25	13	---	---	---	ANA
MW-3		12/31/92	40.74		16.61	0.00	24.13	820	---	12	4.1	13	5.9	---	---	---	ANA
QC-1	(g)	12/31/92	---		---	---	---	960	---	11	3.6	10	3.8	---	---	---	ANA
MW-3		04/21/93	40.74		14.24	0.00	26.50	420	---	5.6	ND<0.5	3.9	1.4	---	---	---	PACE
QC-1	(g)	04/21/93	---		---	---	---	390	---	5.0	ND<0.5	3.7	1.5	---	---	---	PACE
MW-3		07/07/93	40.13	(h)	15.19	0.00	24.94	54	---	0.6	0.6	ND<0.5	ND<0.5	---	---	---	PACE
MW-3		09/21/93	40.13		16.58	0.00	23.55	540	---	7.9	0.9	4.7	2.4	---	---	---	PACE
MW-3		12/17/93	40.13		15.82	---	24.31	---	---	---	---	---	---	---	---	---	---
MW-3		12/23/93	---		---	---	---	500	---	9.8	1.5	3.3	2.1	---	---	---	PACE
QC-1	(g)	12/23/93	---		---	---	---	480	---	9.2	ND<0.5	5.4	5.3	---	---	---	PACE
MW-3		04/07/94	40.13		28.50	---	11.63	460	---	20	7.4	8.9	11	---	---	---	PACE
QC-1	(g)	04/07/94	---		---	---	---	460	---	20	7.7	9.0	11	---	---	---	PACE
MW-3		07/06/94	---		---	---	---	300	---	10	0.6	1.7	6.4	---	---	4.8	PACE

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BP OIL COMPANY SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-014

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)		DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	DO (ppm)	LAB
MW-4	02/05/90	40.11		20.75	0.00	19.36	620	---	ND<0.5	9	ND<0.5	10	---	---	---	SUP
MW-4	02/14/91	40.11		21.73	0.00	18.38	180	---	ND<0.3	ND<0.3	0.4	2	---	---	---	SUP
MW-4	05/13/91	40.11		18.55	0.00	21.56	72	---	0.7	ND<0.3	ND<0.3	ND<0.3	---	---	---	---
MW-4	07/24/91	40.11		21.31	0.00	18.80	---	---	---	---	---	---	---	---	---	SUP
MW-4	10/03/91	40.11		22.57	0.00	17.54	57	---	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	---
MW-4	10/15/91	40.11		22.88	0.00	17.23	---	---	---	---	---	---	---	---	---	---
MW-4	12/04/91	40.11		22.54	0.00	17.57	---	---	---	---	---	---	---	---	---	---
MW-4	12/16/91	40.11		22.59	0.00	17.52	---	---	---	---	---	---	---	---	---	---
MW-4	01/06/92	40.11		22.00	0.00	18.11	480	---	0.8	3.2	1.9	7.7	---	---	---	ANA
MW-4	01/22/92	40.11		21.58	0.00	18.53	---	---	---	---	---	---	---	---	---	---
MW-4	01/28/92	40.11		21.42	0.00	18.69	---	---	---	---	---	---	---	---	---	---
MW-4	02/05/92	40.11		21.10	0.00	19.01	---	---	---	---	---	---	---	---	---	---
MW-4	02/12/92	40.11		20.74	0.00	19.37	---	---	---	---	---	---	---	---	---	---
MW-4	02/17/92	40.11		19.78	0.00	20.33	---	---	---	---	---	---	---	---	---	---
MW-4	04/03/92	40.11		16.80	0.00	23.31	---	---	---	---	---	---	---	---	---	---
MW-4	04/08/92	40.11		17.13	0.00	22.98	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-4	04/14/92	40.11		17.74	0.00	22.37	---	---	---	---	---	---	---	---	---	---
MW-4	04/29/92	40.11		18.56	0.00	21.55	---	---	---	---	---	---	---	---	---	---
MW-4	05/07/92	40.11		19.10	0.00	21.01	---	---	---	---	---	---	---	---	---	---
MW-4	07/03/92	40.11		20.71	0.00	19.40	ND<50	---	0.6	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-4	10/08/92	40.11		22.43	0.00	17.68	270	---	ND<0.5	2.1	2.5	3.2	---	---	---	ANA
MW-4	12/31/92	40.11		19.58	0.00	20.53	150	---	ND<0.5	ND<0.5	ND<0.5	1.3	---	---	---	ANA
MW-4	04/21/93	40.11		17.79	0.00	22.32	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-4	07/07/93	40.11		18.44	0.00	21.67	160	---	1.2	5.4	3.8	19	---	---	---	PACE
MW-4	09/21/93	40.11		20.14	0.00	19.97	71	---	ND<0.5	1.9	ND<0.5	2.1	---	---	---	PACE
MW-4	12/17/93	40.11		19.80	---	20.31	---	---	---	---	---	---	---	---	---	---
MW-4	12/23/93	---		---	---	---	ND<50	---	3.1	1.6	0.8	3.8	---	---	---	PACE
MW-4	04/07/94	40.11		19.12	---	20.99	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	6.6	PACE
MW-4	07/06/94	40.11		19.90	---	20.21	62	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	4.1	PACE
MW-5	10/03/91	39.55		18.08	0.00	21.47	79000	---	13000	7400	1400	6200	---	---	---	SUP
MW-5	10/15/91	39.55		18.55	0.00	21.00	---	---	---	---	---	---	---	---	---	---
MW-5	12/04/91	39.55		18.44	0.13	21.21	---	---	---	---	---	---	---	---	---	---
MW-5	12/16/91	39.55		18.66	0.01	20.90	---	---	---	---	---	---	---	---	---	---
MW-5	01/06/92	39.55		19.12	0.11	20.51	---	---	---	---	---	---	---	---	---	---
MW-5	01/22/92	39.55		14.59	0.00	24.96	---	---	---	---	---	---	---	---	---	---
MW-5	01/28/92	39.55		15.25	0.00	24.30	---	---	---	---	---	---	---	---	---	---
MW-5	02/05/92	39.55		15.58	SHEEN	23.97	---	---	---	---	---	---	---	---	---	---
MW-5	02/12/92	39.55		15.54	0.01	24.02	---	---	---	---	---	---	---	---	---	---
MW-5	02/17/92	39.55		13.98	SHEEN	25.57	---	---	---	---	---	---	---	---	---	---
MW-5	04/03/92	39.55		13.63	0.04	25.95	---	---	---	---	---	---	---	---	---	---
MW-5	04/08/92	39.55		13.17	0.01	26.39	---	---	---	---	---	---	---	---	---	---
MW-5	04/14/92	39.55		13.45	0.01	26.11	---	---	---	---	---	---	---	---	---	---
MW-5	04/29/92	39.55		13.75	0.07	25.85	---	---	---	---	---	---	---	---	---	---
MW-5	05/07/92	39.55		16.15	0.04	23.43	---	---	---	---	---	---	---	---	---	---
MW-5	07/03/92	39.55		17.67	0.08	21.94	---	---	---	---	---	---	---	---	---	---
MW-5	09/01/92	39.55		17.83	0.50	22.10	---	---	---	---	---	---	---	---	---	---
MW-5	10/08/92	39.55		17.86	0.92	22.38	---	---	---	---	---	---	---	---	---	---
MW-5	12/31/92	39.55		15.20	SHEEN	24.35	---	---	---	---	---	---	---	---	---	---
MW-5	04/21/93	39.55		12.64	0.02	26.93	---	---	---	---	---	---	---	---	---	---
MW-5	07/07/93	39.14	(h)	12.68	0.82	27.08	---	---	---	---	---	---	---	---	---	---
MW-5	09/21/93	39.14		14.35	SHEEN	24.79	---	---	---	---	---	---	---	---	---	---
MW-5	12/17/93	39.14		12.61	0.41	26.84	---	---	---	---	---	---	---	---	---	---
MW-5	04/07/94	39.14		30.00	---	9.14	66000	---	3000	1700	250	6800	---	---	---	PACE
MW-5	07/06/94	---		---	---	---	29000	---	1900	330	63	2700	---	---	3.7	PACE

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BP OIL COMPANY SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-014

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	DO (ppm)	LAB
MW-6	10/03/91	41.59	20.73	0.00	20.86	ND<50	---	0.7	0.8	ND<0.3	1.3	---	---	---	SUP
MW-6	10/15/91	41.59	21.20	0.00	20.39	---	---	---	---	---	---	---	---	---	---
MW-6	12/04/91	41.59	21.26	0.00	20.33	---	---	---	---	---	---	---	---	---	---
MW-6	12/16/91	41.59	21.12	0.00	20.47	---	---	---	---	---	---	---	---	---	---
MW-6	01/06/92	41.59	20.29	0.00	21.30	ND<50	---	ND<0.5	ND<0.5	ND<0.5	1.6	---	---	---	ANA
MW-6	01/22/92	41.59	20.12	0.00	21.47	---	---	---	---	---	---	---	---	---	---
MW-6	01/28/92	41.59	20.20	0.00	21.39	---	---	---	---	---	---	---	---	---	---
MW-6	02/05/92	41.59	20.09	0.00	21.50	---	---	---	---	---	---	---	---	---	---
MW-6	02/12/92	41.59	19.15	0.00	22.44	---	---	---	---	---	---	---	---	---	---
MW-6	02/17/92	41.59	18.02	0.00	23.57	---	---	---	---	---	---	---	---	---	---
MW-6	04/03/92	41.59	16.62	0.00	24.97	---	---	---	---	---	---	---	---	---	---
MW-6	04/08/92	41.59	17.06	0.00	24.53	ND<50	---	0.6	ND<0.5	0.8	ND<0.5	---	---	---	ANA
MW-6	04/14/92	41.59	17.23	0.00	24.36	---	---	---	---	---	---	---	---	---	---
MW-6	04/29/92	41.59	18.12	0.00	23.47	---	---	---	---	---	---	---	---	---	---
MW-6	05/07/92	41.59	18.52	0.00	23.07	---	---	---	---	---	---	---	---	---	---
MW-6	07/03/92	41.59	19.71	0.00	21.88	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-6	10/08/92	41.59	21.22	0.00	20.37	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
QC-1 (g)	10/08/92	41.59	21.22	0.00	20.37	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-6	12/31/92	41.59	21.33	0.00	20.26	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-6	04/21/93	41.59	16.45	0.00	25.14	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-6	07/07/93	41.59	18.68	0.00	22.91	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-6	09/21/93	41.59	19.64	0.00	21.95	ND<50	---	ND<0.5	ND<0.5	ND<0.5	1.6	---	---	---	PACE
MW-6	12/17/93	41.59	21.08	---	20.51	---	---	---	---	---	---	---	---	---	---
MW-6	12/23/93	---	---	---	---	ND<50	---	ND<0.5	0.5	ND<0.5	0.6	---	---	---	PACE
MW-6	04/07/94	41.59	21.27	---	20.32	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	6.1	PACE
MW-6	07/06/94	41.59	19.81	---	21.78	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	4.0	PACE
QC-1	07/06/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-7	10/03/91	40.64	14.93	0.00	25.71	360	---	62	13	3.4	20	---	---	---	SUP
MW-7	10/15/91	40.64	15.16	0.00	25.48	---	---	---	---	---	---	---	---	---	---
MW-7	12/04/91	40.64	15.41	0.00	25.23	---	---	---	---	---	---	---	---	---	---
MW-7	12/16/91	40.64	15.21	0.00	25.43	---	---	---	---	---	---	---	---	---	---
MW-7	01/06/92	40.64	14.56	0.00	26.08	1100	---	170	ND<0.5	24	23	---	---	---	ANA
MW-7	01/22/92	40.64	14.63	0.00	26.01	---	---	---	---	---	---	---	---	---	---
MW-7	01/28/92	40.64	14.73	0.00	25.91	---	---	---	---	---	---	---	---	---	---
MW-7	02/05/92	40.64	14.58	0.00	26.06	---	---	---	---	---	---	---	---	---	---
MW-7	02/12/92	40.64	13.94	0.00	26.70	---	---	---	---	---	---	---	---	---	---
MW-7	02/17/92	40.64	13.10	0.00	27.54	---	---	---	---	---	---	---	---	---	---
MW-7	04/03/92	40.64	12.66	0.00	27.98	---	---	---	---	---	---	---	---	---	---
MW-7	04/08/92	40.64	12.77	0.00	27.87	750	---	150	ND<0.5	23	9.9	---	---	---	ANA
MW-7	04/14/92	40.64	13.02	0.00	27.62	---	---	---	---	---	---	---	---	---	---
MW-7	04/29/92	40.64	13.59	0.00	27.05	---	---	---	---	---	---	---	---	---	---
MW-7	05/07/92	40.64	13.95	0.00	26.69	---	---	---	---	---	---	---	---	---	---
MW-7	07/03/92	40.64	14.73	0.00	25.91	660	---	210	ND<2.5	33	8	---	---	---	ANA
MW-7	10/08/92	40.64	15.75	0.00	24.89	320	---	49	1.4	13	6.2	---	---	---	ANA
MW-7	12/31/92	40.64	13.57	0.00	27.07	900	---	100	ND<2.5	28	4.3	---	---	---	ANA
MW-7	04/21/93	40.64	14.56	0.00	26.08	510	---	83	1.2	10	5.8	---	---	---	PACE
MW-7	07/07/93	40.32 (h)	13.40	0.00	26.92	1100	---	160	2.0	27	4.0	---	---	---	PACE
QC-1 (g)	07/07/93	---	---	---	---	1100	---	170	1.9	29	2.8	---	---	---	PACE
MW-7	09/21/93	40.32	14.40	0.00	25.92	690	---	150	3.1	26	5.7	---	---	---	PACE
QC-1 (g)	09/21/93	---	---	---	---	640	---	140	1.7	23	2.4	---	---	---	PACE
MW-7	12/17/93	40.32	13.65	---	26.67	---	---	---	---	---	---	---	---	---	---
MW-7	12/23/93	---	---	---	---	250	---	64	1.2	9.0	1.8	---	---	---	PACE
MW-7	04/07/94	40.32	30.62	---	9.70	140	---	32	1.4	ND<0.5	ND<0.5	---	---	---	PACE
MW-7	07/06/94	40.32	16.88	---	23.44	410	---	94	1.3	10	3.5	---	---	4.4	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-014

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	DO (ppm)	LAB
MW-8	10/03/91	38.18	22.37	0.00	15.81	ND<50	---	ND<0.3	0.6	ND<0.3	0.9	---	---	---	SUP
MW-8	10/15/91	38.18	22.70	0.00	15.48	---	---	---	---	---	---	---	---	---	---
MW-8	12/04/91	38.18	22.44	0.00	15.74	---	---	---	---	---	---	---	---	---	---
MW-8	12/16/91	38.18	22.47	0.00	15.71	---	---	---	---	---	---	---	---	---	---
MW-8	01/06/92	38.18	21.94	0.00	16.24	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-8	01/22/92	38.18	21.44	0.00	16.74	---	---	---	---	---	---	---	---	---	---
MW-8	01/28/92	38.18	21.20	0.00	16.98	---	---	---	---	---	---	---	---	---	---
MW-8	02/05/92	38.18	20.88	0.00	17.30	---	---	---	---	---	---	---	---	---	---
MW-8	02/12/92	38.18	20.54	0.00	17.64	---	---	---	---	---	---	---	---	---	---
MW-8	02/17/92	38.18	19.99	0.00	18.19	---	---	---	---	---	---	---	---	---	---
MW-8	04/03/92	38.18	16.75	0.00	21.43	---	---	---	---	---	---	---	---	---	---
MW-8	04/08/92	38.18	16.57	0.00	21.61	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-8	04/14/92	38.18	INACCESSIBLE	---	---	---	---	---	---	---	---	---	---	---	---
MW-8	04/29/92	38.18	18.61	0.00	19.57	---	---	---	---	---	---	---	---	---	---
MW-8	05/07/92	38.18	18.41	0.00	19.77	---	---	---	---	---	---	---	---	---	---
MW-8	07/03/92	38.18	20.35	0.00	17.83	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-8	(i) 10/08/92	38.18	21.74	0.00	16.44	---	---	---	---	---	---	---	---	---	---
MW-8	12/31/92	38.18	19.09	0.00	19.09	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-8	04/21/93	38.18	18.92	0.00	19.26	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-8	07/07/93	38.18	17.76	0.00	20.42	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-8	09/21/93	38.18	19.71	0.00	18.47	ND<50	---	2.9	2.2	2.2	7.1	---	---	---	PACE
MW-8	12/17/93	38.18	21.33	---	16.85	---	---	---	---	---	---	---	---	---	---
MW-8	12/23/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.6	---	---	---	PACE
MW-8	04/07/94	38.18	21.51	---	16.67	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	6.6	PACE
MW-8	07/06/94	38.18	17.41	---	20.77	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	4.4	PACE
MW-9	10/03/91	41.25	14.12	0.00	27.13	ND<50	---	ND<0.3	0.4	ND<0.3	ND<0.3	---	---	---	SUP
MW-9	10/15/91	41.25	14.27	0.00	26.98	---	---	---	---	---	---	---	---	---	---
MW-9	12/04/91	41.25	13.84	0.00	27.41	---	---	---	---	---	---	---	---	---	---
MW-9	12/16/91	41.25	14.18	0.00	27.07	---	---	---	---	---	---	---	---	---	---
MW-9	01/06/92	41.25	13.42	0.00	27.83	ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.9	---	---	---	ANA
MW-9	01/22/92	41.25	13.75	0.00	27.50	---	---	---	---	---	---	---	---	---	---
MW-9	01/28/92	41.25	14.76	0.00	26.49	---	---	---	---	---	---	---	---	---	---
MW-9	02/05/92	41.25	13.38	0.00	27.87	---	---	---	---	---	---	---	---	---	---
MW-9	02/12/92	41.25	11.86	0.00	29.39	---	---	---	---	---	---	---	---	---	---
MW-9	02/17/92	41.25	10.78	0.00	30.47	---	---	---	---	---	---	---	---	---	---
MW-9	04/03/92	41.25	11.63	0.00	29.62	---	---	---	---	---	---	---	---	---	---
MW-9	04/08/92	41.25	12.25	0.00	29.00	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-9	04/14/92	41.25	12.32	0.00	28.93	---	---	---	---	---	---	---	---	---	---
MW-9	04/29/92	41.25	13.07	0.00	28.18	---	---	---	---	---	---	---	---	---	---
MW-9	05/07/92	41.25	14.43	0.00	26.82	---	---	---	---	---	---	---	---	---	---
MW-9	07/03/92	41.25	13.85	0.00	27.40	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-9	10/08/92	41.25	14.89	0.00	26.36	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-9	12/31/92	41.25	11.90	0.00	29.35	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-9	04/21/93	41.25	13.68	0.00	27.57	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-9	07/07/93	41.25	13.12	0.00	28.13	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-9	09/21/93	41.25	14.00	0.00	27.25	ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.9	---	---	---	PACE
MW-9	12/17/93	41.25	12.98	---	28.27	---	---	---	---	---	---	---	---	---	---
MW-9	12/23/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.9	---	---	---	PACE
MW-9	04/07/94	41.25	13.24	---	28.01	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	4.7	PACE
MW-9	07/06/94	41.25	13.77	---	27.48	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	3.9	PACE

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-014

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	DO (ppm)	LAB
QC-2 (j)	10/08/92	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
QC-2 (j)	12/31/92	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
QC-2 (j)	04/21/93	---	---	---	---	---	---	---	---	---	---	---	ND	---	PACE
QC-2 (j)	07/07/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.6	---	---	---	PACE
QC-2 (j)	09/21/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (j)	12/23/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (j)	04/07/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (j)	07/06/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
TOG	Total oil and grease
HVOC	Halogenated volatile organic compounds
DO	Dissolved oxygen
ppb	Parts per billion
ppm	Parts per million
---	Not analyzed/measured/applicable
ND	Not detected above reported detection limit
SUP	Superior Analytical Laboratory
ANA	Anametrix, Inc.
PACE	Pace, Inc.

NOTES:

(a) Top of casing elevations surveyed relative to the NGVD (1929) in feet above mean sea level.

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

(c) Well destroyed during tank removal in November 1990.

(d) Methylene chloride.

(e) 1,2-Dichloroethane.

(f) Sample collected from MW-2 for TPH-D analysis received in laboratory 7 days after collected; sample exceeded EPA recommended holding time for TPH-D on a water matrix.

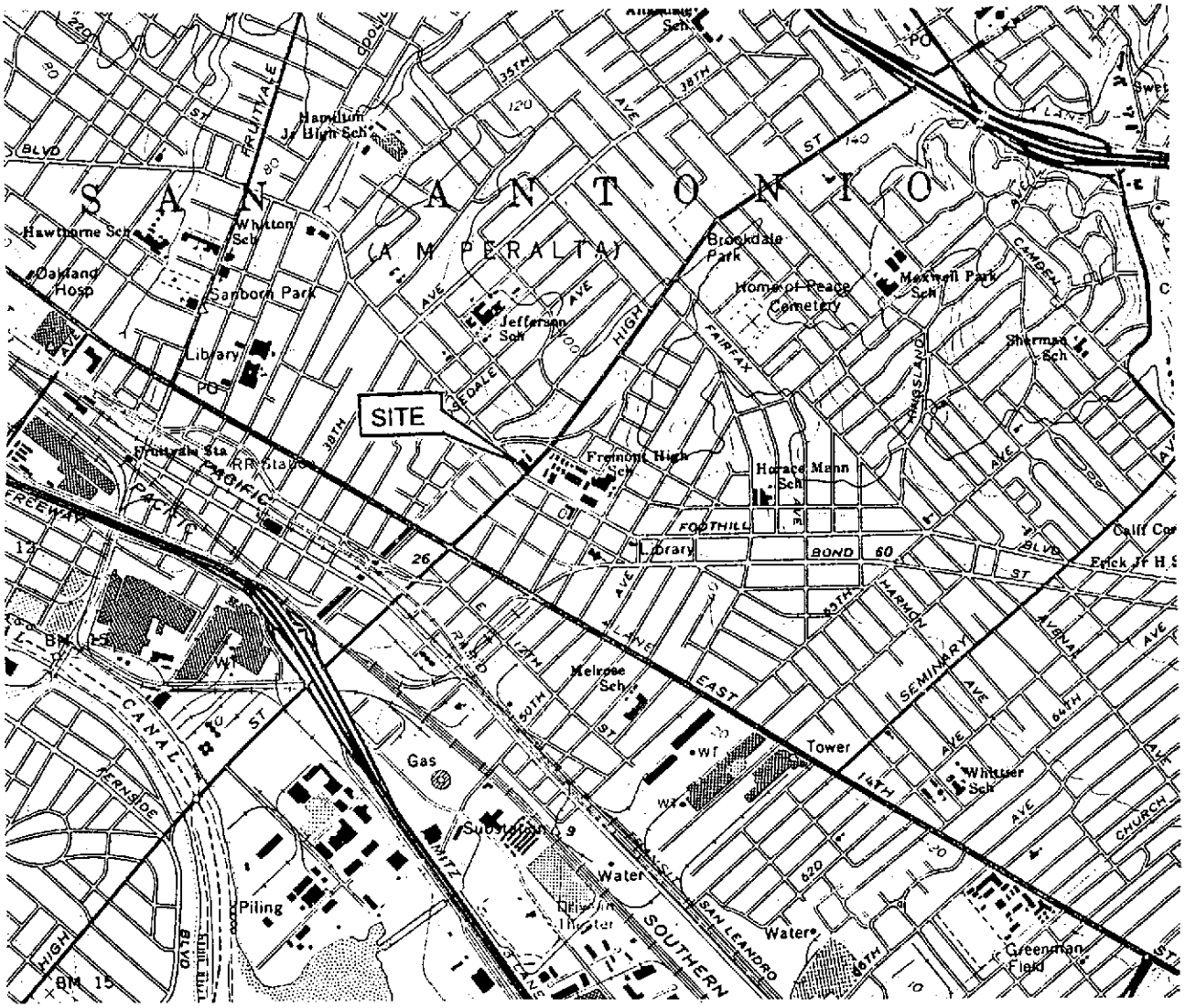
(g) Blind duplicate.

(h) Top of casing lowered.

(i) Not sampled due to abandoned vehicle parked over well.

(j) Travel blank.

E:\00\10-014-3-1



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

N

0 1000' 2000'

FIGURE 1

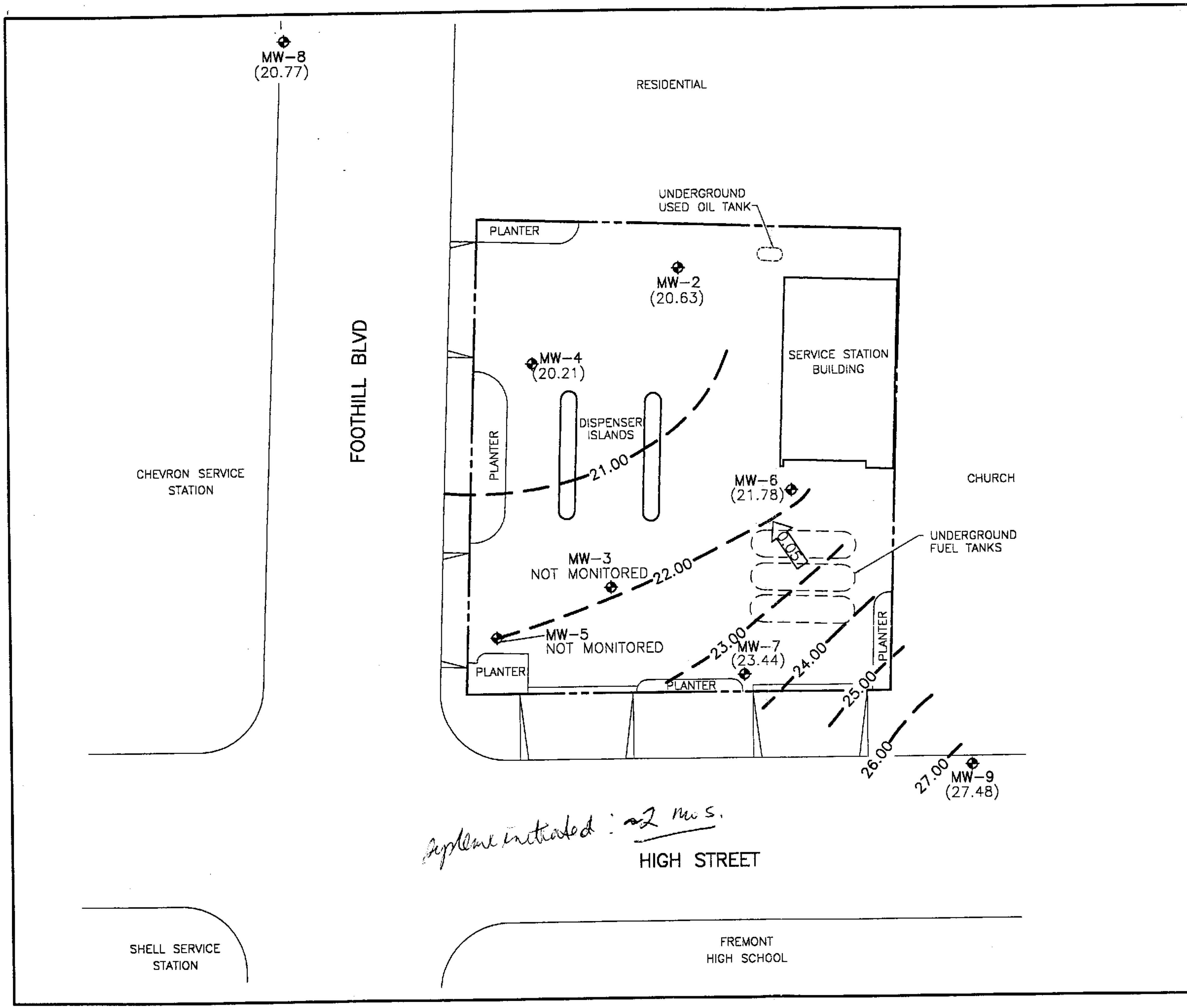
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO. 10-014

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

100149--- JWC 5-28-93 RKW 1=1



LEGEND

- GROUNDWATER MONITORING WELL
- (20.77) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 21.00 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL—1.00 FOOT)
- 0.05 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

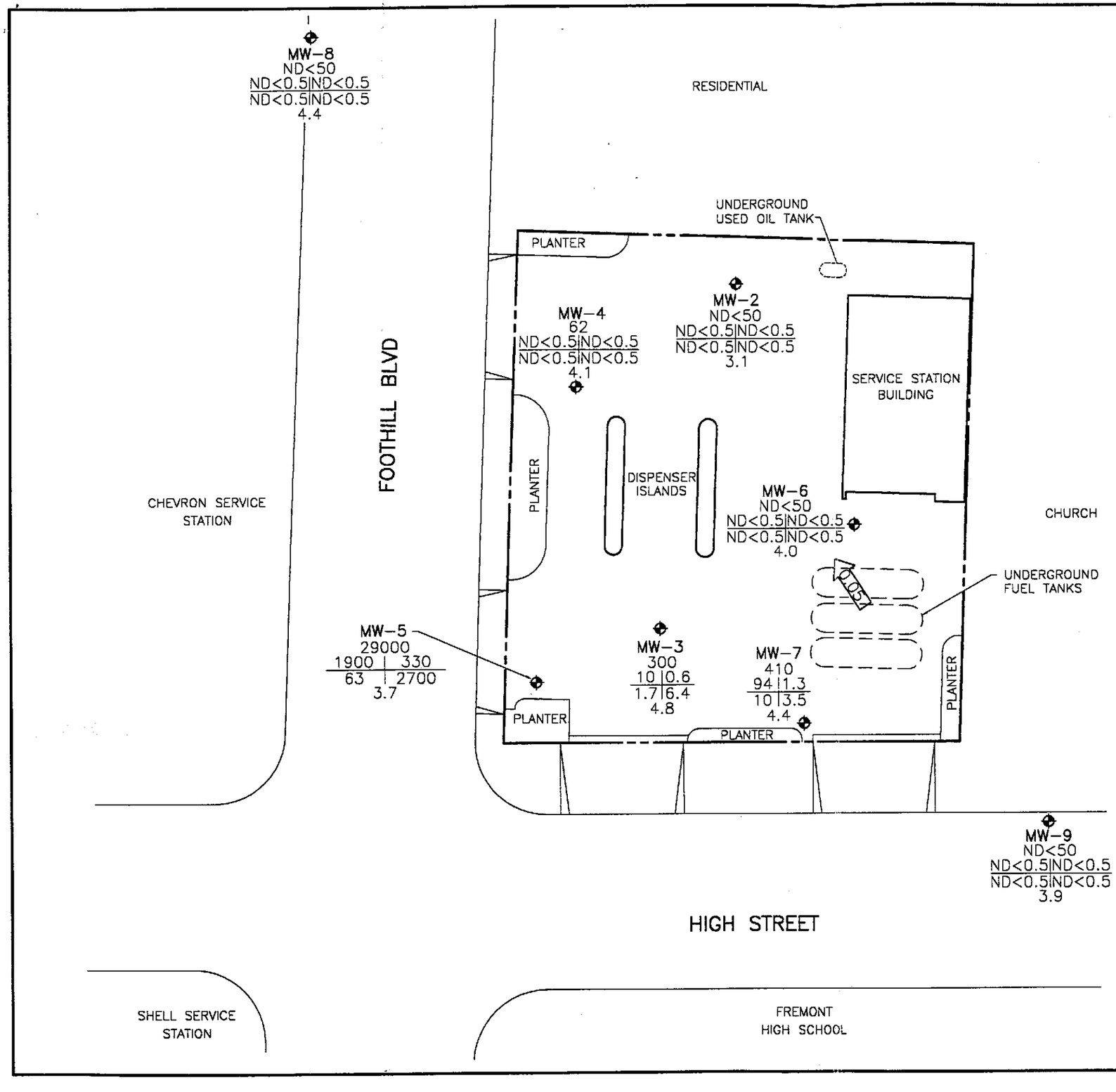
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

JULY 6, 1994

BP OIL SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO. 10-014

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



N

0 30 60

SCALE IN FEET

LEGEND

◆	GROUNDWATER MONITORING WELL
TPH-G / B | T / E | X / DO	CONCENTRATION OF CONSTITUENTS IN PARTS PER BILLION, EXCEPT DISSOLVED OXYGEN, WHICH IS IN PARTS PER MILLION
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
DO	DISSOLVED OXYGEN
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
⟵ 0.05	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

JULY 6, 1994

BP OIL SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO. 10-014

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10014E-4.DWG 7-26-94 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

☒ Groundwater Sampling

Date: 7/6/94 Project No. 10-014-03-001
Day: Thurs Station No. 11109
Weather: Sunny Address Foothill blvd, OAKland
SAMPLER: JDC

Well ID	SAMPLE #	WATER DEPTH	Well ID	SAMPLE #	WATER DEPTH	Well ID	SAMPLE	WATER DEPTH
mw-8	S-1	17.41	mw-7	S-6	16.88			
mw-9	S-2	13.77	mw-3	S-7	—			
mw-2	S-3	20.59	mw-5	S-8	—			
mw-4	S-4	19.90						
mw-6	S-5	19.81						

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
mw-8	17.41	2"	OK	Ø	Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
21.74 - 17.41 = 4.33 x .16 = 0.69 x 3 = 2.08
Purge Method: OSurface Pump ODisp.Tube OWinch ☒Disp. Bailer(s)___ OSys Port
Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
1	1306	68.3	6.99	0.57	4.8
2	1311	67.3	7.21	0.51	
2.25	1314	67.1	7.07	0.50	4.4

O EPA 601___ ☒ TPH-G/BTEX HCL O TPH Diesel___ O TOG 5520___
Time Sampled: 1316

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
mw-9	13.77	2"	replace	Ø	Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
29.31 - 13.77 = 15.54 x .16 = 2.49 x 3 = 7.46
Purge Method: OSurface Pump ODisp.Tube OWinch ☒Disp. Bailer(s)___ OSys Port
Comments:

Gal.	Time	Temp °F	pH	E.C.	D.O.
2.5	1334	71.5	6.93	0.63	3.2
5	1338	71.3	6.85	0.70	
7.5	1344	71.4	6.97	0.75	3.9

O EPA 601___ ☒ TPH-G/BTEX HCL O TPH Diesel___ O TOG 5520___
Time Sampled: 1350

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
mw-2	20.59	2"	replaced	Ø	Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
30.10 - 20.59 = 9.51 x .16 = 1.52 x 3 = 4.57
Purge Method: OSurface Pump ODisp.Tube OWinch ☒Disp. Bailer(s)___ OSys Port
Comments: Christie Box needs to be replaced

Gal.	Time	Temp °F	pH	E.C.	D.O.
1.5	1409	72.5	6.83	1.29	3.1
3	1414	70.7	6.70	1.14	
4.75	1418	68.8	6.71	1.07	3.1

O EPA 601___ ☒ TPH-G/BTEX HCL O TPH Diesel___ O TOG 5520___
Time Sampled: 1425

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness
mw-4	19.90	4"	replaced	Ø	Ø

Total Depth - Water Level = x Well Vol. Factor = x#vol. to Purge = PurgeVol.
34.28 - 19.90 = 14.38 x .65 = 9.35 x 3 = 28.04
Purge Method: OSurface Pump ODisp.Tube OWinch ☒Disp. Bailer(s)___ OSys Port
Comments: well going dry @ 12 gals ~~@~~ 13
let recover & sampled

Gal.	Time	Temp °F	pH	E.C.	D.O.
10	1500	71.7	6.64	0.67	3.4
12 ~~20~~	1507	71.3	6.69	0.65	
13 ~~28.25~~	1510	70.7	6.75	0.65	4.1

O EPA 601___ ☒ TPH-G/BTEX HCL O TPH Diesel___ O TOG 5520___
Time Sampled: 1515

6/20/94

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: 7/6/94 Project No. 10-014-03-001
Day: ~~Tue~~ Wed Station No. 11109
Weather: Sunny Address Foothill blvd Oakland
SAMPLER: JDC

Well ID	SAMPLE #	WATER	DEPTH	Well ID	SAMPLE #	WATER	DEPTH	Well ID	SAMPLE	WATER DEPTH
6										

Well ID: MW-6 | Depth to Water: 19.81 | Diam: 4" | Cap/Lock: replace | Product Depth: 0 | Thickness: 0

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

34.28 − 19.81 = 14.47 x .65 = 9.41 x 3 = 28.22

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

Comments: QC-1 will be S-9 (1700) QC-2 will be S-10

Gal.	Time	Temp *F	pH	E.C.	D.O.
10	1545	71.6	6.78	0.96	4.0
20	1558	69.2	6.73	0.84	
28.25	1610	69.4	6.75	0.97	4.0

O EPA 601___
☒ TPH-G/BTEX HCL
O TPH Diesel___
O TOG 5520 __
Time Sampled: 1615

Well ID: MW-7 | Depth to Water: 16.88 | Diam: 6" | Cap/Lock: OK | Product Depth: 0 | Thickness: 0

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

33.48 Sampled @ port

Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ ☒Sys Port

Comments:

Gal.	Time	Temp *F	pH	E.C.	D.O.
—	1635	73.7	7.29	0.79	4.4

☒ EPA 601___
☒ TPH-G/BTEX HCL
O TPH Diesel___
O TOG 5520 __
Time Sampled: 1640

Well ID: MW-3 | Depth to Water: — | Diam: 4" | Cap/Lock: OK | Product Depth: Φ | Thickness: Φ

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

31.80 Sampled @ port

Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ ☒Sys Port

Comments: Could not register DTW reading (Probe worked)

Gal.	Time	Temp *F	pH	E.C.	D.O.
—	1640	73.6	6.77	1.27	4.8

☒ EPA 601___
☒ TPH-G/BTEX HCL
O TPH Diesel___
O TOG 5520 __
Time Sampled: 1644

Well ID: MW-5 | Depth to Water: — | Diam: 4" | Cap/Lock: OK | Product Depth: Φ | Thickness: Φ

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

Nm Sampled @ port

Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ ☒Sys Port

Comments: Could not register probe reading (water was in well box)

Gal.	Time	Temp *F	pH	E.C.	D.O.
—	1650	73.5	6.97	1.04	3.7

☒ EPA 601___
☒ TPH-G/BTEX HCL
O TPH Diesel___
O TOG 5520 __
Time Sampled: 1655

6/20/94

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

July 19, 1994
PACE Project Number: 440711507

Attn: Mr. Bill Howell

Client Reference: BP Site #11109

PACE Sample Number:			70 0353173	
Date Collected:			07/06/94	
Date Received:			07/11/94	
Client Sample ID:			S-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	ND	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

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

REPORT OF LABORATORY ANALYSIS

July 19, 1994
PACE Project Number: 440711507

Client Reference: BP Site #11109

PACE Sample Number:			70 0353181	
Date Collected:			07/06/94	
Date Received:			07/11/94	
Client Sample ID:			S-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	ND	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
Page 3

July 19, 1994
PACE Project Number: 440711507

Client Reference: BP Site #11109

PACE Sample Number:			70 0353190	
Date Collected:			07/06/94	
Date Received:			07/11/94	
Client Sample ID:			S-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	ND	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

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REPORT OF LABORATORY ANALYSIS

July 19, 1994
PACE Project Number: 440711507

Client Reference: BP Site #11109

PACE Sample Number:			70 0353203	
Date Collected:			07/06/94	
Date Received:			07/11/94	
Client Sample ID:			S-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	62	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	ND	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
Page 5

July 19, 1994
PACE Project Number: 440711507

Client Reference: BP Site #11109

PACE Sample Number:			70 0353211	
Date Collected:			07/06/94	
Date Received:			07/11/94	
Client Sample ID:			S-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	ND	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

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REPORT OF LABORATORY ANALYSIS

July 19, 1994
PACE Project Number: 440711507

Client Reference: BP Site #11109

PACE Sample Number:			70 0353220	
Date Collected:			07/06/94	
Date Received:			07/11/94	
Client Sample ID:			S-6	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	410	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	94	07/12/94
Toluene	ug/L	0.5	1.3	07/12/94
Ethylbenzene	ug/L	0.5	10	07/12/94
Xylenes, Total	ug/L	0.5	3.5	07/12/94

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REPORT OF LABORATORY ANALYSIS

July 19, 1994
PACE Project Number: 440711507

Client Reference: BP Site #11109

PACE Sample Number:			70 0353238	
Date Collected:			07/06/94	
Date Received:			07/11/94	
Client Sample ID:			S-7	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	300	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	10	07/12/94
Toluene	ug/L	0.5	0.6	07/12/94
Ethylbenzene	ug/L	0.5	1.7	07/12/94
Xylenes, Total	ug/L	0.5	6.4	07/12/94

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
Page 8

July 19, 1994
PACE Project Number: 440711507

Client Reference: BP Site #11109

PACE Sample Number:			70 0353246	
Date Collected:			07/06/94	
Date Received:			07/11/94	
Client Sample ID:			S-8	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/13/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	5000	29000	07/13/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/13/94
Benzene	ug/L	50	1900	07/13/94
Toluene	ug/L	50	330	07/13/94
Ethylbenzene	ug/L	50	63	07/13/94
Xylenes, Total	ug/L	50	2700	07/13/94

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
Page 9

July 19, 1994
PACE Project Number: 440711507

Client Reference: BP Site #11109

PACE Sample Number:			70 0353254	
Date Collected:			07/06/94	
Date Received:			07/11/94	
Client Sample ID:			S-9	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	07/12/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	07/12/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	07/12/94
Benzene	ug/L	0.5	ND	07/12/94
Toluene	ug/L	0.5	ND	07/12/94
Ethylbenzene	ug/L	0.5	ND	07/12/94
Xylenes, Total	ug/L	0.5	ND	07/12/94

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Client Reference: BP Site #11109

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

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Mr. Bill Howell
Page 12

QUALITY CONTROL DATA

July 19, 1994
PACE Project Number: 440711507

Client Reference: BP Site #11109

PURGEABLE FUELS AND AROMATICS
Batch: 70 31957
Samples: 70 0353203, 70 0353211, 70 0353220, 70 0353238, 70 0353254
70 0353262

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	700351421	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	89%	91%	2%
Toluene	ug/L	0.5	ND	100	94%	95%	1%
Ethylbenzene	ug/L	0.5	ND	100	101%	101%	0%
Xylenes, Total	ug/L	0.5	ND	300	104%	103%	1%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	100%	99%	1%
Toluene	ug/L	0.5	100	100%	99%	1%
Ethylbenzene	ug/L	0.5	100	99%	97%	2%
Xylenes, Total	ug/L	0.5	300	101%	99%	2%

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
Page 13

QUALITY CONTROL DATA

July 19, 1994
PACE Project Number: 440711507

Client Reference: BP Site #11109

PURGEABLE FUELS AND AROMATICS
Batch: 70 31979
Samples: 70 0353173, 70 0353181, 70 0353190

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	700353181 S-2	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	94%	88%	7%
Toluene	ug/L	0.5	ND	100	100%	91%	9%
Ethylbenzene	ug/L	0.5	ND	100	101%	88%	14%
Xylenes, Total	ug/L	0.5	ND	300	97%	84%	14%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	95%	96%	1%
Toluene	ug/L	0.5	100	100%	102%	2%
Ethylbenzene	ug/L	0.5	100	102%	103%	1%
Xylenes, Total	ug/L	0.5	300	98%	99%	1%

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Mr. Bill Howell
Page 14

QUALITY CONTROL DATA

July 19, 1994
PACE Project Number: 440711507

Client Reference: BP Site #11109

PURGEABLE FUELS AND AROMATICS
Batch: 70 32014
Samples: 70 0353246

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	700351421	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	ND	100	89%	91%	2%
Toluene	ug/L	0.5	ND	100	94%	95%	1%
Ethylbenzene	ug/L	0.5	ND	100	101%	101%	0%
Xylenes, Total	ug/L	0.5	ND	300	104%	103%	1%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	100%	99%	1%
Toluene	ug/L	0.5	100	100%	99%	1%
Ethylbenzene	ug/L	0.5	100	99%	97%	2%
Xylenes, Total	ug/L	0.5	300	101%	99%	2%

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Client Reference: BP Site #11109

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

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BP

440711.507

CHAIN OF CUSTODY

No. 053027

Page 1 of 1

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

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11109	Foothill Blvd ; Oakland, CA	10-014-03-001

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 Cusack	David Cusack		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	1316	7/6/94	Water	3	VOA	353173	X										
S-2	1350	↓	↓	↓	↓	35318.1	↓										
S-3	1425	↓	↓	↓	↓	35319.0	↓										
S-4	1515	↓	↓	↓	↓	35320.3	↓										
S-5	1615	↓	↓	↓	↓	35321.1	↓										
S-6	1640	↓	↓	↓	↓	35322.0	↓										
S-7	1644	↓	↓	↓	↓	353238	↓										
S-8	1655	↓	↓	↓	↓	353246	↓										
S-9	1700	↓	↓	↓	↓	353254	↓										
S-10	1705	↓	↓	2	↓	353262	↓										

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
David Cusack Alisto	7/6/94	1420	Ed [signature] - Pace	7/11/94	1420
Ed [signature] Pace	7/11/94	1600	[signature] / PACE	7/11/94	1600

ADDITIONAL COMMENTS: 10/5

CIV 16722

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

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

July 27, 1993
StID # 102

Mr. Scott Hooten
B.P. Oil Company
Environmental Resource Management
16400 Southcenter Parkway, Suite 301
Tukwila, Washington 98188

Re: Comment on July 14, 1993 Quarterly Monitoring Report for BP Station # 11109, 4280 Foothill Blvd., Oakland 94601

Dear Mr. Hooten:

Our office has received and reviewed the above referenced quarterly monitoring report as prepared by your consultant Alisto Engineering Group. We have the following comments and requests:

1. Please provide the status of your proposed groundwater treatment system on each quarterly monitoring report as stated in your 2/2/93 letter. There was no information in this regard in the above referenced monitoring report.

2. Please give the status of the free product recovery from monitoring well, MW-5, in all quarterly reports as stated in your 2/2/93 letter.

3. Please provide evidence of B.P.'s request and denial for the installation of borings on Foothill Blvd. just west of your site. Recall, I requested this information in my 3-26-93 letter to you.

4. Lastly, our office agrees with the termination of the analysis for halogenated volatile organcis for MW-2. We concur that the initial detection of methylene chloride appears to have been an anomaly and doesn't require further investigation.

You may contact me at (510) 271-4530 if you have any questions.

Sincerely,

Barney M. Chan
Hazardous Materials Specialist

cc: G. Jensen, Alameda County District Attorney Office
B. Nagle, Alisto, 1777 Oakland Blvd., Suite 200, Walnut Creek, CA
E. Howell, files 4-4280BP

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

March 26,1993
StID #102

Mr. Scott Hooton
B.P. Oil Company
16400 South Center Parkway, Suite 301
Tukwila, WA 98188

Re: Comment on February 2, 1993 Letter Regarding Status at BP Oil Site No. 11109, 4280 Foothill Blvd., Oakland 94601

Dear Mr. Hooton:

We have received your February 2, 1993 letter in response to my January 30, 1993 letter regarding the status of the investigation and remediation at the above site. Our office has the following comments to this letter:

1. In your response to my point four, you stated that you believed additional exploratory borings may provide a better understanding of the areal hydrostratigraphy. You also stated that your requests for permission to drill in the street had been denied by the City of Oakland. Please provide evidence of this attempt and identify any persons our office may contact to support your request for off-site drilling or on-site permitting.

2. Our office's requests the resumption of the analysis of halogenated volatile organics based on the groundwater results of your February 14, 1991 sampling which reported 51 ppb methylene chloride, detection limit= 5ppb. Please reinstate HVOC's in your analysis unless you can explain this analytical result. MW-2 only

Please provide written comment to the above issues **within 30 days** of receipt of this letter.

You may contact me at (510) 271-4530 if you have any questions.

Sincerely,

Barney M Chan

Barney M. Chan
Hazardous Materials Specialist

cc: G. Jensen, Alameda County District Attorney Office
R. Hiett, RWQCB
B. Oliva, ACHCSA
E. Howell, file GBT
1-4280 FTH1