GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-014-02-004

Prepared for:

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June 29, 1994

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INTRODUCTION

This report presents the results and findings of the April 7, 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.

FREE PRODUCT MONITORING AND RECOVERY

Product recovery canisters and manual product bailing were used to remove liquid-phase product from MW-5. Product thicknesses for this and previous monitoring events are presented in Table 1. The volume of product removed from the well is presented in Table 2.

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

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
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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	53	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<0.5	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

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-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	540	---	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

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ALISTO PROJECT NO. 10-014

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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	---	---	---	SUP
MW-4	07/24/91	40.11	21.31	0.00	18.80	---	---	---	---	---	---	---	---	---	---
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	---	---	---	SUP
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-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

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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-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

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-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

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

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.

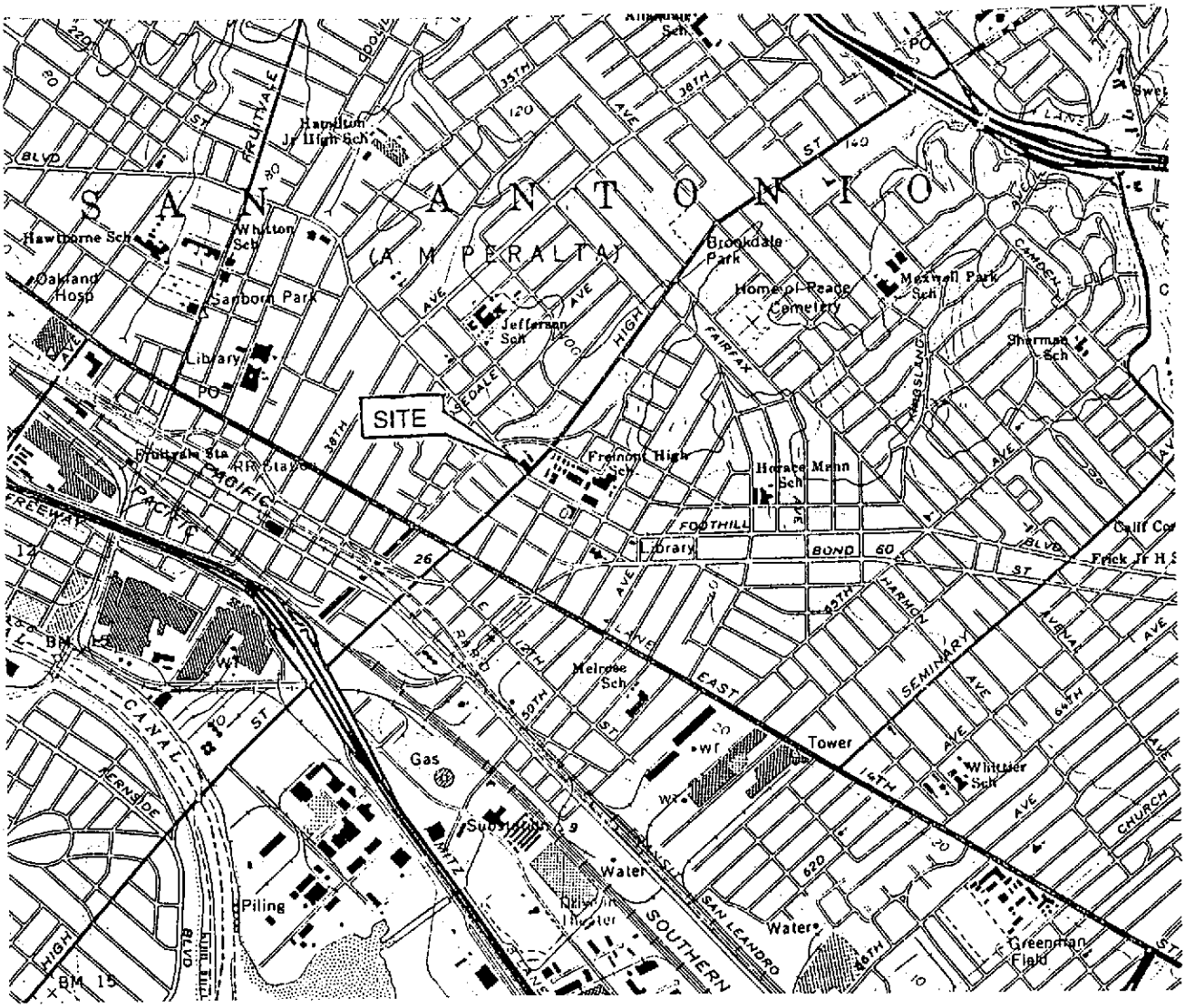
TABLE 2
PRODUCT REMOVAL STATUS

BP OIL COMPANY SERVICE STATION NO. 11109
4270 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-014

WELL ID	DATE	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)
MW-5	11/05/92	0.5	0.5
	11/10/92	0.5	1.0
	11/24/92	0.1	1.1
	02/25/93	<0.1	1.1
	03/18/93	0.1	1.2
	04/13/93	<0.1	1.2
	04/23/93	13.0	14.2
	05/24/93	0.1	14.3
	10/14/93	0.3	14.6
	11/10/93	0.4	15.0
	12/23/93 *	0.4	15.4

* No measureable product thickness observed since Decemeber 23, 1994.



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

N

0 1000' 2000'

FIGURE 1

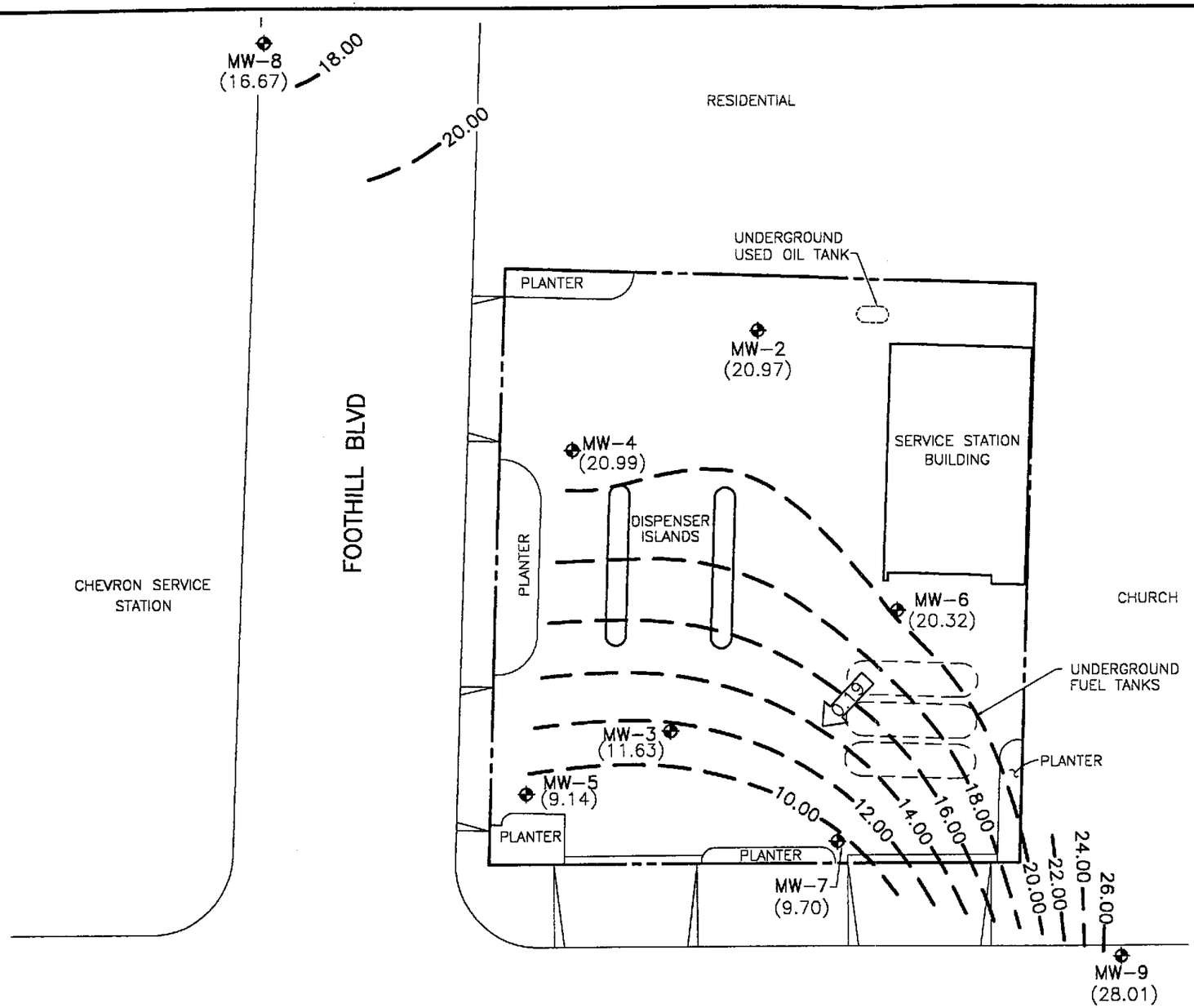
SITE VICINITY MAP

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

PROJECT NO. 10-014

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

100148--.DWG 5-28-93 RKW 1=1



N

0 30 60

SCALE IN FEET

LEGEND

- ◆ GROUNDWATER MONITORING WELL
- (20.32) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 20.00 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–2.00 FEET)
- 0.19 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

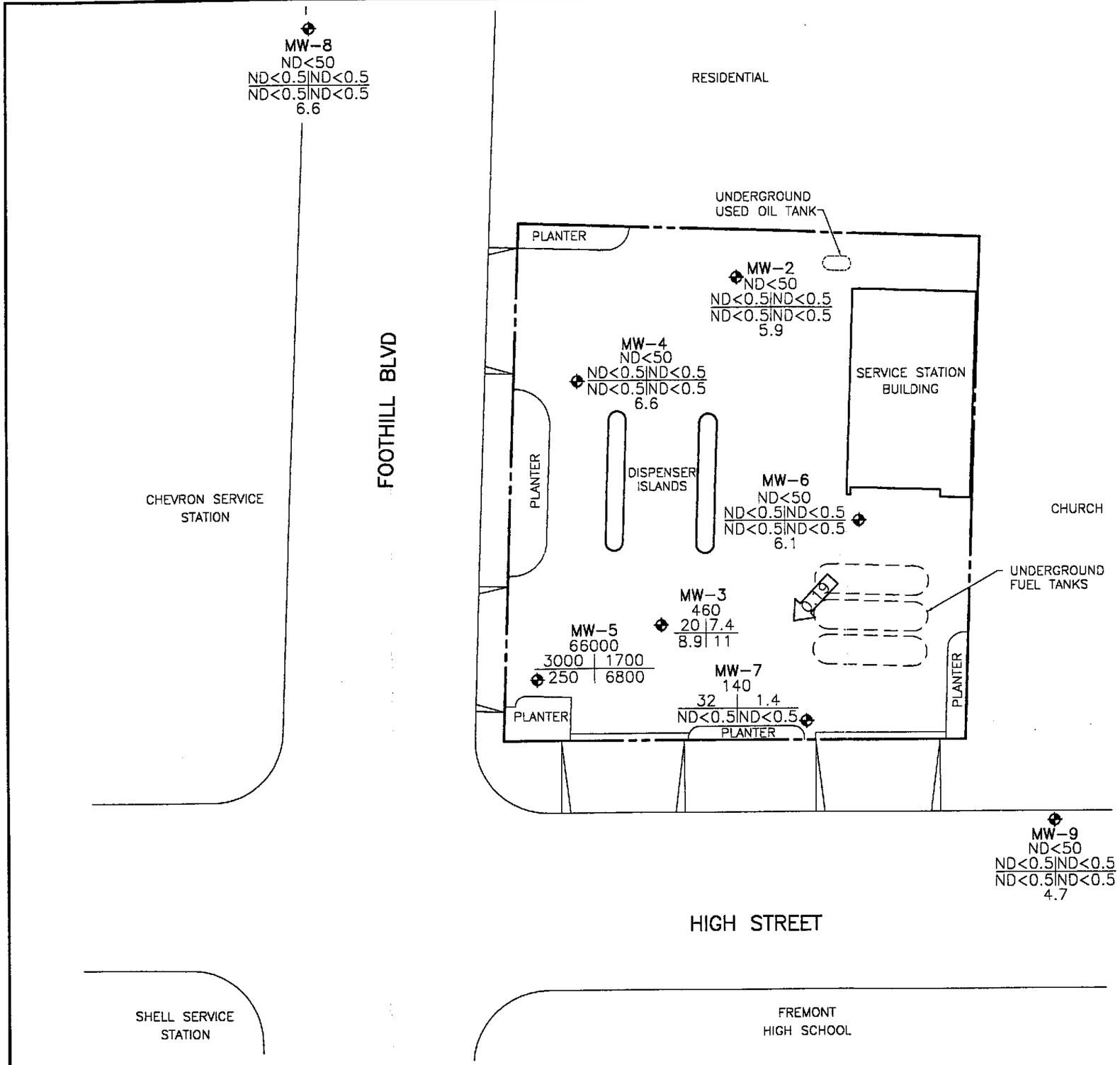
APRIL 7, 1994

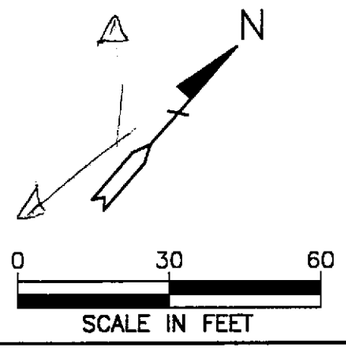
BP OIL SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO. 10–014

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10014D-1.DWG 5-10-94 RKM 1=30





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
0.19	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

APRIL 7, 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 5-10-94 RKW 1=30

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO ENGINEERING GROUP
GROUNDWATER MONITORING

Client: BP
Alisto Project No: 10-014-02/004
Service Station No: 11109

Date: 4/7/94
Field Personnel: LiB
Site Address: Oakland, CA

FIELD ACTIVITY:

X Groundwater Monitoring
X Groundwater Sampling
___ Well Development

QUALITY CONTROL SAMPLES:

MW-3 QC-1 Sample Duplicate (Well ID)
X QC-2 Trip Blank
___ QC-3 Rinsate Blank

	Well ID	Well Diam	Order Measured/ Sampled	Total Depth	Depth to Water	Depth to Product	Product Thick-ness	Comments
	MW-2	2"	3	30.10	20.25	Ø	Ø	
*	MW-3	4"	6	31.80	28.50	|	|	Approx. DTW
	MW-4	|	4	34.28	19.12	↓	↓	
*	MW-5	|	8	NM	30.00	irrelevant	irrelevant	Approx. DTW
	MW-6	↓	5	34.28	21.27	Ø	Ø	
*	MW-7	6"	7	33.48	30.62	|	|	
	MW-8	2"	2	21.74	21.51	|	|	
	MW-9	2"	1	29.31	13.24	↓	↓	

Notes:

* MW-3, 7 & 5 Tied to Remediation System & Sampled From Port at well head w/ system operating

Barrels: ___Soil ___Water ___Dbl Contained 1 Empty ___Soil Pile (Cu Yds)
For FP accumulation

FORM: FS2/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-014
Service Station No: 11109

Date: 4/7/94
Field Personnel: LB
Address: Oakland, CA

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

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

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

Well Data:
Ø Depth to Product
Ø Product Thickness
20.25 Depth to Water

Sampling Method:
X Disposable Bailer
___Pump

Decontamination Method:
X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

30.10 (Total Depth of Well) - 20.25 (Depth to Water) = 9.85 ft (Water Column) X .16 Gal/Ft (Conversion Factor) = 1.58 Gal (Casing Vol) X 3 (Vols to Purge) = 4.74 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm) (X 1000)	Purge Vol (Gal)	Turbidity	Dissolved Oxygen		Analysis Required	Container Type	Preservative
1200	67.6	7.33	.99	1	clear	5.6	X	TPH-G/BTEX	VOA	HCL
	67.1	7.24	.96	2	↓			TPH-Diesel	Amber Liter	Solvent Rinsed
	66.3	7.16	.96	3	Lt. Brown			EPA 601	VOA	
	66.0	7.10	.93	4	↓			TOG 5520BF	Amber Liter	H_2SO_4
1220	66.1	7.05	.92	5	↓	5.9				

D.O (ppm) 5.6 Begin
5.9 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-014
Service Station No: 11109

Date: 4/7/94
Field Personnel: LCB
Address: Oakland, CA

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

Casing Diameter:

___2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
X 4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

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

Well Data:

0 Depth to Product
0 Product Thickness
19.12 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

34.28 (Total Depth of Well) - 19.12 (Depth to Water) = 15.16 ft (Water Column) X .65 Gal/Ft (Conversion Factor) = 9.85 Gal (Casing Vol) X 3 (Vols to Purge) = 29.55 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm) (X 1000)	Purge Vol (Gal)	Turbidity	Dissolved Oxygen		Analysis Required	Container Type	Preservative
1230	67.3	7.28	.69	6	Clear	6.8	X	TPH-G/BTEX	VOA	HCL
	66.9	7.18	.70	12				TPH-Diesel	Amber Liter	Solvent Rinsed
	66.5	7.11	.68	18				EPA 601	VOA	
	66.0	7.06	.67	24				TOG 5520BF	Amber Liter	H_2SO_4
1250	65.8	7.01	.67	30	↓	6.6				

D.O2 (ppm) 6.8 Begin
6.6 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-014
Service Station No: 11109

Date: 4/7/94
Field Personnel: LCS
Address: Oakland, Ca

Well ID: MW-6 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:

___2 Inch (0.16 Gal/foot)
___3 Inch (0.37 Gal/foot)
X 4 Inch (0.65 Gal/Foot)
___4.5 Inch (0.83 Gal/foot)
___6 Inch (1.47 Gal/foot)

Purge Method:

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

Well Data:

0 Depth to Product
0 Product Thickness
21.27 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

34.28 (Total Depth of Well) - 21.27 (Depth to Water) = 13.01 ft (Water Column) X .65 Gal/Ft (Conversion Factor) = 8.46 Gal (Casing Vol) X 3 (Vols to Purge) = 25.38 (Total Volume)

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm) (X 1000)	Purge Vol (Gal)	Turbidity	Dissolved Oxygen		Analysis Required	Container Type	Preservative
1310	66.0	7.14	.89	5	Clear	6.1	X	TPH-G/BTEX	VOA	HCL
	65.6	7.07	.92	10				TPH-Diesel	Amber Liter	Solvent Rinsed
	65.1	7.00	.90	15				EPA 601	VOA	
	65.3	6.97	.90	20				TOG 5520BF	Amber Liter	H_2SO_4
1345	65.0	6.96	.88	25.50	✓	6.1				

D.02 (PPM) 6.1 Begin
6.1 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-014
Service Station No: 11109

Date: 4/7/94
Field Personnel: LCS
Address: Oakland, CA

Well ID: MW-8 Field Activity: ___Well Development X Well Sampling ___Product Bailing

Casing Diameter:

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

Purge Method:

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

Well Data:

Ø Depth to Product
Ø Product Thickness
21.51 Depth to Water

Sampling Method:

X Disposable Bailer
___Pump

Decontamination Method:

X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

29.33	-	21.51	=	7.82	ft X	.16	Gal/Ft =	1.25	Gal X	3	=	3.75
Total Depth of Well		Depth to Water		Water Column		Conversion Factor		Casing Vol		Vols to Purge		Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm) (X1000)	Purge Vol (Gal)	Turbidity	Dissolved Oxygen		Analysis Required	Container Type	Preservative
1130	67.2	7.59	.65	1.25	Clear	6.9	X	TPH-G/BTEX	VOA	HCL
	66.6	7.47	.64	2.00	↓			TPH-Diesel	Amber Liter	Solvent Rinsed
	66.2	7.42	.63	2.75				EPA 601	VOA	
1145	66.	7.36	.63	3.75	↓	6.6		TOG 5520BF	Amber Liter	H_2SO_4

D.O2 (PPM) 6.9 Begin
6.6 End

FORM: FS3/121592

ALISTO ENGINEERING GROUP
Groundwater Development and Sampling Form

Client: BP
Alisto Project No: 10-014
Service Station No: 11109

Date: 4/7/94
Field Personnel: LB
Address: Oakland Ca

Well ID: MW-9 Field Activity: ___Well Development X Well Sampling ___Product Bailing

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

Purge Method:
X Pump (dispos. Poly Tubing)
___Disposable Bailers
___Other
___1.66 PVC Standard Bailer
___3.50 PVC Standard Bailer

Well Data:
0 Depth to Product
0 Product Thickness
13.24 Depth to Water

Sampling Method:
X Disposable Bailer
___Pump

Decontamination Method:
X Triple Rinse (Liquinox)
___ Steam Cleaned

Calculated Purge Volume

29.31 - 13.24 = 16.07 ft X .16 Gal/Ft = 2.57 Gal X 3 = 7.71

Total Depth of Well | Depth to Water | Water Column | Conversion Factor | Casing Vol | Vols to Purge | Total Volume

Well Development/Sampling Parameters

Time	Temp °F	pH	Cond. (umhos/cm) (x1000)	Purge Vol (Gal)	Turbidity	Dissolved Oxygen	Analysis Required	Container Type	Preservative
1100	65.7	7.31	.65	2	clear	4.8	V TPH-G/BTEX	VOA	HCL
	66.2	7.26	.63	3			TPH-Diesel	Amber Liter	Solvent Rinsed
	66.4	7.20	.61	4			EPA 601	VOA	
	66.0	7.11	.61	6			TOG 5520BF	Amber Liter	H_2SO_4
1120	66.0	7.06	.60	7.75	↓	4.7			

D.O 2 (PPM) 4.8 Begin
4.7 End

FORM: FS3/121592

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

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

April 19, 1994
PACE Project Number: 440411506

Attn: Mr. Bill Howell

Client Reference: BP Station # 11109/10-014-02/004

PACE Sample Number:			70 0301823	
Date Collected:			04/08/94	
Date Received:			04/11/94	
Client Sample ID:			QC-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	04/14/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	04/14/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	04/14/94
Benzene	ug/L	0.5	ND	04/14/94
Toluene	ug/L	0.5	ND	04/14/94
Ethylbenzene	ug/L	0.5	ND	04/14/94
Xylenes, Total	ug/L	0.5	ND	04/14/94

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FAX: 415-883-2673

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
Page 2

April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

PACE Sample Number:			70 0301831	
Date Collected:			04/08/94	
Date Received:			04/11/94	
Client Sample ID:			QC-1	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	04/14/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	460	04/14/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	04/14/94
Benzene	ug/L	0.5	20	04/14/94
Toluene	ug/L	0.5	7.7	04/14/94
Ethylbenzene	ug/L	0.5	9.0	04/14/94
Xylenes, Total	ug/L	0.5	11	04/14/94

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REPORT OF LABORATORY ANALYSIS

April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

PACE Sample Number:			70 0301840	
Date Collected:			04/08/94	
Date Received:			04/11/94	
Client Sample ID:			MW-2	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	04/14/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	04/14/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	04/14/94
Benzene	ug/L	0.5	ND	04/14/94
Toluene	ug/L	0.5	ND	04/14/94
Ethylbenzene	ug/L	0.5	ND	04/14/94
Xylenes, Total	ug/L	0.5	ND	04/14/94

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REPORT OF LABORATORY ANALYSIS

April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

PACE Sample Number:			70 0301858	
Date Collected:			04/08/94	
Date Received:			04/11/94	
Client Sample ID:			MW-3	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	04/14/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	460	04/14/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	04/14/94
Benzene	ug/L	0.5	20	04/14/94
Toluene	ug/L	0.5	7.4	04/14/94
Ethylbenzene	ug/L	0.5	8.9	04/14/94
Xylenes, Total	ug/L	0.5	11	04/14/94

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REPORT OF LABORATORY ANALYSIS

April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

PACE Sample Number:			70 0301866	
Date Collected:			04/08/94	
Date Received:			04/11/94	
Client Sample ID:			MW-4	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	04/14/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	04/14/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	04/14/94
Benzene	ug/L	0.5	ND	04/14/94
Toluene	ug/L	0.5	ND	04/14/94
Ethylbenzene	ug/L	0.5	ND	04/14/94
Xylenes, Total	ug/L	0.5	ND	04/14/94

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REPORT OF LABORATORY ANALYSIS

April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

PACE Sample Number:			70 0301874	
Date Collected:			04/08/94	
Date Received:			04/11/94	
Client Sample ID:			MW-5	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	04/14/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	10000	66000	04/14/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	04/14/94
Benzene	ug/L	100	3000	04/14/94
Toluene	ug/L	100	1700	04/14/94
Ethylbenzene	ug/L	100	250	04/14/94
Xylenes, Total	ug/L	100	6800	04/14/94

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REPORT OF LABORATORY ANALYSIS

April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

PACE Sample Number:			70 0301882	
Date Collected:			04/08/94	
Date Received:			04/11/94	
Client Sample ID:			MW-6	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	04/14/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	04/14/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	04/14/94
Benzene	ug/L	0.5	ND	04/14/94
Toluene	ug/L	0.5	ND	04/14/94
Ethylbenzene	ug/L	0.5	ND	04/14/94
Xylenes, Total	ug/L	0.5	ND	04/14/94

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THE ASSURANCE OF QUALITY

REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

PACE Sample Number:			70 0301890	
Date Collected:			04/08/94	
Date Received:			04/11/94	
Client Sample ID:			MW-7	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	04/15/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	140	04/15/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	04/15/94
Benzene	ug/L	0.5	32	04/15/94
Toluene	ug/L	0.5	1.4	04/15/94
Ethylbenzene	ug/L	0.5	ND	04/15/94
Xylenes, Total	ug/L	0.5	ND	04/15/94

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REPORT OF LABORATORY ANALYSIS

April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

PACE Sample Number:			70 0301904	
Date Collected:			04/08/94	
Date Received:			04/11/94	
Client Sample ID:			MW-8	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	04/15/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	04/15/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	04/15/94
Benzene	ug/L	0.5	ND	04/15/94
Toluene	ug/L	0.5	ND	04/15/94
Ethylbenzene	ug/L	0.5	ND	04/15/94
Xylenes, Total	ug/L	0.5	ND	04/15/94

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REPORT OF LABORATORY ANALYSIS

Mr. Bill Howell
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April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

PACE Sample Number:			70 0301912	
Date Collected:			04/08/94	
Date Received:			04/11/94	
Client Sample ID:			MW-9	
Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	04/15/94
Purgeable Fuels, as Gasoline (EPA 8015M)	ug/L	50	ND	04/15/94
PURGEABLE AROMATICS (BTXE BY EPA 8020M):			-	04/15/94
Benzene	ug/L	0.5	ND	04/15/94
Toluene	ug/L	0.5	ND	04/15/94
Ethylbenzene	ug/L	0.5	ND	04/15/94
Xylenes, Total	ug/L	0.5	ND	04/15/94

These data have been reviewed and are approved for release.

Darrell C. Cain
Regional Director

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Mr. Bill Howell
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FOOTNOTES
for pages 1 through 10

April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

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

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Client Reference: BP Station # 11109/10-014-02/004

PURGEABLE FUELS AND AROMATICS
Batch: 70 29644
Samples: 70 0301823, 70 0301840

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
Methyl tert-butyl ether	ug/L	5.0	ND

SPIKE AND SPIKE DUPLICATE:

Parameter	Units	MDL	700297907	Spike	Spike Recv	Spike Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	530	1000	97%	88%	10%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Purgeable Fuels, as Gasoline (EPA 8015M	ug/L	50	1000	104%	107%	3%

Mr. Bill Howell
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QUALITY CONTROL DATA

April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

PURGEABLE FUELS AND AROMATICS
Batch: 70 29716
Samples: 70 0301831, 70 0301858, 70 0301866, 70 0301874, 70 0301882
70 0301890, 70 0301904, 70 0301912

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	700301831 QC-1	Spike	Spike Recv	Spike Dupl Recv	RPD
Benzene	ug/L	0.5	20	100	92%	94%	2%
Toluene	ug/L	0.5	7.7	100	92%	94%	2%
Ethylbenzene	ug/L	0.5	9.0	100	101%	101%	0%
Xylenes, Total	ug/L	0.5	11	300	98%	98%	0%

LABORATORY CONTROL SAMPLE AND CONTROL SAMPLE DUPLICATE:

Parameter	Units	MDL	Reference Value	Recv	Dupl Recv	RPD
Benzene	ug/L	0.5	100	104%	97%	7%
Toluene	ug/L	0.5	100	104%	98%	6%
Ethylbenzene	ug/L	0.5	100	100%	99%	1%
Xylenes, Total	ug/L	0.5	300	106%	98%	8%

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REPORT OF LABORATORY ANALYSIS

FOOTNOTES
for pages 12 through 13

April 19, 1994
PACE Project Number: 440411506

Client Reference: BP Station # 11109/10-014-02/004

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

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440411.506

CHAIN OF CUSTODY

No. 051343 Page 1 of

CONSULTANT'S NAME	ADDRESS	CITY	STATE	ZIP CODE
Alisto Engineering	1777 Oakland Blvd #200	Walnut Creek	Ca	94596

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11109	Oakland Ca	10-014-02/004

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
Bill Howell	(510) 295-1650	295-1823	F973458

BP CONTACT	BP ADDRESS	PHONE NUMBER	FAX NO.
Scott Hooten	Renton, WA		

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

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
Lacky Brown	Jay Brown		Courier

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

ANALYSIS REQUIRED

AIRBILL NUMBER

SAMPLE DESCRIPTION	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH-G BTXE	COMMENTS
QC-2	4/8/94	W	2	HCL	30182.3	X	
QC-1			3	VOA	30183.1		
MW-2					30184.0		
MW-3					30185.8		
MW-4					30186.6		
MW-5					30187.4		
MW-6					30188.2		
MW-7					30189.0		
MW-8					30190.4		
MW-9					30191.2		

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
Jay Brown	4/11/94	1515	Ed Faith Pace	4/11/94	1075
Ed Faith Pace	4/11/94	1645	Steven Pace	4/11/94	1645

ADDITIONAL COMMENTS

10/4

CLV-16722

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