BP OIL

BP Oil Company
Environmental Remediation Management
295 SW 41st Street
Renton, Washington 98055-4931
(425) 251-0667
Fax No: (425) 251-0736

December 30, 1997 #3960

Alameda County Health Care Services Department
Attention Ms. ~~Juliette~~ Shin PE
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502-6577

RE: BP Oil Site No. 11117
7210 Bancroft Avenue (at 73rd)
Oakland, CA 605

Dear Mr. Shin:

This letter transmits a Groundwater Monitoring and Sampling Report, dated 5 December 1997. A petroleum release was documented during 1991 when a site assessment was performed in support of the property owner's plans to refinance an adjacent shopping center property, which also includes the BP site. After BP performed several iterations of groundwater monitoring and site assessment, the business and related improvements were sold to the current operator (Tosco Corporation) in 1994. The UST system passed required precision tightness tests prior to the sale to Tosco. The single-wall-fiberglass tanks are believed to have been installed by Mobil Oil Corporation during 1984. Soil or groundwater data associated with the 1984 tank replacement was not reported to have been obtained when BP acquired the site from Mobil in 1989. The cause and origin of the petroleum release(s) at this site has not – to the best of my knowledge – been established. I understand that the double-walled tanks will be required at this site to comply with 1998 leak prevention requirements in Oakland.

The enclosed groundwater monitoring and sampling report includes laboratory data for samples collected on 3 October 1997. Upon review of the data, please note the following:

1. Petroleum hydrocarbons were not detected in a groundwater sample obtained from well MW-1, where petroleum concentrations have – with two exceptions – not been detected since the 12 January 1996 sampling event. Prior to 12 January 1996, petroleum hydrocarbons were reported to be present in every sample obtained from MW-1.

2. Accumulated liquid petroleum hydrocarbon was observed in well MW-2 (0.02 feet) on 2 October 1997. Liquid petroleum hydrocarbon was first observed in MW-2 on 7 June 1993 and has persisted since that time. Table 2 presents a tabular summary of product removed from MW-2, and shows that a cumulative volume of approximately 25 gallons has been removed to date. It is noted that the benzene concentration detected in a sample

obtained from MW-2 on 3 October 1997 is higher than any of the previously reported concentrations.

3. Well MW-4, located south of the UST system and MW-2, has sampled petroleum hydrocarbon concentrations since 1992. Well MW-9, located south of MW-4 and 73rd Avenue, has – with three exceptions – not sampled petroleum hydrocarbons.

MTBE concentration data is now shown in Figure 3, replacing the dissolved oxygen measurements shown in past reports. You should note that estimated MTBE concentrations for samples analyzed during 1993 and 1994 are also shown on Table 1 - Summary of Results of Groundwater Sampling.

Please give me a call at (425) 251-0689 if you have any comments or questions regarding this submittal. Please note that Alisto Engineering Group has been requested to incorporate well MW-10 in future groundwater monitoring and sampling work.

Sincerely,

Scott Hooton
Environmental Remediation Management

attachment

cc: site file
T. Berry - Tosco (w/attachment)
K. Graves - CRWQCB - SFBR
Bancroft Oakland Investment Company, Attention Mr. Robert K. Barth, 9454 Wilshire Boulevard, Beverly Hills, CA 90212 (w/attachment)

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11117
7210 Bancroft Avenue
Oakland, California

Project No. 10-018-06-001

Prepared for:

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

Prepared by:

Alisto Engineering Group
1575 Treat Boulevard, Suite 201
Walnut Creek, California

December 5, 1997

Ken Simas
Project Manager

Al Sevilla, P.E.
Principal

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11117
7210 Bancroft Avenue
Oakland, California

Project No. 10-018-06-001

December 5, 1997

INTRODUCTION

This report presents the results and findings of the October 2 and 3, 1997 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11117, 7210 Bancroft Avenue, Oakland, California. A site vicinity map is shown on 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, electrical conductivity, and dissolved oxygen. 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

A passive product recovery canister has been installed in Monitoring Well MW-2 to recover liquid-phase product. Product thicknesses for this and previous monitoring events are presented in Table 1. The volume of free product recovered from the wells 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 interpreted from the results of this monitoring event are shown on Figure 2. The results of groundwater analysis are shown on 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. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	Organic Lead (ug/l)	DO (ppm)	LAB
MW-1	01/05/92	49.80	33.16	---	16.64	57000	50000	2400	1000	1100	3100	---	ND	---	---
MW-1	01/10/92	49.80	33.16	---	16.64	---	---	---	---	---	---	---	---	---	---
MW-1	06/05/92	49.80	29.01	---	20.79	31000	---	2800	2100	800	2300	---	---	---	---
MW-1	07/24/92	49.80	29.45	---	20.35	---	---	---	---	---	---	---	---	---	---
MW-1	07/27/92	49.80	29.45	---	20.35	---	---	---	---	---	---	---	---	---	---
MW-1	09/15/92	49.80	30.53	---	19.27	40000	1200 (c)	3400	3000	1300	3400	---	---	---	ANA
QC-1 (d)	09/15/92	---	---	---	---	36000	---	3800	3400	1400	3800	---	---	---	ANA
MW-1	12/15/92	49.80	31.26	---	18.54	27000	1100 (c)	1700	580	700	1900	---	---	---	ANA
QC-1 (d)	12/15/92	---	---	---	---	22000	---	1500	440	510	1300	---	---	---	ANA
MW-1	03/15/93	49.80	24.80	---	25.00	17000	580	1700	1200	590	1800	---	---	---	PACE
QC-1 (d)	03/15/93	---	---	---	---	15000	---	1100	860	440	1400	---	---	---	PACE
MW-1	06/07/93	49.80	25.01	---	24.79	750	100	0.8	0.8	ND<0.5	ND<0.5	---	---	---	PACE
QC-1 (d)	06/07/93	---	---	---	---	720	---	0.7	0.7	ND<0.5	ND<0.5	---	---	---	PACE
MW-1	09/23/93	49.80	28.70	---	21.10	40000	770	4000	500	920	3000	6600 (e)	---	---	PACE
MW-1	12/27/93	49.80	28.66	---	21.14	27000	---	2000	400	940	2600	14000 (e)	---	---	PACE
QC-1 (d)	12/27/93	---	---	---	---	21000	---	1700	380	830	2400	9200 (e)	---	---	PACE
MW-1	04/05/94	49.80	26.37	---	23.43	27000	---	3400	930	950	2900	8600 (e)	---	---	PACE
QC-1 (d)	04/05/94	---	---	---	---	29000	---	3700	1000	1000	3100	9700 (e)	---	1.3	PACE
MW-1	07/22/94	49.80	26.54	---	23.26	1700	---	220	2.3	2.0	3.4	220 (e)	---	2.0	PACE
MW-1	10/13/94	49.80	27.46	---	22.34	1200	---	250	21	ND<0.5	3.2	320 (e)	---	2.6	PACE
MW-1	01/25/95	49.80	20.96	---	28.84	1000	---	420	8	13	4	---	---	---	ATI
MW-1	04/19/95	49.80	19.59	---	30.21	5200	---	420	51	230	340	---	---	6.0	ATI
MW-1	07/05/95	49.80	19.61	---	30.19	320	---	4.2	ND<0.50	ND<0.50	ND<1.0	---	---	4.6	ATI
MW-1	10/05/95	49.80	24.40	---	25.40	5800	---	[redacted]	40	31	180	7800	---	2.3	ATI
MW-1	01/12/96	49.80	25.44	---	24.36	370	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	3.7	ATI
MW-1	04/22/96	49.80	18.02	---	31.78	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	3.9	SPL
MW-1	07/02/96	49.80	19.72	---	30.08	---	---	---	---	---	---	---	---	---	---
MW-1	07/03/96	49.80	---	---	---	ND<250	---	ND<2.5	ND<5	ND<5	ND<5	ND<50	---	3.6	SPL
MW-1	11/08/96	49.80	19.98	---	29.82	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.3	SPL
MW-1	01/03/97	49.80	19.49	---	30.31	ND<50	---	ND<0.5	14	ND<1.0	ND<1.0	ND<10	---	4.6	SPL
MW-1	04/28/97	49.80	20.20	---	29.60	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	3.9	SPL
MW-1	07/01/97	49.80	22.53	---	27.27	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	3.9	SPL
MW-1	10/02/97	49.80	24.27	---	25.53	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.6	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	Organic Lead (ug/l)	DO (ppm)	LAB
MW-2	01/05/92	51.07	DRY	---	DRY	---	---	---	---	---	---	---	---	---	---
MW-2	01/10/92	51.07	DRY	---	DRY	---	---	---	---	---	---	---	---	---	---
MW-2	06/05/92	51.07	30.05	---	21.02	11000	---	2000	180	490	1900	---	---	---	---
MW-2	07/24/92	51.07	30.72	---	20.35	---	---	---	---	---	---	---	---	---	---
MW-2	07/27/92	51.07	30.52	---	20.55	---	---	---	---	---	---	---	---	---	---
MW-2	09/15/92	51.07	31.56	---	19.51	75000	3200 (c)	2000	6500	2300	13000	---	---	---	ANA
MW-2	12/15/92	51.07	32.40	---	18.67	34000	1600 (c)	6200	8900	2000	7900	---	---	---	ANA
MW-2	03/15/93	51.07	26.14	---	24.93	150000	8400	12000	18000	3200	22000	82000 (e)	---	---	PACE
MW-2 (f)	06/07/93	51.07	26.38	SHEEN	24.69	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	09/23/93	51.07	31.43	1.92	21.08	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	12/27/93	51.07	34.07	1.07	17.80	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	04/05/94	51.07	30.44	3.30	23.11	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	07/22/94	51.07	28.51	0.80	23.16	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	10/13/94	51.07	29.33	0.70	22.27	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	01/25/95	51.07	25.55	4.25	28.71	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	04/19/95	51.07	19.78	0.12	31.38	---	---	---	---	---	---	---	---	---	---
MW-2	07/05/95	51.07	20.88	0.09	30.26	140000	---	14000	30000	3500	26000	---	---	---	ATI
MW-2 (f)	10/05/95	51.07	24.68	0.10	26.47	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	01/12/96	51.07	25.72	0.06	25.40	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	04/22/96	51.07	19.33	0.08	31.80	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	07/02/96	51.07	20.01	0.04	31.09	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	11/08/96	51.07	20.28	0.01	30.80	---	---	---	---	---	---	---	---	---	---
MW-2 (f)	01/03/97	51.07	19.87	0.02	31.22	---	---	---	---	---	---	---	---	---	---
MW-2	04/28/97	51.07	20.59	0.01	30.49	560000	---	1200	1300	290	2310	6100	---	3.9	SPL
MW-2	07/01/97	51.07	22.90	0.01	28.18	24000	---	15000	16000	4900	24400	63000	---	3.7	SPL
QC-1 (d)	07/01/97	---	---	---	---	150000	---	14000	13000	1800	14200	57000	---	---	SPL
MW-2	10/02/97	51.07	24.65	0.02	26.44	---	---	---	---	---	---	---	---	---	---
MW-2	10/03/97	51.07	---	---	---	250000	---	[redacted]	39000	6000	42000	[redacted]	---	4.5	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	Organic Lead (ug/l)	DO (ppm)	LAB
MW-3	01/05/92	49.95	33.69	---	16.26	7400	4000	790	23	210	40	---	ND	---	---
MW-3	01/10/92	49.95	33.74	---	16.21	---	---	---	---	---	---	---	---	---	---
MW-3	06/05/92	49.95	29.65	---	20.30	2000	---	130	5.3	93	20	---	---	---	---
MW-3	07/24/92	49.95	30.14	---	19.81	---	---	---	---	---	---	---	---	---	---
MW-3	07/27/92	49.95	30.14	---	19.81	---	---	---	---	---	---	---	---	---	---
MW-3	09/15/92	49.95	31.07	---	18.88	450	ND<50	55	3.1	34	7.1	---	---	---	ANA
MW-3	12/15/92	49.95	31.93	---	18.02	12000	710 (c)	940	ND<50	310	120	---	---	---	ANA
MW-3	03/15/93	49.95	25.71	---	24.24	ND<50	60	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-3	06/07/93	49.95	25.80	---	24.15	150	ND<50	3.6	ND<0.5	0.9	1.3	---	---	---	PACE
MW-3	09/23/93	49.95	29.18	---	20.77	---	---	---	---	---	---	---	---	---	---
MW-3	09/24/93	49.95	---	---	---	160	ND<50	8.4	ND<0.5	3.7	1.3	---	---	---	PACE
MW-3	12/27/93	49.95	29.25	---	20.70	9400	---	1100	48	530	120	2700 (e)	---	---	PACE
MW-3	04/05/94	49.95	26.84	---	23.11	7000	---	860	19	330	52	---	---	2.0	PACE
MW-3	07/22/94	49.95	26.90	---	23.11	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	2.1	PACE
MW-3	10/13/94	49.95	27.83	---	22.12	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	2.6	PACE
MW-3	01/25/95	49.95	21.65	---	28.30	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	ATI
MW-3	04/19/95	49.95	19.33	---	30.62	2400	---	170	8.0	130	27	---	---	5.0	ATI
MW-3	07/05/95	49.95	20.27	---	29.68	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	4.4	ATI
MW-3	10/05/95	49.95	23.73	---	26.22	2300	---	210	3.1	10	5.1	2400	---	4.2	ATI
MW-3	01/12/96	49.95	24.84	---	25.11	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	4.1	ATI
MW-3	04/22/96	49.95	18.60	---	31.35	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	4.4	SPL
MW-3	07/02/96	49.95	18.88	---	31.07	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	4.2	SPL
MW-3	11/08/96	49.95	19.14	---	30.81	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.4	SPL
MW-3	01/03/97	49.95	18.72	---	31.23	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.6	SPL
MW-3	04/28/97	49.95	19.38	---	30.57	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.2	SPL
MW-3	07/01/97	49.95	21.65	---	28.30	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	3.8	SPL
MW-3	10/02/97	49.95	23.45	---	26.50	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.5	SPL

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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 (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	Organic Lead (ug/l)	DO (ppm)	LAB
MW-4	07/24/92	50.76	30.02	---	20.74	42000	---	3200	3600	1400	4100	---	---	---	---
MW-4	07/27/92	50.76	30.02	—	20.74	---	---	—	---	---	---	---	---	—	—
MW-4	09/15/92	50.76	31.14	---	19.62	55000	1700 (c)	7600	13000	2800	9500	---	---	---	ANA
MW-4	12/15/92	50.76	31.98	---	18.78	36000	2200 (c)	3700	4700	1200	4000	---	---	---	ANA
MW-4	03/15/93	50.76	25.34	—	25.42	69000	1200	7600	15000	2500	11000	---	---	—	PACE
MW-4	06/07/93	50.76	25.67	---	25.09	73000	2500	10000	19000	3400	14000	---	---	---	PACE
MW-4	09/23/93	50.76	29.37	---	21.39	---	---	—	---	---	---	---	---	—	---
MW-4	09/24/93	50.76	---	---	---	68000	5700	11000	2100	8600	990	—	---	---	PACE
QC-1 (d)	09/24/93	---	---	—	---	59000	---	5300	10000	2200	8400	---	---	---	PACE
MW-4	12/27/93	50.76	29.40	—	21.36	32000	---	2500	4400	1300	4400	---	---	—	PACE
MW-4	04/05/94	50.76	27.09	---	23.67	64000	---	6500	14000	1900	9600	—	—	1.4	PACE
MW-4	07/22/94	50.76	27.33	---	23.43	85000	---	10000	20000	3200	13000	—	---	0.8	PACE
QC-1 (d)	07/22/94	---	---	---	---	85000	---	11000	21000	3300	14000	—	---	---	PACE
MW-4	10/13/94	50.76	28.25	—	22.51	51000	---	7100	13000	2100	8900	790 (e)	---	2.9	PACE
QC-1 (d)	10/13/94	---	---	---	---	51000	---	7400	13000	2100	9100	—	—	---	PACE
MW-4	01/25/95	50.76	21.85	---	28.91	26000	---	3600	9600	1200	6400	---	---	---	ATI
QC-1 (d)	01/25/95	---	---	---	---	28000	---	4200	12000	1500	7800	—	—	---	ATI
MW-4	04/19/95	50.76	19.44	—	31.32	89000	---	12000	24000	3500	18000	---	---	5.1	ATI
QC-1 (d)	04/19/95	---	---	---	—	100000	---	12000	26000	3800	21000	—	---	---	ATI
MW-4	07/05/95	50.76	20.52	---	30.24	130000	---	13000	29000	3300	25000	—	—	4.3	ATI
MW-4	10/05/95	50.76	24.23	—	26.53	110000	---	10000	23000	3600	17000	34000	---	2.1	ATI
MW-4	01/12/96	50.76	25.34	---	25.42	46000	---	3500	8300	1100	8000	3000	—	3.3	ATI
QC-1 (d)	01/12/96	---	---	---	—	40000	---	3500	9000	1200	8700	4300	—	---	ATI
MW-4	04/22/96	50.76	19.13	---	31.63	40000	—	5100	9600	980	11800	29000	—	3.2	SPL
QC-1 (d)	04/22/96	---	---	—	---	61000	---	8300	16000	1600	15200	36000	—	---	SPL
MW-4	07/02/96	50.76	20.67	---	30.09	74000	---	9800	21000	2100	16600	41000	---	3.4	SPL
QC-1 (d)	07/02/96	---	---	—	---	78000	---	9800	21000	1900	15300	42000	—	---	SPL
MW-4	11/08/96	50.76	20.95	---	29.81	100000	---	7900	16000	2500	13700	37000	---	3.7	SPL
QC-1 (d)	11/08/96	---	---	---	---	110000	---	9100	20000	3000	15400	39000	---	---	SPL
MW-4	01/03/97	50.76	20.54	—	30.22	99000	---	17000	30000	4300	22700	79000	---	4.2	SPL
QC-1 (d)	01/03/97	---	---	---	---	66000	---	12000	19000	2900	15000	69000	---	---	SPL
MW-4	04/28/97	50.76	21.28	—	29.48	130000	---	12000	28000	3800	21000	37000	—	3.9	SPL
QC-1 (d)	04/28/97	---	---	---	—	110000	---	11000	26000	3200	18200	34000	---	---	SPL
MW-4	07/01/97	50.76	23.61	---	27.15	110000	---	16000	25000	4900	24400	37000	---	3.6	SPL
MW-4	10/02/97	50.76	25.39	---	25.37	---	---	---	---	---	---	---	---	---	---
MW-4	10/03/97	50.76	---	---	---	66000	---	8200	8600	2700	13400	[redacted]**	---	4.4	SPL
QC-1 (d)	10/03/97	—	---	---	—	71000	---	8600	8700	2900	13500	84000	—	---	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	Organic Lead (ug/l)	DO (ppm)	LAB
MW-6	07/24/92	50.32	30.63	---	19.69	ND	---	1.6	ND	ND	ND	---	---	---	---
MW-6	07/27/92	50.32	30.63	---	19.69	---	---	---	---	---	---	---	---	---	---
MW-6	09/15/92	50.32	31.52	---	18.80	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-6	12/15/92	50.32	32.42	---	17.90	58	ND<50	1.3	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-6	03/15/93	50.32	26.29	---	24.03	ND<50	ND<50	ND<0.5	0.6	ND<0.5	0.7	---	---	---	PACE
MW-6	06/07/93	50.32	26.33	---	23.99	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	1.5	---	---	---	PACE
MW-6	09/23/93	50.32	29.64	---	20.68	---	---	---	---	---	---	---	---	---	---
MW-6	09/24/93	50.32	---	---	---	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-6	12/27/93	50.32	29.75	---	20.57	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	55 (e)	---	---	PACE
MW-6	04/05/94	50.32	27.26	---	23.06	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	300 (e)	---	1.7	PACE
MW-6	07/22/94	50.32	27.34	---	22.98	350	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	800 (e)	---	4.5	PACE
MW-6 (g)	10/13/94	50.32	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	01/25/95	50.32	22.16	---	28.16	240	---	6	ND<0.5	ND<0.5	ND<1	---	---	---	ATI
MW-6 (g)	04/19/95	50.32	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-6	07/05/95	50.32	20.80	---	29.52	180	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	4.9	ATI
MW-6	10/05/95	50.32	24.20	---	26.12	860	---	ND<5.0	ND<5.0	ND<5.0	ND<10	3600	---	2.8	ATI
MW-6	01/12/96	50.32	25.30	---	25.02	860	---	ND<5.0	ND<5.0	ND<5.0	ND<10	2800	---	4.2	ATI
MW-6	04/22/96	50.32	19.13	---	31.19	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	470	---	4.3	SPL
MW-6	07/02/96	50.32	20.66	---	29.66	100	---	ND<0.5	ND<1	ND<1	ND<1	1100	---	4.2	SPL
MW-6	11/08/96	50.32	20.98	---	29.34	1100	---	ND<5	ND<10	ND<10	ND<10	1500	---	4.3	SPL
MW-6	01/03/97	50.32	20.53	---	29.79	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	450	---	4.5	SPL
MW-6	04/28/97	50.32	21.25	---	29.07	1400	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	3500	---	4.4	SPL
MW-6	07/01/97	50.32	23.40	---	26.92	6100	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	9100	---	3.9	SPL
MW-6	10/02/97	50.32	25.16	---	25.16	---	---	---	---	---	---	---	---	---	---
MW-6	10/03/97	50.32	---	---	---	330	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	2600	---	4.4	SPL
MW-7	01/25/95	51.4	21.67	---	29.73	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	7.0	ATI
MW-7	04/19/95	51.4	25.27	---	26.13	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	5.0	ATI
MW-7	07/05/95	51.4	24.63	---	26.77	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	4.2	ATI
MW-7	10/05/95	51.4	28.21	---	23.19	83	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	77	---	4.5	ATI
MW-7	01/12/96	51.4	29.29	---	22.11	63	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	120	---	4.8	ATI
MW-7	04/22/96	51.4	23.11	---	28.29	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	13	---	4.8	SPL
MW-7	07/02/96	51.4	23.56	---	27.84	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	4.8	SPL
MW-7	11/08/96	51.4	20.06	---	31.34	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	5.1	SPL
MW-7	01/03/97	51.4	23.42	---	27.98	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.7	SPL
MW-7	04/28/97	51.4	24.12	---	27.28	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	3.9	SPL
MW-7	07/01/97	51.4	26.40	---	25.00	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.2	SPL
MW-7	10/02/97	51.4	28.14	---	23.26	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.7	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	Organic Lead (ug/l)	DO (ppm)	LAB
MW-8	01/25/95	50.88	31.59	---	19.29	54	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	7.1	ATI
MW-8	04/19/95	50.88	19.18	---	31.70	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	5.1	ATI
MW-8	07/05/95	50.88	19.03	---	31.85	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	4.5	ATI
MW-8	10/05/95	50.88	24.40	---	26.48	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	4.1	ATI
MW-8	01/12/96	50.88	25.51	---	25.37	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	4.6	ATI
MW-8	04/22/96	50.88	18.00	---	32.88	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	4.8	SPL
MW-8	07/02/96	50.88	19.83	---	31.05	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	4.5	SPL
MW-8	11/08/96	50.88	20.09	---	30.79	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.7	SPL
MW-8	01/03/97	50.88	19.72	---	31.16	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.4	SPL
MW-8	04/28/97	50.88	20.44	---	30.44	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.1	SPL
MW-8	07/01/97	50.88	22.72	---	28.16	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	3.8	SPL
MW-8	10/02/97	50.88	24.51	---	26.37	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.2	SPL
MW-9	01/25/95	51.05	22.32	---	28.73	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	7.4	ATI
MW-9	04/19/95	51.05	19.86	---	31.19	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	5.2	ATI
MW-9	07/05/95	51.05	20.78	---	30.27	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	4.4	ATI
MW-9	10/05/95	51.05	24.33	---	26.72	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	2.3	ATI
QC-1 (d)	10/05/95	---	---	---	---	52	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	160	---	---	ATI
MW-9	01/12/96	51.05	25.44	---	25.61	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	3.2	ATI
MW-9	04/22/96	51.05	18.01	---	33.04	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	11	---	3.5	SPL
MW-9	07/02/96	51.05	19.70	---	31.35	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	3.3	SPL
MW-9	11/08/96	51.05	19.96	---	31.09	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	3.7	SPL
MW-9	01/03/97	51.05	19.52	---	31.53	ND<250	---	ND<2.5	ND<5.0	ND<5.0	ND<5.0	ND<50	---	4.4	SPL
MW-9	04/28/97	51.05	20.22	---	30.83	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.0	SPL
MW-9	07/01/97	51.05	22.59	---	28.46	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	3.9	SPL
MW-9	10/02/97	51.05	24.33	---	26.72	---	---	---	---	---	---	---	---	---	---
MW-9	10/03/97	51.05	---	---	---	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	4.4	SPL
QC-2 (h)	09/15/92	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
QC-2 (h)	12/15/92	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
QC-2 (h)	03/15/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (h)	06/07/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (h)	09/24/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (h)	12/27/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (h)	04/05/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (h)	07/22/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (h)	10/13/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (h)	01/25/95	---	---	---	---	ND<50	---	ND<0.5	2	0.6	1	---	---	---	ATI
QC-2 (h)	04/19/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ATI
QC-2 (h)	07/05/95	---	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	ATI
QC-2 (h)	10/05/95	---	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	---	ATI
QC-2 (h)	01/12/96	---	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	---	ATI
QC-2 (h)	04/22/96	---	---	---	---	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	---	SPL
QC-2 (h)	07/02/96	---	---	---	---	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	---	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	Organic Lead (ug/l)	DO (ppm)	LAB

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
MTBE	Methyl tert butyl ether
DO	Dissolved oxygen
ug/l	Micrograms per liter
ppm	Parts per million
ND	Not detected above reported detection limit
---	Not analyzed/applicable/measurable
ANA	Anametrix, Inc.
PACE	Pace, Inc.
ATI	Analytical Technologies, Inc.
SPL	Southern Petroleum Laboratories

NOTES:

(a) Casing elevations surveyed to the nearest 0.01 foot relative to mean sea level.

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

(c) Concentrations reported as diesel from MW-1, MW-2 and MW-4 are primarily due to the presence of a lighter petroleum product, possibly gasoline or kerosene.

(d) Blind duplicate.

(e) A copy of the documentation for this data is included in Appendix C of Alisto report 10-018-05-004.

(f) Well not sampled due to presence of free product.

(g) Well inaccessible.

(h) Travel blank.

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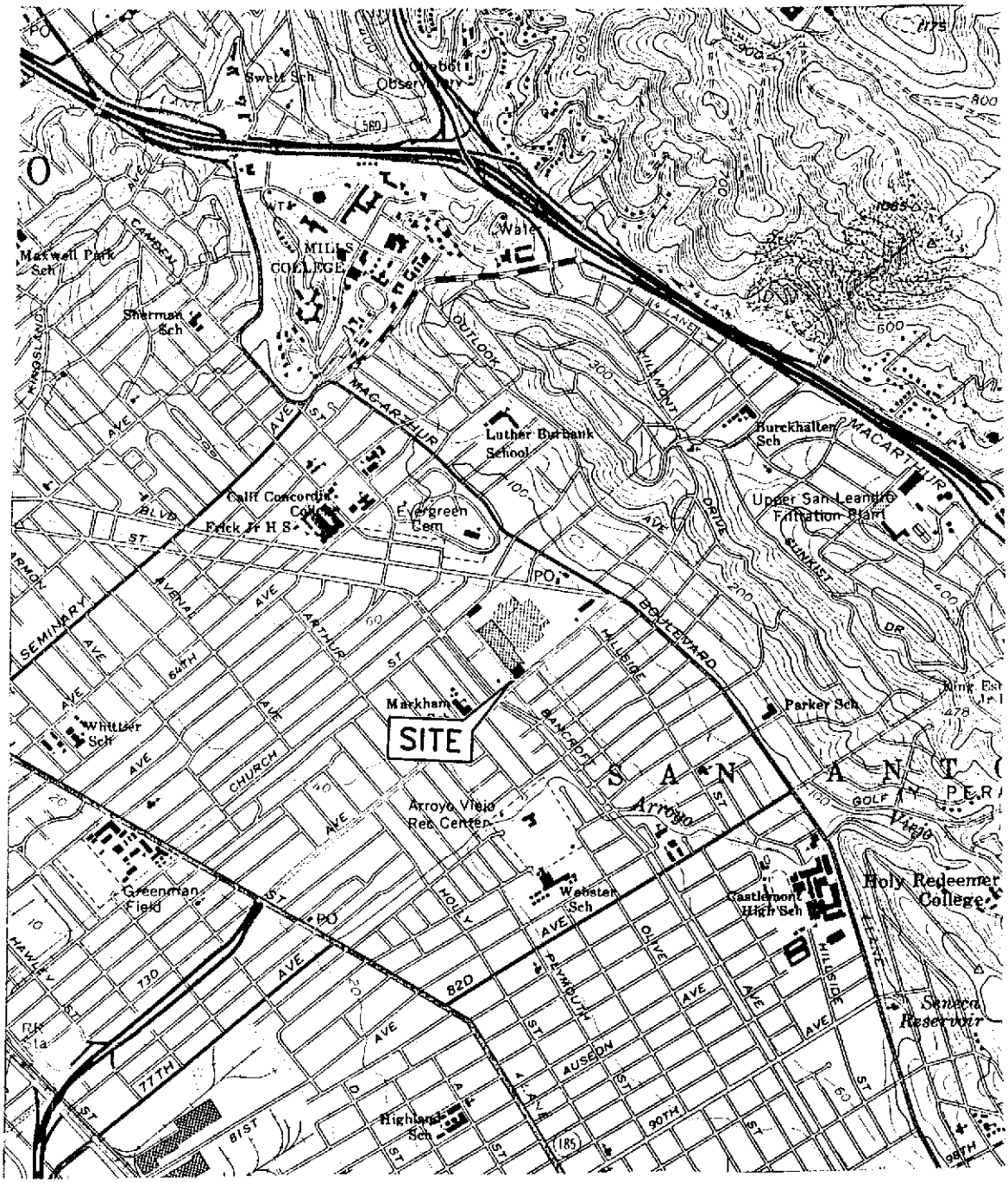
TABLE 2 - PRODUCT REMOVAL STATUS
BP OIL COMPANY SERVICE STATION NO. 11117
7210 BANCROFT AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-018

WELL ID	DATE	PRODUCT THICKNESS	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)
MW-2	02/01/94	1.78	<0.01	<0.01
MW-2	02/11/94	1.55	0.10	0.10
MW-2	02/18/94	1.62	0.90	1.00
MW-2	02/25/94	3.21	0.10	1.10
MW-2	03/04/94	3.92	0.10	1.20
MW-2	03/30/94	4.06	2.60	3.80
MW-2	04/13/95	3.10	0.10	3.90
MW-2	04/21/94	2.88	0.10	4.00
MW-2	04/24/95	6.00	0.10	4.10
MW-2	05/06/94	8.00	0.60	4.70
MW-2	05/13/94	7.00	0.10	4.80
MW-2	05/20/94	7.38	2.10	6.90
MW-2	05/26/94	2.00	2.00	8.90
MW-2	06/02/94	1.09	1.00	9.90
MW-2	06/09/94	1.70	1.00	10.90
MW-2	06/16/94	1.13	1.00	11.90
MW-2	06/23/94	1.24	0.75	12.65
MW-2	06/29/94	0.72	0.60	13.25
MW-2	07/07/94	0.56	0.50	13.75
MW-2	07/12/94	1.00	1.10	14.85
MW-2	07/20/94	0.72	0.75	15.60
MW-2	07/29/94	1.42	1.10	16.70
MW-2	08/05/94	1.04	0.76	17.46
MW-2	08/12/94	1.22	0.76	18.22
MW-2	08/18/94	1.33	0.43	18.65
MW-2	09/16/94	0.42	0.76	19.41
MW-2	09/23/94	0.19	0.17	19.58
MW-2	10/26/94	1.13	0.76	20.34
MW-2	11/03/94	0.77	1.10	21.44
MW-2	11/12/94	0.64	0.60	22.04
MW-2	11/16/94	0.67	0.67	22.71
MW-2	11/23/94	0.56	0.50	23.21
MW-2	12/01/94	0.49	0.60	23.81
MW-2	12/08/94	0.61	0.76	24.57
MW-2	04/19/05	0.12	<0.01	24.57
MW-2	05/23/95	SHEEN	<0.01	24.57
MW-2	06/15/95	0.10	<0.01	24.57
MW-2	10/05/95	0.10	0.25	24.82
MW-2	01/12/96	0.06	0.01	24.83
MW-2	02/08/96	0.06	0.01	24.84
MW-2	04/22/96	0.08	0.01	24.85
MW-2	07/02/96	0.04	<0.01	24.85
MW-2	11/08/96	0.01	<0.01	24.85
MW-2	01/03/97	0.02	<0.01	24.85
MW-2	04/28/97	0.01	<0.01	24.85
MW-2	07/01/97	0.26	0.05	24.90
MW-2	10/02/97	0.02	<0.01	24.90



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

N

0 1000' 2000'

FIGURE 1

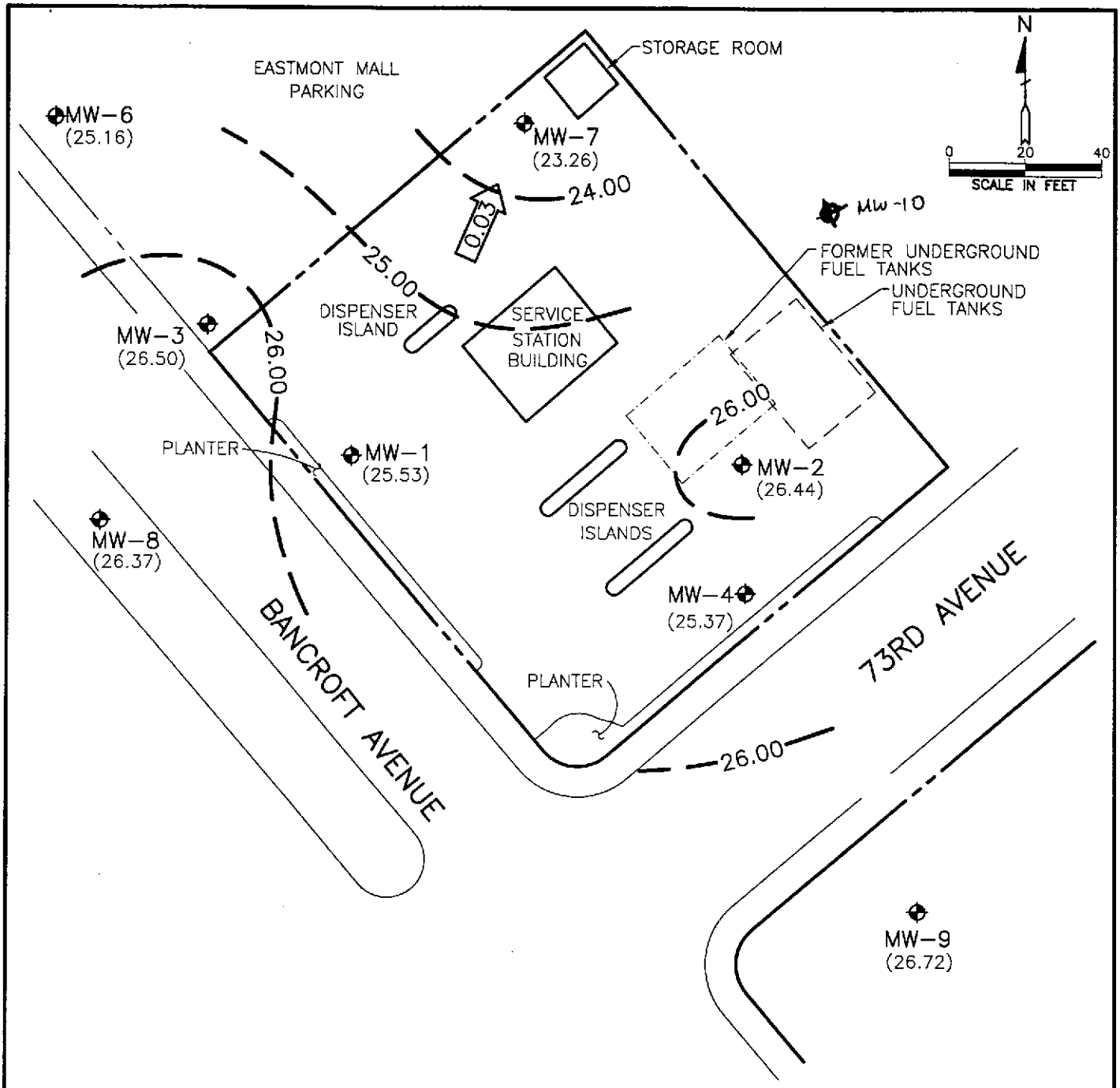
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

PROJECT NO. 10-018

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10018B-.DWG 11-12-93 ARW 1-1



LEGEND

⊕	GROUNDWATER MONITORING WELL
(23.26)	GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
24.00	GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–1.00 FOOT)
0.03	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

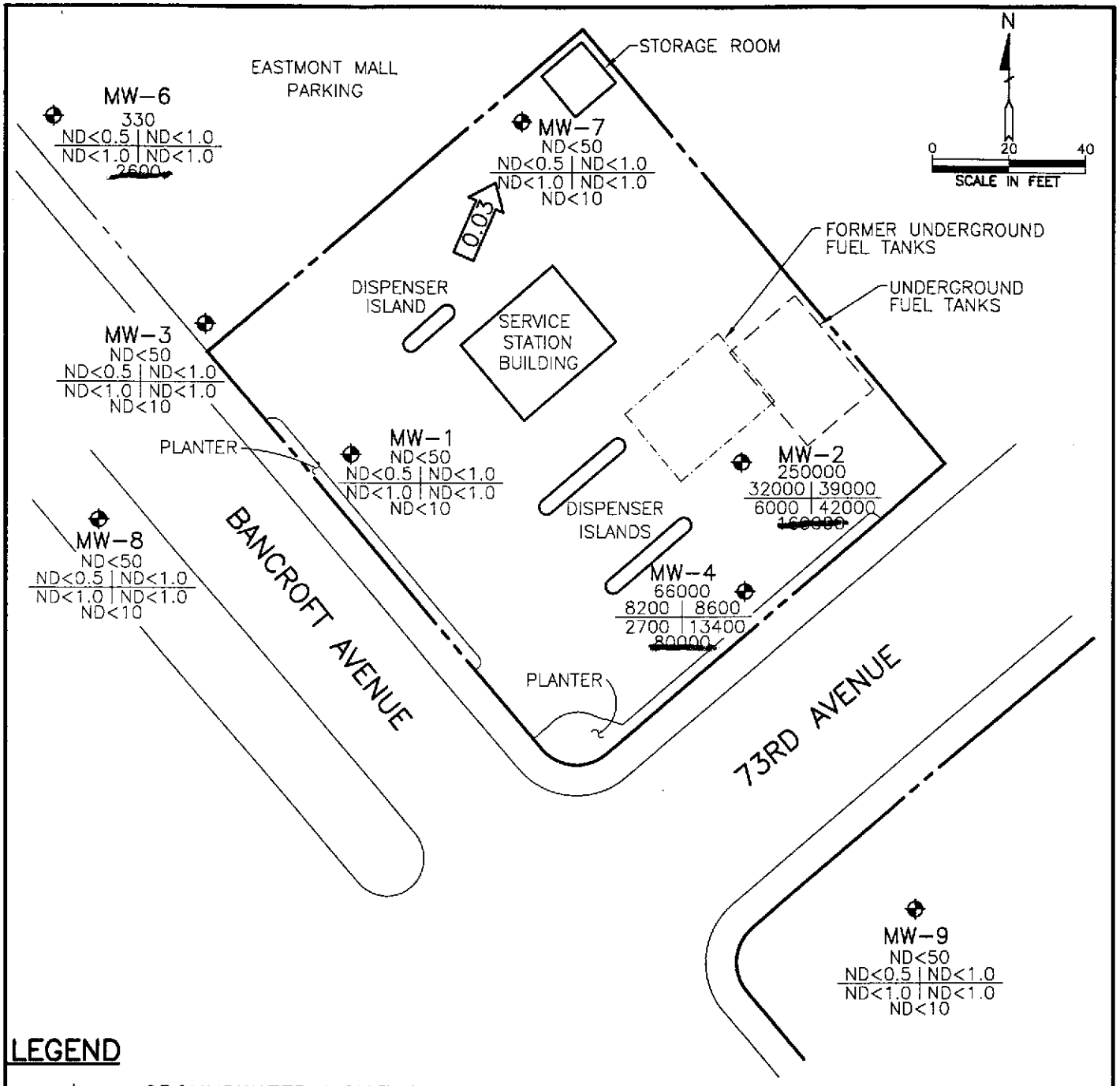
OCTOBER 2, 1997

BP OIL SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

PROJECT NO. 10–018

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10018D-X.DWG 12-3-97 RKW 1=40



LEGEND

⊕	GROUNDWATER MONITORING WELL
TPH-G, B | T / E | X, ~~MTBE~~	CONCENTRATION OF CONSTITUENTS IN MICROGRAMS PER LITER
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
MTBE	METHYL TERT BUTYL ETHER
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
0.03	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

OCTOBER 2 AND 3, 1997

BP OIL SERVICE STATION NO. 11117
7210 BANCROFT AVENUE
OAKLAND, CALIFORNIA

PROJECT NO. 10-018

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10018E-X.DWG 12-3-97 RKW 1=40

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201

Project No. 10-018-06-001 Date: 10/2-10/3/97
Address 7210 Bancroft Ave. Day: M T W (TH) F
Contract No. H177100 City: Oakland
Station No. BP 11117 Sampler: LB

DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS:
MW-1	S-1	2"	36.12'	24.27	Ø	1400	
MW-2	S-7	2"	39.56'	24.65	.02	1421	
MW-3	S-2	2"	42.40'	23.45	Ø	1403	
MW-4	S-8	2"	44.72'	25.39	Ø	1424	QC-1 (S-9) From this well
MW-6	S-6	2"	40.00'	25.16		1417	
MW-7	S-3	2"	44.72'	28.14		1407	
MW-8	S-4	2"	39.50'	24.51		1410	
MW-9	S-5	2"	38.86'	24.33	↓	1414	

FIELD INSTRUMENT CALIBRATION DATA

pH METER Ion 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED (Y) N TIME 1435
D.O. METER Ion ZERO d.O. SOLUTION ____ BAROMETRIC PRESSURE 760 TEMP 67 WEATHER Clear
CONDUCTIVITY METER Ion 10,000 ____ TURBIDITY METER ____ 5.0 NTU ____ OTHER X
LEAK DETECTOR : ____ ALARM MODE X NON ALARM MODE

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-1	24.27	2"	OK	Ø	Y (N)	2	1452	73.0	7.47	717 µS	4.7
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			4		72.0	7.29	737 µS	
36.12-24.27 = 11.85 X .16 = 1.90 X 3 = 5.70						6	1500	71.4	7.22	749 µS	4.6
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601 ____
(X) TPH-G/BTEX ___
O TPH Diesel ____
O TOG 5520 ___
TIME/SAMPLE ID
1506 10/2

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-3	23.45	2"	OK	Ø	Y (N)	3	1517	72.0	7.62	901 µS	4.3
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			6		71.3	7.47	937 µS	
42.40-23.45 = 18.95 X .16 = 3.03 X 3 = 9.09						9.5	1525	70.6	7.40	944 µS	4.5
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601 ____
(X) TPH-G/BTEX ___
O TPH Diesel ____
O TOG 5520 ___
TIME/SAMPLE ID
1530 10/2

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201
WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Project No. 10-018-06-001 | Date: 10/2 - 10/3/97
Address 7210 Bancroft Ave. | Day: M T W TH F
Contract No. H177100 | City: Oakland
Station No. BP 11117 | Sampler: LB

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-7	28.14	2"	OK	Ø	Y (N)	3	1537	71.9	7.47	997 µS	4.5
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			5		70.7	7.32	1042 µS	
44.72-28.14=16.58	X.16=2.65	X3=	7.95			8	1548	70.1	7.27	1063 µS	4.7
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

EPA 601 ___ TPH-G/BTEX (X) TPH Diesel ___ TOG 5520 ___
TIME/SAMPLE ID: 1555 10/2

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-8	24.51	2"	OK	Ø	Y (N)	3	1615	72.7	7.55	507 µS	4.2
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			6		71.4	7.32	529 µS	
39.50-24.51=14.99	X.16=2.40	X3=	7.20			8	1624	70.9	7.32	534 µS	4.2
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

EPA 601 ___ TPH-G/BTEX (X) TPH Diesel ___ TOG 5520 ___
TIME/SAMPLE ID: 1630 10/2

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-9	24.33	2"	OK	Ø	Y (N)	3	1002	72.2	7.79	910 µS	4.1
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			5		71.3	7.60	933 µS	
38.86-24.33=14.53	X.16=2.32	X3=	6.96			7	1012	71.0	7.53	944 µS	4.4
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

EPA 601 ___ TPH-G/BTEX (X) TPH Diesel ___ TOG 5520 ___
TIME/SAMPLE ID: 1017 10/3

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-6	25.16	2"	Replace	Ø	Y (N)	3	1031	72.7	7.79	987 µS	4.4
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			5		71.9	7.71	1023 µS	
40.00-25.16=14.84	X.16=2.37	X3=	7.11			7.5	1040	71.3	7.62	1034 µS	4.4
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

EPA 601 ___ TPH-G/BTEX (X) TPH Diesel ___ TOG 5520 ___
TIME/SAMPLE ID: 1043 10/3

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-2	24.65	2"	Replace	24.63	Y (N)	3	1057	71.8	7.97	827 µS	4.5
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			5		70.7	7.80	860 µS	
39.56-24.65=14.91	X.16=2.39	X3=	7.17			8	1110	70.3	7.72	864 µS	4.5
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments: Removed <.01 gal FP											

EPA 601 ___ TPH-G/BTEX (X) TPH Diesel ___ TOG 5520 ___
TIME/SAMPLE ID: 1113 10/3

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201
WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Project No. 10-018-06-001 Date: 10/2-10/3/97
Address 7210 Bancroft Ave. Day: M T W TH F
Contract No. H177100 City: Oakland
Station No. BP 11117 Sampler: LB

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-4	25.39	2"	Locked	∅	Y (N)	3	1122	72.0	7.52	1.02 ms	4.0
Total Depth - Water Level=	x Well Vol. Factor=	x#Vol. to Purge	PurgeVol.			7		71.3	7.40	1.10 ms	
44.72 - 25.39 = 19.33	X .16 = 3.09	X3 = 9.27				10	1131	70.6	7.33	1.17 ms	4.4
Purge Method: ⊗Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments: QC-1 (5-9) From this well											

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
					Y N						
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.								
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

- O EPA 601_____
- O TPH-G/BTEX___
- O TPH Diesel____
- O TOG 5520 ___

TIME/SAMPLE ID
1137 10/3

- O EPA 601_____
- O TPH-G/BTEX___
- O TPH Diesel____
- O TOG 5520 ___

TIME/SAMPLE ID

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

October 16, 1997

Mr. Scott Hooton
BP Oil Company
295 Sw 41st St, Bldg 13,Ste N
Renton, WA 98055

The following report contains analytical results for samples received at Southern Petroleum Laboratories (SPL) on October 7, 1997. The samples were assigned to Certificate of Analysis No.(s)9710349 and analyzed for all parameters as listed on the chain of custody.

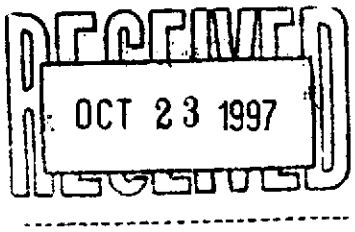
Your sample, "S-1" (SPL ID# 9710349-01), was selected for the use in SPL's quality control program for the BTEX (8020A) analysis. In the analytical batch HP_U971012085600, the Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recoveries were outside of QC limits for Toluene. The MSD recoveries were also out for MTBE, Benzene, and Ethylbenzene. No other analytical problems were encountered with this group of samples and the Laboratory Control Sample (LCS) values were within acceptance limits.

If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis No. during any inquiries.

Again, SPL is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Southern Petroleum Laboratories

Brett VanDelinder
Project Manager



HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number 97-10-349

Approved for Release by:

Brett VanDelinder, Project Manager

10-17-97
Date:

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

****SUMMARY REPORT*****

10/16/97

Company: BP Oil Company
Site: Oakland, CA
Project No: 10-018-6-1
Project: #11117, N/A

ANALYTICAL DATA
NOTE: ND - Not Detected

SPL ID MATRIX	CLIENT ID DATE SAMPLED	BENZENE	TOLUENE	ETHYLBENZ.	XYLENE	TPH-IR	TPH-GC PQL	LEAD	MTBE
9710349-01 WATER	S-1 10/02/97						ND 0.05mg/L		
9710349-02 WATER	S-2 10/02/97						ND 0.05mg/L		
9710349-03 WATER	S-3 10/02/97						ND 0.05mg/L		
9710349-04 WATER	S-4 10/02/97						ND 0.05mg/L		
9710349-05 WATER	S-5 10/03/97						ND 0.05mg/L		
9710349-06 WATER	S-6 10/03/97						0.33 0.05mg/L		
9710349-07 WATER	S-7 10/03/97						250 25mg/L		
9710349-08 WATER	S-8 10/03/97						66 5mg/L		
9710349-09 WATER	S-9 10/03/97						71 1.2mg/L		

TPH-GC - California LUFT Manual for Gasoline

SPL, Inc., - Project Manager

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9710349-01

BP Oil Company
295 SW 41st St, Bldg 13,Ste N
Renton, WA 98055
ATTN: Scott Hooton

P.O.# H177100, COC#072051
DATE: 10/16/97

PROJECT: #11117, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-1

PROJECT NO: 10-018-6-1
MATRIX: WATER
DATE SAMPLED: 10/02/97
DATE RECEIVED: 10/07/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1.0 P	µg/L
Ethylbenzene	ND	1.0 P	µg/L
Total Xylene	ND	1.0 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	73		
Method 8020A***			
Analyzed by: HS			
Date: 10/12/97			
Gasoline Range Organics	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	107		
4-Bromofluorobenzene	67		
California LUFT Manual for Gasoline			
Analyzed by: HS			
Date: 10/12/97 12:26:00			

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9710349-02

BP Oil Company
295 SW 41st St, Bldg 13,Ste N
Renton, WA 98055
ATTN: Scott Hooton

P.O.# H177100, COC#072051
DATE: 10/16/97

PROJECT: #11117, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-2

PROJECT NO: 10-018-6-1
MATRIX: WATER
DATE SAMPLED: 10/02/97
DATE RECEIVED: 10/07/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1.0 P	µg/L
Ethylbenzene	ND	1.0 P	µg/L
Total Xylene	ND	1.0 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	73		
Method 8020A***			
Analyzed by: HS			
Date: 10/12/97			
Gasoline Range Organics	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	107		
4-Bromofluorobenzene	70		
California LUFT Manual for Gasoline			
Analyzed by: HS			
Date: 10/12/97 12:51:00			

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9710349-03

BP Oil Company
295 SW 41st St, Bldg 13,Ste N
Renton, WA 98055
ATTN: Scott Hooton

P.O.# H177100, COC#072051
DATE: 10/16/97

PROJECT: #11117, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-3

PROJECT NO: 10-018-6-1
MATRIX: WATER
DATE SAMPLED: 10/02/97
DATE RECEIVED: 10/07/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1.0 P	µg/L
Ethylbenzene	ND	1.0 P	µg/L
Total Xylene	ND	1.0 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	77		
Method 8020A***			
Analyzed by: HS			
Date: 10/12/97			
Gasoline Range Organics	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	103		
4-Bromofluorobenzene	83		
California LUFT Manual for Gasoline			
Analyzed by: HS			
Date: 10/12/97 03:22:00			

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9710349-04

BP Oil Company
295 SW 41st St, Bldg 13,Ste N
Renton, WA 98055
ATTN: Scott Hooton

P.O.# H177100, COC#072051
DATE: 10/16/97

PROJECT: #11117, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-4

PROJECT NO: 10-018-6-1
MATRIX: WATER
DATE SAMPLED: 10/02/97
DATE RECEIVED: 10/07/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1.0 P	µg/L
Ethylbenzene	ND	1.0 P	µg/L
Total Xylene	ND	1.0 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	73		
Method 8020A***			
Analyzed by: HS			
Date: 10/12/97			
Gasoline Range Organics	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	107		
4-Bromofluorobenzene	83		
California LUFT Manual for Gasoline			
Analyzed by: HS			
Date: 10/12/97 03:46:00			

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9710349-05

BP Oil Company
295 SW 41st St, Bldg 13,Ste N
Renton, WA 98055
ATTN: Scott Hooton

P.O.# H177100, COC#072051
DATE: 10/16/97

PROJECT: #11117, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-5

PROJECT NO: 10-018-6-1
MATRIX: WATER
DATE SAMPLED: 10/03/97
DATE RECEIVED: 10/07/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1.0 P	µg/L
Ethylbenzene	ND	1.0 P	µg/L
Total Xylene	ND	1.0 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	77		
Method 8020A***			
Analyzed by: DN			
Date: 10/13/97			
Gasoline Range Organics	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	107		
4-Bromofluorobenzene	73		
California LUFT Manual for Gasoline			
Analyzed by: HS			
Date: 10/12/97 11:03:00			

ND - Not detected. (P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9710349-06

BP Oil Company
295 SW 41st St, Bldg 13,Ste N
Renton, WA 98055
ATTN: Scott Hooton

P.O.# H177100, COC#072051
DATE: 10/16/97

PROJECT: #11117, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-6

PROJECT NO: 10-018-6-1
MATRIX: WATER
DATE SAMPLED: 10/03/97
DATE RECEIVED: 10/07/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	2600	250 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1.0 P	µg/L
Ethylbenzene	ND	1.0 P	µg/L
Total Xylene	ND	1.0 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	73		
Method 8020A***			
Analyzed by: DN			
Date: 10/13/97			
Gasoline Range Organics	0.33	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	110		
4-Bromofluorobenzene	63		
California LUFT Manual for Gasoline			
Analyzed by: HS			
Date: 10/12/97 11:27:00			

(P) - Practical Quantitation Limit ND - Not detected.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9710349-07

BP Oil Company
295 SW 41st St, Bldg 13,Ste N
Renton, WA 98055
ATTN: Scott Hooton

P.O.# H177100, COC#072051
DATE: 10/16/97

PROJECT: #11117, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-7

PROJECT NO: 10-018-6-1
MATRIX: WATER
DATE SAMPLED: 10/03/97
DATE RECEIVED: 10/07/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	160000	5000 P	µg/L
Benzene	32000	250 P	µg/L
Toluene	39000	500 P	µg/L
Ethylbenzene	6000	500 P	µg/L
Total Xylene	42000	500 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	100		
Method 8020A***			
Analyzed by: HS			
Date: 10/13/97			
Gasoline Range Organics	250	25 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	133		
4-Bromofluorobenzene	93		
California LUFT Manual for Gasoline			
Analyzed by: HS			
Date: 10/13/97 12:40:00			

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9710349-08

BP Oil Company
295 SW 41st St, Bldg 13,Ste N
Renton, WA 98055
ATTN: Scott Hooton

P.O.# H177100, COC#072051
DATE: 10/16/97

PROJECT: #11117, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-8

PROJECT NO: 10-018-6-1
MATRIX: WATER
DATE SAMPLED: 10/03/97
DATE RECEIVED: 10/07/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	80000	5000 P	µg/L
Benzene	8200	50 P	µg/L
Toluene	8600	100 P	µg/L
Ethylbenzene	2700	100 P	µg/L
Total Xylene	13400	100 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	93		
Method 8020A***			
Analyzed by: DN			
Date: 10/13/97			
Gasoline Range Organics	66	5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	117		
4-Bromofluorobenzene	97		
California LUFT Manual for Gasoline			
Analyzed by: HS			
Date: 10/13/97 12:16:00			

(P) - Practical Quantitation Limit

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9710349-09

BP Oil Company
295 SW 41st St, Bldg 13,Ste N
Renton, WA 98055
ATTN: Scott Hooton

P.O.# H177100, COC#072051
DATE: 10/16/97

PROJECT: #11117, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-9

PROJECT NO: 10-018-6-1
MATRIX: WATER
DATE SAMPLED: 10/03/97
DATE RECEIVED: 10/07/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	84000	5000 P	µg/L
Benzene	8600	12 P	µg/L
Toluene	8700	25 P	µg/L
Ethylbenzene	2900	25 P	µg/L
Total Xylene	13500	25 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	80		
Method 8020A***			
Analyzed by: DN			
Date: 10/14/97			
Gasoline Range Organics	71	1.2 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	160MI		
4-Bromofluorobenzene	133		
California LUFT Manual for Gasoline			
Analyzed by: HS			
Date: 10/12/97 11:52:00			

(P) - Practical Quantitation Limit MI - Matrix interference.

Notes: *Ref: Methods for Chemical Analysis of Water and Wastes, 1983, EPA
**Ref: Standard Methods for Examination of Water & Wastewater, 18th ed.
***Ref: Test Methods for Evaluating Solid Waste, EPA SW846, 3rd Ed.

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
SPL California License # 1903

QUALITY CONTROL

DOCUMENTATION

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020***

Matrix: Aqueous
Units: µg/L

Batch Id: HP_U971012085600

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	55	110	20 - 110
Benzene	ND	50	58	116	62 - 121
Toluene	ND	50	58	116	66 - 136
Ethyl_Benzene	ND	50	54	108	70 - 136
O-Xylene	ND	50	56	112	74 - 134
M and P Xylene	ND	100	110	110	77 - 140

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	ND	20	27	135	33	165 *	20.0	20	39 - 150
BENZENE	ND	20	28	140	34	170 *	19.4	25	39 - 150
TOLUENE	ND	20	27	135 *	32	160 *	16.9	26	56 - 134
ETHYL_BENZENE	ND	20	25	125	30	150 *	18.2	38	61 - 128
O-XYLENE	ND	20	25	125	25	125	0	29	40 - 130
M AND P XYLENE	ND	40	50	125	50	125	0	20	43 - 152

Analyst: HS
Sequence Date: 10/11/97
SPL ID of sample spiked: 9710349-01A
Sample File ID: U_J7486.TX0
Method Blank File ID:
Blank Spike File ID: U_J7467.TX0
Matrix Spike File ID: U_J7470.TX0
Matrix Spike Duplicate File ID: U_J7471.TX0

* = Values Outside QC Range. « = Data outside Method Specification limits.
NC = Not Calculated (Sample exceeds spike by factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100
(**) = Source: SPL-Houston Historical Data (1ST Q '97)
(***) = Source: SPL-Houston Historical Data (1ST Q '97)

SAMPLES IN BATCH(SPL ID): 9710519-03A 9710519-04A 9710349-03A 9710349-04A 9710347-04A 9710347-05A 9710519-05A 9710349-01A 9710349-02A 9710519-02A

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020***

Matrix: Aqueous
Units: µg/L

Batch Id: HP_U971012172300

L A B O R A T O R Y C O N T R O L S A M P L E

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	59	118 *	20 - 110
Benzene	ND	50	59	118	62 - 121
Toluene	ND	50	60	120	66 - 136
Ethyl_Benzene	ND	50	58	116	70 - 136
O-Xylene	ND	50	58	116	74 - 134
M and P Xylene	ND	100	120	120	77 - 140

M A T R I X S P I K E S

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	ND	20	27	135	27	135	0	20	39 - 150
BENZENE	ND	20	27	135	27	135	0	25	39 - 150
TOLUENE	ND	20	27	135 *	27	135 *	0	26	56 - 134
ETHYL_BENZENE	ND	20	25	125	25	125	0	38	61 - 128
O-XYLENE	ND	20	24	120	25	125	4.08	29	40 - 130
M AND P XYLENE	ND	40	48	120	49	122	1.65	20	43 - 152

Analyst: HS
Sequence Date: 10/12/97
SPL ID of sample spiked: 9710350-01A
Sample File ID: U_J7505.TX0
Method Blank File ID:
Blank Spike File ID: U_J7497.TX0
Matrix Spike File ID: U_J7500.TX0
Matrix Spike Duplicate File ID: U_J7501.TX0

* = Values Outside QC Range. « = Data outside Method Specification limits.
NC = Not Calculated (Sample exceeds spike by factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100
(**) = Source: SPL-Houston Historical Data (1ST Q '97)
(***) = Source: SPL-Houston Historical Data (1ST Q '97)

SAMPLES IN BATCH(SPL ID):

9710350-05A 9710349-06A 9710349-09A 9710349-08A
9710350-06A 9710347-03A 9710603-09A 9710603-02A
9710522-02A 9710349-05A 9710349-06A 9710349-08A
9710349-07A 9710350-01A 9710350-04A 9710350-02A
9710350-03A

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL BATCH QUALITY CONTROL REPORT **

METHOD 8020/602

Matrix: Aqueous

Batch Id: HP_U971013103000

Units: µg/L

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	47	94.0	63 - 120
Benzene	ND	50	49	98.0	62 - 121
Toluene	ND	50	50	100	66 - 136
EthylBenzene	ND	50	48	96.0	70 - 136
O Xylene	ND	50	49	98.0	74 - 134
M & P Xylene	ND	100	99	99.0	77 - 140

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	73	20	94	105	91	90.0	15.4	20	39 - 150
BENZENE	ND	20	21	105	22	110	4.65	25	39 - 150
TOLUENE	ND	20	21	105	21	105	0	26	56 - 134
ETHYLBENZENE	ND	20	19	95.0	20	100	5.13	38	61 - 128
O XYLENE	ND	20	22	110	22	110	0	29	40 - 130
M & P XYLENE	ND	40	41	102	41	102	0	20	43 - 152

Analyst: DN

Sequence Date: 10/13/97

SPL ID of sample spiked: 9710270-06A

Sample File ID: U_J7544.TX0

Method Blank File ID:

Blank Spike File ID: U_J7536.TX0

Matrix Spike File ID: U_J7539.TX0

Matrix Spike Duplicate File ID: U_J7540.TX0

* = Values Outside QC Range. « = Data outside Method Specification limits.

NC = Not Calculated (Sample exceeds spike by factor of 4 or more)

ND = Not Detected/Below Detection Limit

% Recovery = [(<1> - <2>) / <3>] x 100

LCS % Recovery = (<1> / <3>) x 100

Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100

(**) = Source: SPL-Houston Historical Data (1st Q '97)

(***) = Source: SPL-Houston Historical Data (1st Q '97)

SAMPLES IN BATCH(SPL ID):

9710270-03A 9710270-01A 9710270-05A 9710270-04A
9710350-05A 9710350-06A 9710349-07A 9710349-09A
9710270-06A 9710270-07A 9710349-07A

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL BATCH QUALITY CONTROL REPORT **
California LUFT Manual for Gasoline

Matrix: Aqueous
Units: mg/L

Batch Id: HP_U971011092200

L A B O R A T O R Y C O N T R O L S A M P L E

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Gasoline Range Organics	ND	1.00	0.67	67.0	64 - 131

M A T R I X S P I K E S

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
GASOLINE RANGE ORGANICS	ND	0.90	1.0	111	1.1	122	9.44	36	36 - 160

Analyst: HS
Sequence Date: 10/13/97
SPL ID of sample spiked: 9710349-02A
Sample File ID: UUJ7487.TX0
Method Blank File ID:
Blank Spike File ID: UUJ7522.TX0
Matrix Spike File ID: UUJ7472.TX0
Matrix Spike Duplicate File ID: UUJ7473.TX0

* = Values Outside QC Range. « = Data outside Method Specification limits.
NC = Not Calculated (Sample exceeds spike by factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100
(**) = Source: SPL-Houston Historical data (1st Q '97)
(***) = Source: SPL-Houston Historical Data (1st Q '97)

SAMPLES IN BATCH(SPL ID):

9710347-04A 9710347-05A 9710349-01A 9710349-02A
9710519-04A 9710349-03A 9710349-04A 9710519-05A
9710519-02A 9710519-03A 9710519-04A 9710347-03A

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

** SPL BATCH QUALITY CONTROL REPORT **
California LUFT Manual for Gasoline

Matrix: Aqueous
Units: mg/L

Batch Id: HP_U971012061100

L A B O R A T O R Y C O N T R O L S A M P L E

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Gasoline Range Organics	ND	1.0	0.74	74.0	64 - 131

M A T R I X S P I K E S

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
GASOLINE RANGE ORGANICS	ND	0.90	1.1	122	1.1	122	0	36	36 - 160

Analyst: HS
Sequence Date: 10/13/97
SPL ID of sample spiked: 9710350-04A
Sample File ID: UUJ7506.TX0
Method Blank File ID:
Blank Spike File ID: UUJ7521.TX0
Matrix Spike File ID: UUJ7502.TX0
Matrix Spike Duplicate File ID: UUJ7503.TX0

* = Values Outside QC Range. « = Data outside Method Specification limits.
NC = Not Calculated (Sample exceeds spike by factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100
(**) = Source: SPL-Houston Historical data (1st Q '97)
(***) = Source: SPL-Houston Historical Data (1st Q '97)

SAMPLES IN BATCH(SPL ID): 9710603-09A 9710350-01A 9710350-04A 9710350-02A 9710350-03A 9710350-05A 9710349-05A 9710349-06A 9710349-09A 9710349-08A 9710349-07A 9710522-03A 9710522-02A 9710349-08A

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

9710349

CHAIN OF CUSTODY

No. 072051 Page 1 of 1

CONSULTANT'S NAME: Alisto Engineering	ADDRESS: 1575 Treat Blvd #201	CITY: W.C.	STATE: Ca	ZIP CODE: 94598
BP SITE NUMBER: 11117	BP CORNER ADDRESS/CITY: Oakland, Ca			CONSULTANT PROJECT NUMBER: 10-018-6-1
CONSULTANT PROJECT MANAGER: Brady Nagle	PHONE NUMBER: (510) 295-1650	FAX NUMBER: 295-1823		CONSULTANT CONTRACT NUMBER: H177/00
BP CONTACT: Scott Hooton	BP ADDRESS: Renton, WA	PHONE NUMBER: —		FAX NO.: —
LAB CONTACT: SRL	LABORATORY ADDRESS: Texas	PHONE NUMBER: —		FAX NO.: —
SAMPLED BY (Please Print Name): Larry Brunswick	SAMPLED BY (Signature):	SHIPMENT DATE: 10-6-97		SHIPMENT METHOD: Fed Ex

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

ANALYSIS REQUIRED

AIRBILL NUMBER: 384847 1616

SAMPLE DESCRIPTION	COLLECTION DATE / TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH-D 8015	BTEX 8020	COMMENTS
S-1	10/2/97	W	3	HCL		X	X	
S-2	↓	↓	↓	↓		↓	↓	
S-3	↓	↓	↓	↓		↓	↓	
S-4	↓	↓	↓	↓		↓	↓	
S-5	10/3/97	↓	↓	↓		↓	↓	
S-6	↓	↓	↓	↓		↓	↓	
S-7	↓	↓	↓	↓		↓	↓	
S-8	↓	↓	↓	↓		↓	↓	
S-9	↓	↓	↓	↓		↓	↓	

w/1 REIC

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	10/3/97		Patricia Lyeton	10/6/97	0830
Patricia Lyeton	10/6/97	1505	Ruben Stutt	10/7/97	1000

ADDITIONAL COMMENTS

CLV-16722
PKG/50

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

SPL Houston Environmental Laboratory

Sample Login Checklist

Date: 10/7/97	Time: 1800

SPL Sample ID: 9710349

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		4 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	384847161G	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name: Arlen Ertl	Date: 10/3/97

BP EXPLORATION & OIL, INC.
ENVIRONMENTAL REMEDIATION MANAGEMENT
DATA REVIEW CHECKLIST

BP Site Number: 11117
ERM Contact: H177100
Sampling Date: 10/03/97
Matrix Description: Water
Date Final Report Received: 10/23/97
Laboratory & Location: SPL, Houston, Texas

		Yes	No	N/A
1.	Is BP contract release number consistent with analytical report?	✓		
2.	Was report submitted within the specified timeframe?	✓		
3.	Does report agree with the COC?	✓		
4.	Are units consistent with the given matrix?	✓		
5.	Were any target analytes/compounds detected in blanks (i.e., trip or equipment)?			✓
6.	Are duplicate water samples within 30 %?	✓		
7.	Are holding times met?	✓		
8.	Are surrogates within limits using laboratory criteria?	✓		
9.	Are MS/MSD acceptable using laboratory criteria?		✓	
10.	Are LCS results acceptable using laboratory criteria?	✓		

Notes: 9) see lab report cover letter for explanation

Data Validation Completed by: Ken Simas
(signature): K Simas
Date: 12/2/97