BP OIL

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

September 22, 1998

Alameda County Health Care Services Agency
Attention Ms. Susan Hugo
1131 Harbor Bay Parkway, STE 250
Alameda, CA 94502-6577

RE: Former BP Facility No. 11126
1700 Powell Street (at Christie)
Emeryville, CA

Dear Ms. Hugo:

Enclosed find the 4 September 1998 Groundwater Monitoring and Sampling Report prepared on behalf of BP by Alisto Engineering Group.

Please note that the MTBE concentrations detected in the groundwater subsequent to Tosco's 1994 purchase of the facility represent a release which requires transfer of corrective action activities to Tosco. BP provided notice of these circumstances to Tosco on 20 August 1998, and I expect that future submittals to your department will be made by Tosco. BP has no plans for further activities at this site.

If you need to call me, my telephone number is (425)251-0689.

Sincerely,

Scott Hooton

attachment

cc: site file
C.R. Pinzone
David Camille - Tosco (w/attachment)

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11126
1700 Powell Street
Emeryville, California

Project No. 10-061-08-004

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

September 4, 1998

Brady Nagle
Project Manager

Al Sevilla, P.E.
Principal

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11126
1700 Powell Street
Emeryville, California

Project No. 10-061-08-004

September 4, 1998

INTRODUCTION

This report presents the results and findings of the June 22, 1998 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11126, 1700 Powell Street, Emeryville, 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 in reference to mean sea level. The survey data and groundwater elevation measurements collected to date are presented in Table 1.

Before sample collection, each well was purged of 3 casing volumes while recording field readings of pH, temperature, 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.

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. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

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)		TOG (ug/l)	HVOC (ug/l) (c)	DO (ppm)	LAB
MW-1		11/04/92	7.76	4.96	—	2.80	5300	---	1100	480	ND<0.5	1500	---		---	—	—	PACE
MW-1		10/12/93	7.76	5.26	---	2.50	3600	—	970	71	100	550	—		---	—	---	PACE
MW-1		02/15/94	7.76	4.98	—	2.78	17000	---	4200	510	360	1600	—		—	---	3.9	PACE
MW-1		05/11/94	7.76	4.55	---	3.21	5500	—	2900	37	56	64	---		—	—	8.0	PACE
MW-1		08/01/94	7.76	5.51	—	2.25	15000	---	3600	740	510	2800	9700	(d)	—	---	2.9	PACE
QC-1	(e)	08/01/94	---	---	---	---	16000	—	3600	750	510	2800	9800	(d)	—	—	---	PACE
MW-1		10/18/94	7.76	5.11	—	2.65	16000	---	1800	61	160	890	—		—	---	2.9	PACE
QC-1	(e)	10/18/94	---	---	---	---	16000	—	1900	64	170	950	---		---	—	---	PACE
MW-1		01/13/95	7.76	3.05	—	4.71	220	---	7	ND<0.5	1	23	—		—	---	6.6	ATI
QC-1	(e)	01/13/95	—	---	—	—	590	---	88	0.7	ND<0.5	55	—		—	---	—	ATI
MW-1		04/13/95	7.76	3.84	—	3.92	9300	---	4000	300	200	950	—		—	—	7.7	ATI
MW-1		07/11/95	7.76	3.60	—	4.16	15000	---	2200	84	ND<25	2500	—		—	—	8.8	ATI
MW-1		11/02/95	7.76	4.58	—	3.18	19000	—	920	ND<100	ND<100	430	52000		—	---	7.3	ATI
MW-1		02/05/96	7.76	4.43	—	3.33	4600	---	1400	330	54	247	8700		—	—	3.2	SPL
MW-1		04/24/96	7.76	4.00	---	3.76	2000	—	510	33	61	228	4500		---	—	7.5	SPL
MW-1		07/15/96	7.76	4.30	—	3.46	---	—	---	---	---	---	---		---	—	---	---
MW-1		07/16/96	7.76	---	—	—	12000	---	2800	170	390	1630	64000		—	---	7.9	SPL
QC-1	(e)	07/16/96	—	---	—	---	12000	—	2800	160	390	1610	63000		---	—	---	SPL
MW-1		07/30/96	7.76	4.64	---	3.12	---	---	---	---	---	---	---		---	---	---	---
MW-1		08/12/96	7.76	---	---	—	11000	---	2500	160	ND<10	1740	440000		---	—	7.0	SPL
MW-1		11/04/96	7.76	5.98	—	1.78	---	—	---	---	—	---	---		---	—	---	—
MW-1		11/05/96	7.76	---	—	—	53000	---	1300	43	100	349	42000/190000	(f)	---	—	6.6	SPL
MW-1		05/17/97	7.76	4.65	—	3.11	52000	---	1958	55	305	1216	140198		—	---	5.7	SPL
MW-1		08/11/97	7.76	4.90	—	2.86	25000	—	540	6.7	ND<5.0	57	360000		—	—	7.9	SPL
MW-1		11/17/97	7.76	6.12	—	1.64	93000	---	1200	31	180	40	400000		—	---	7.6	SPL
MW-1		01/29/98	7.76	4.90	---	2.86	4800	—	320	24	52	19.9	ND<50		---	—	6.6	SPL
MW-1		06/22/98	7.76	4.62	—	3.14	63000	—	180	ND<5.0	15	69	57000		—	---	6.0	
MW-2		11/04/92	8.56	5.88	—	2.68	12000	---	3900	1300	ND<0.5	2300	---		---	---	---	PACE
QC-1	(e)	11/04/92	---	---	—	0.00	12000	---	3200	980	ND<0.5	1900	---		---	---	---	PACE
MW-2		10/12/93	8.56	6.29	---	2.27	4500	---	3400	180	230	940	---		---	---	—	PACE
MW-2		02/15/94	8.56	5.56	—	3.00	2000	---	430	270	28	390	---		—	—	4.0	PACE
QC-1	(e)	02/15/94	—	---	—	0.00	1800	—	290	160	14	250	---		---	—	---	PACE
MW-2		05/11/94	8.56	5.17	---	3.39	14000	---	3900	1200	440	1900	---		—	—	8.9	PACE
QC-1	(e)	05/11/94	---	---	—	---	15000	---	5600	1500	470	2000	740	(d)	---	---	---	PACE
MW-2		08/01/94	8.56	5.43	—	3.13	8200	—	3000	420	230	680	---		---	—	2.6	PACE
MW-2		10/18/94	8.56	5.71	—	2.85	9000	—	2000	140	150	420	---		---	—	7.2	PACE
MW-2		01/13/95	8.56	4.67	—	3.89	7900	---	2200	42	ND<5	770	—		—	---	6.8	ATI
MW-2		04/13/95	8.56	4.37	—	4.19	33000	—	8000	2500	1100	6600	—		---	—	7.5	ATI
QC-1	(e)	04/13/95	—	---	—	—	25000	---	6500	1500	110	5300	—		—	—	---	ATI
MW-2		07/11/95	8.56	4.51	---	4.05	19000	---	3300	99	7.5	4600	—		---	---	7.8	ATI
QC-1	(e)	07/11/95	---	---	—	—	28000	---	6800	1000	900	4900	---		---	---	---	ATI
MW-2		11/02/95	8.56	5.55	---	3.01	20000	—	3800	1200	570	2700	15000		—	—	7.3	ATI
QC-1	(e)	11/02/95	—	—	—	—	22000	—	4000	1200	600	2700	19000		—	—	—	ATI
MW-2		02/05/96	8.56	5.10	---	3.46	1200	—	320	220	26	187	99		---	---	2.2	SPL
QC-1	(e)	02/05/96	---	---	---	---	910	---	290	180	19	137	93		---	---	—	SPL
MW-2		04/24/96	8.56	4.95	---	3.61	ND<500	—	70	22	ND<10	61	ND<50		---	—	7.0	SPL
QC-1	(e)	04/24/96	—	—	—	—	ND<500	—	100	30	ND<10	71	ND<100		---	---	---	SPL
MW-2		07/15/96	8.56	5.40	—	3.16	—	—	—	—	—	—	—		---	—	—	---
MW-2		07/16/96	8.56	—	—	—	12000	—	3300	1400	250	2610	1400		---	—	7.8	SPL
MW-2		07/30/96	8.56	5.44	—	3.12	—	—	—	—	—	—	—		---	---	---	---
MW-2		11/04/96	8.56	7.06	—	1.50	—	—	—	—	—	---	---		---	---	—	---
MW-2		11/05/96	8.56	—	—	—	7200	—	1400	230	38	2110	1100		---	---	7.4	SPL
QC-1	(e)	11/05/96	—	—	—	—	9200	—	1300	170	ND<25	2240	1100		---	---	---	SPL
MW-2		05/17/97	8.56	5.77	---	2.79	570	---	42	ND<5.0	5.0	60	210		---	---	6.9	SPL
MW-2		08/11/97	8.56	5.71	—	2.85	6300	---	1800	130	86	397	2400		---	---	8.5	SPL
MW-2		11/17/97	8.56	6.91	—	1.65	2400	---	220	30	33	259	130		---	---	7.9	SPL
MW-2		01/29/98	8.56	4.61	—	3.95	ND<50	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	---	6.2	SPL
MW-2		06/22/98	8.56	4.80	---	3.76	4200	---	640	150	120	650	560		---	---	5.4	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

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)		TOG (ug/l)	HVOC (ug/l) (c)	DO (ppm)	LAB
MW-3	11/04/92	8.25	6.38	---	1.87	200	690	1.6	ND<0.5	ND<0.5	1 1	---		ND<5000	ND	---	PACE
MW-3	10/12/93	8.25	5.84	---	2.41	270	2100	5.0	0.7	ND<0.5	2.6	---		ND<5000	ND	---	PACE
QC-1 (e)	10/12/93	---	---	---	0 00	150	---	5.6	0.6	ND<0.5	1.6	---		---	---	---	PACE
MW-3	02/15/94	8.25	6.60	---	1.65	140	2.3	5.7	ND<0.5	ND<0.5	ND<0.5	---		90	ND	3.9	PACE
MW-3	05/11/94	8.25	5 86	---	2.39	190	2500	2.7	1.9	ND<0.5	1.9	51	(d)	ND<5000	ND	9.2	PACE
MW-3	08/01/94	8.25	6.13	---	2.12	120	1300	1.3	ND<0.5	0.5	1.1	---		ND<5000	ND	2.9	PACE
MW-3	10/18/94	8.25	6 39	---	1.86	100	2200	2 3	ND<0.5	ND<0.5	ND<0.5	---		ND<5000	ND	3.6	PACE
MW-3	01/13/95	8.25	5.47	---	2.78	ND<50	970	0.8	ND<0.5	ND<0.5	ND<1	---		---	ND	7.7	ATI
MW-3	04/13/95	8.25	5.17	---	3.08	530	ND<500	8.7	1.9	ND<0.5	3.9	---		2100	ND	8.4	ATI
MW-3	07/11/95	8.25	5 37	---	2.88	78	2100	0.57	ND<0.50	ND<0.50	ND<1.0	---		1900	ND	8.3	ATI
MW-3	11/02/95	8.25	6.29	---	1.96	250	2000	0.73	ND<0.50	ND<0.50	1 8	270		1400	ND	8 3	ATI
MW-3	02/05/96	8.25	5.80	---	2.45	ND<50	1600	ND<0.5	ND<1	ND<1	2.7	11		9000	ND	3.5	SPL
MW-3	04/24/96	8.25	5.69	---	2.56	ND<50	2800	ND<5	ND<10	ND<10	ND<10	150		6000	ND	8.6	SPL
MW-3	07/15/96	8.25	6.18	---	2.07	ND<250	3700	ND<2 5	ND<5	ND<5	ND<5	ND<50		1000	ND	7.7	SPL
MW-3	07/30/96	8.25	6.04	---	2.21	---	---	---	---	---	---	---		---	---	---	---
MW-3	11/04/96	8 25	7.84	---	0.41	---	---	---	---	---	---	---		---	---	---	---
MW-3	11/05/96	8.25	---	---	---	90	890	ND<0.5	ND<1.0	ND<1.0	ND<1.0	30		2000	ND	6.8	SPL
MW-3	05/17/97	8.25	6.49	---	1.76	ND<50	2100	ND<0.5	ND<1.0	ND<1.0	ND<1.0	52		700	ND	6.3	SPL
MW-3	08/11/97	8.25	6.15	---	2.10	490	1900	ND<2 5	ND<5 0	ND<5.0	ND<5.0	170		ND<5000	ND	7.4	SPL
MW-3	11/17/97	8.25	7.15	---	1.10	120	2500	ND<0.5	ND<1.0	ND<1.0	ND<1.0	46		ND<5000	ND	7.0	SPL
MW-3	01/29/98	8.25	5.10	---	3.15	270	1700	0 53	ND<1.0	ND<1.0	ND<1.0	330		2000	ND	6.4	SPL
MW-3	06/22/98	8.25	5.50	---	2.75	200	2200	ND<0.5	ND<1.0	ND<1.0	ND<1.0	130		ND<5	ND	5.5	SPL
MW-4	11/04/92	8.12	6.66	---	1.46	340	---	4.5	ND<0.5	4.3	ND<0 5	---		---	---	---	PACE
MW-4	10/12/93	8.12	6 87	---	1.25	160	---	5 8	1.4	0.8	2 7	---		---	---	---	PACE
MW-4	02/15/94	8.12	6.61	---	1 51	110	---	4 4	0 7	ND<0.5	2.5	120	(d)	---	---	4.3	PACE
MW-4	05/11/94	8.12	5.89	---	2 23	120	---	0.5	0.8	ND<0 5	ND<0.5	140	(d)	---	---	9.3	PACE
MW-4	08/01/94	8.12	6.87	---	1.25	140	---	0.7	2.0	5.2	15	---		---	---	3 3	PACE
MW-4	10/18/94	8.12	6 62	---	1.50	140	---	3 5	ND<0 5	0.5	ND<0.5	---		---	---	3.0	PACE
MW-4	01/13/95	8.12	7 27	---	0.85	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---		---	---	7.9	ATI
MW-4	04/13/95	8.12	6.51	---	1.61	73	---	1.2	ND<0.5	ND<0.5	ND<1	---		---	---	9 9	ATI
MW-4	07/11/95	8 12	6.21	---	1.91	82	---	0.57	ND<0 50	ND<0 50	ND<1.0	---		---	---	7 2	ATI
MW-4	11/02/95	8.12	6 78	---	1.34	71	---	1.4	0.96	0.99	2.8	140		---	---	8.6	ATI
MW-4	02/05/96	8.12	6.41	---	1.71	ND<50	---	ND<5	ND<10	ND<10	ND<10	200		---	---	4.4	SPL
MW-4	04/24/96	8.12	6.18	---	1.94	ND<250	---	ND<2 5	ND<5	ND<5	ND<5	510		---	---	8.3	SPL
MW-4	07/15/96	8.12	6.63	---	1 49	ND<50	---	5.7	ND<1	ND<1	ND<1	550		---	---	7 4	SPL
MW-4	07/30/96	8.12	6.34	---	1 78	---	---	---	---	---	---	---		---	---	---	---
MW-4	11/04/96	8.12	8.27	---	-0.15	---	---	---	---	---	---	---		---	---	---	---
MW-4	11/05/96	8.12	---	---	---	460	---	ND<2 5	11	ND<5.0	ND<5.0	620/610	(f)	---	---	7.3	SPL
MW-4	05/17/97	8.12	7.00	---	1.12	---	---	---	---	---	---	---		---	---	---	---
MW-4	08/11/97	8.12	6.81	---	1.31	---	---	---	---	---	---	---		---	---	---	---
MW-4	11/17/97	8.12	9.19	---	-1.07	840	---	ND<0.5	ND<1.0	ND<1.0	ND<1.0	880		---	---	7.3	SPL
MW-4	01/29/98	8.12	7.94	---	0.18	---	---	---	---	---	---	---		---	---	---	---
MW-4	06/22/98	8.12	7.49	---	0.63	---	---	---	---	---	---	---		---	---	---	---

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BP OIL COMPANY SERVICE STATION NO. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

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)		TOG (ug/l)	HVOC (ug/l) (c)	DO (ppm)	LAB
MW-5	10/12/93	7.69	6.01	—	1 68	—	—	—	—	—	—	—		—	—	—	—
MW-5	10/13/93	7.69	—	—	—	2300	—	160	10	ND<0 5	26	—		—	—	—	PACE
MW-5	02/15/94	7.69	5.74	—	1.95	5100	—	710	16	33	35	100	(d)	—	—	4.0	PACE
MW-5	05/11/94	7.69	5.28	—	2.41	11000	—	1100	39	110	57	160	(d)	—	—	8.0	PACE
MW-5	08/01/94	7.69	5.84	—	1.85	9000	—	730	35	61	41	200	(d)	—	—	2.6	PACE
MW-5	10/18/94	7 69	6.01	—	1 68	7800	—	330	30	27	27	—		—	—	5 6	PACE
MW-5	01/13/95	7.69	4.74	—	2.95	ND<500	—	290	6	ND<5	18	—		—	—	6.8	ATI
MW-5	04/13/95	7.69	5.50	—	2.19	9100	—	400	15	52	27	—		—	—	7.4	ATI
MW-5	07/11/95	7.69	5.75	—	1.94	7300	—	390	13	28	23	—		—	—	7.2	ATI
MW-5	11/03/95	7 69	6.65	—	1 04	7200	—	270	15	38	23	200		—	—	8.4	ATI
MW-5	02/05/96	7.69	4.83	—	2.86	4600	—	370	15	53	28	ND<50		—	—	1.9	SPL
MW-5	04/24/96	7.69	6 09	—	1.60	3000	—	180	ND<10	32	14	ND<100		—	—	8.1	SPL
MW-5	07/15/96	7.69	6.57	—	1.12	—	—	—	—	—	—	—		—	—	—	—
MW-5	07/16/96	7.69	—	—	—	ND<50	—	190	ND<10	31	16	ND<100		—	—	8 3	SPL
MW-5	07/30/96	7.69	5.61	—	2.08	—	—	—	—	—	—	—		—	—	—	—
MW-5	08/12/96	7 69	—	—	—	2000	—	150	12	25	18 2	ND<50		—	—	7.6	SPL
MW-5	11/04/96	7 69	8.25	—	-0.56	—	—	—	—	—	—	—		—	—	—	—
MW-5	11/05/96	7.69	—	—	—	5200	—	42	5.5	13	ND<5.0	1700		—	—	7 4	SPL
MW-5	05/17/97	7.69	6.95	—	0 74	80	—	0.56	ND<1 0	ND<1.0	ND<1.0	46		—	—	6.7	SPL
MW-5	08/11/97	7.69	6 72	—	0.97	2700	—	20	12	6.7	9 7	1900		—	—	8.5	SPL
MW-5	11/17/97	7.69	9 49	—	-1.80	8400	—	25	12	8.7	5 4	13000		—	—	7.9	SPL
MW-5	01/29/98	7 69	7.88	—	-0.19	110000	—	2500	110	180	589	180000		—	—	6.8	SPL
MW-5	06/22/98	7.69	7.40	—	0 29	4400	—	47	10	29	20.5	47		—	—	6 6	SPL
MW-6	10/12/93	8 52	6 59	—	1.93	63	—	ND<0 5	ND<0.5	ND<0.5	ND<0 5	—		—	—	—	PACE
MW-6	02/15/94	8 52	6.31	—	2 21	68	—	ND<0.5	ND<0.5	ND<0 5	ND<0.5	38	(d)	—	—	3.1	PACE
MW-6	05/11/94	8.52	6.15	—	2.37	68	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	48	(d)	—	—	8.7	PACE
MW-6	08/01/94	8.52	6.46	—	2.06	91	—	ND<0 5	ND<0 5	ND<0.5	0.6	—		—	—	2.4	PACE
MW-6	10/18/94	8.52	6 72	—	1.80	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—		—	—	6.0	PACE
MW-6	01/13/95	8.52	5.95	—	2.57	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1	—		—	—	7.0	ATI
MW-6	04/13/95	8.52	5.44	—	3.08	ND<50	—	ND<0 5	ND<0 5	ND<0 5	ND<1	—		—	—	8.5	ATI
MW-6	07/11/95	8.52	5.68	—	2.84	ND<50	—	ND<0.50	ND<0.50	ND<0 50	ND<1.0	—		—	—	8.4	ATI
MW-6	11/02/95	8.52	6 57	—	1.95	ND<50	—	ND<0.50	ND<0.50	ND<0 50	ND<1.0	35		—	—	8 3	ATI
MW-6	02/05/96	8.52	6 27	—	2.25	ND<50	—	ND<5	ND<10	ND<10	ND<10	ND<100		—	—	2 2	SPL
MW-6	04/24/96	8.52	5 95	—	2.57	ND<250	—	ND<2.5	ND<5	ND<5	ND<5	62		—	—	8.0	SPL
MW-6	07/15/96	8.52	6.39	—	2.13	ND<250	—	ND<2 5	ND<5	ND<5	ND<5	ND<50		—	—	8.0	SPL
MW-6	07/30/96	8.52	6.44	—	2 08	—	—	—	—	—	—	—		—	—	—	—
MW-6	11/04/96	8.52	8.05	—	0.47	—	—	—	—	—	—	—		—	—	—	—
MW-6	11/05/96	8 52	—	—	—	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	—	7.3	SPL
MW-6	05/17/97	8.52	6 75	—	1.77	—	—	—	—	—	—	—		—	—	—	—
MW-6	08/11/97	8 52	6.48	—	2 04	—	—	—	—	—	—	—		—	—	—	—
MW-6	11/17/97	8.52	9.27	—	-0.75	ND<50	—	ND<0 5	ND<1.0	ND<1.0	ND<1.0	ND<10		—	—	7.7	SPL
MW-6	01/29/98	8.52	7.98	—	0.54	—	—	—	—	—	—	—		—	—	—	—
MW-6	06/22/98	8.52	7.68	—	0.84	—	—	—	—	—	—	—		—	—	—	—

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

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)	TOG (ug/l)	HVOC (ug/l) (c)	DO (ppm)	LAB
MW-7	10/12/93	7.61	6.14	—	1.47	ND<50	—	ND<0.5	ND<0.5	ND<0.5	0.7	—	—	—	—	PACE
MW-7	02/15/94	7.61	5.88	—	1.73	78	—	ND<0.5	ND<0.5	ND<0.5	0.6	—	—	—	4.0	PACE
MW-7	05/11/94	7.61	5.76	—	1.85	70	—	ND<0.5	ND<0.5	ND<0.5	0.9	—	—	—	9.1	PACE
MW-7	08/01/94	7.61	5.97	—	1.64	77	—	ND<0.5	ND<0.5	ND<0.5	0.5	—	—	—	2.5	PACE
MW-7	10/18/94	7.61	6.24	—	1.37	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	6.3	PACE
MW-7	01/13/95	7.61	5.39	—	2.22	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1	—	—	—	8.2	ATI
MW-7	04/13/95	7.61	5.17	—	2.44	63	—	ND<0.5	ND<0.5	ND<0.5	1.4	—	—	—	8.4	ATI
MW-7	07/11/95	7.61	5.25	—	2.36	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	—	—	7.9	ATI
MW-7	11/02/95	7.61	6.19	—	1.42	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	55	—	—	8.0	ATI
MW-7	02/05/96	7.61	5.69	—	1.92	ND<50	—	ND<0.5	ND<1	ND<1	ND<1	40	—	—	1.9	SPL
MW-7	04/24/96	7.61	5.59	—	2.02	ND<250	—	ND<2.5	ND<5	ND<5	ND<5	53	—	—	8.2	SPL
MW-7	07/15/96	7.61	6.07	—	1.54	ND<250	—	ND<2.5	ND<5	ND<5	ND<5	ND<50	—	—	7.8	SPL
MW-7	07/30/96	7.61	6.04	—	1.57	—	—	—	—	—	—	—	—	—	—	—
MW-7	11/04/96	7.61	7.76	—	-0.15	—	—	—	—	—	—	—	—	—	—	—
MW-7	11/05/96	7.61	—	—	—	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	—	7.8	SPL
MW-7	05/17/97	7.61	6.42	—	1.19	—	—	—	—	—	—	—	—	—	—	—
MW-7	08/11/97	7.61	6.06	—	1.55	—	—	—	—	—	—	—	—	—	—	—
MW-7	11/17/97	7.61	9.07	—	-1.46	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	—	7.1	SPL
MW-7	01/29/98	7.61	7.44	—	0.17	—	—	—	—	—	—	—	—	—	—	—
MW-7	06/22/98	7.61	7.39	—	0.22	—	—	—	—	—	—	—	—	—	—	—
MW-8	10/12/93	8.60	5.86	—	2.74	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	—	PACE
MW-8	02/15/94	8.60	5.50	—	3.10	380	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	3.3	PACE
MW-8	05/11/94	8.60	5.09	—	3.51	330	—	ND<0.5	1.2	ND<0.5	1.9	—	—	—	8.5	PACE
MW-8	08/01/94	8.60	5.20	—	3.40	260	—	ND<0.5	1.2	2.9	5.8	—	—	—	2.3	PACE
MW-8	10/18/94	8.60	5.70	—	2.90	82	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	6.4	PACE
MW-8	01/13/95	8.60	4.96	—	3.64	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1	—	—	—	6.9	ATI
MW-8	04/13/95	8.60	5.40	—	3.20	270	—	ND<0.5	ND<0.5	ND<0.5	4.4	—	—	—	8.4	ATI
MW-8	07/11/95	8.60	6.01	—	2.59	320	—	ND<0.50	ND<0.50	ND<0.50	3.5	—	—	—	8.0	ATI
MW-8	11/02/95	8.60	6.81	—	1.79	100	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	—	—	8.7	ATI
MW-8	02/05/96	8.60	6.12	—	2.48	ND<50	—	ND<5	ND<10	ND<10	ND<10	ND<100	—	—	1.5	SPL
MW-8	04/24/96	8.60	6.23	—	2.37	ND<50	—	ND<5	ND<10	ND<10	ND<10	ND<100	—	—	8.7	SPL
MW-8	07/15/96	8.60	6.70	—	1.90	ND<250	—	ND<2.5	ND<5	ND<5	ND<5	ND<50	—	—	8.4	SPL
MW-8	07/30/96	8.60	6.64	—	1.96	—	—	—	—	—	—	—	—	—	—	—
MW-8	11/04/96	8.60	8.36	—	0.24	—	—	—	—	—	—	—	—	—	—	—
MW-8	11/05/96	8.60	—	—	—	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	—	7.2	SPL
MW-8	05/17/97	8.60	7.03	—	1.57	—	—	—	—	—	—	—	—	—	—	—
MW-8	08/11/97	8.60	6.05	—	2.55	—	—	—	—	—	—	—	—	—	—	—
MW-8	11/17/97	8.60	9.14	—	-0.54	ND<50	—	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	—	—	7.7	SPL
MW-8	01/29/98	8.60	7.90	—	0.70	—	—	—	—	—	—	—	—	—	—	—
MW-8	06/22/98	8.60	7.72	—	0.88	—	—	—	—	—	—	—	—	—	—	—

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

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)	TOG (ug/l)	HVOC (ug/l) (c)	DO (ppm)	LAB
MW-9		10/12/93	8.08	5.66	0.08	2.48	---	---	---	---	---	---	---	---	---	---	---
MW-9		02/15/94	8.08	5.32	0.05	2.80	---	---	---	---	---	---	---	---	---	---	---
MW-9		05/11/94	8.08	5.57	---	2.51	---	---	---	---	---	---	---	---	---	---	---
MW-9		08/01/94	8.08	6.25	---	1.83	---	---	---	---	---	---	---	---	---	---	---
MW-9		10/18/94	8.08	5.59	0.13	2.59	---	---	---	---	---	---	---	---	---	---	---
MW-9		01/13/95	8.08	4.42	0.14	3.77	---	---	---	---	---	---	---	---	---	---	---
MW-9		04/13/95	8.08	4.06	0.11	4.10	---	---	---	---	---	---	---	---	---	---	---
MW-9		07/11/95	8.08	4.21	0.08	3.93	---	---	---	---	---	---	---	---	---	---	---
MW-9		11/02/95	8.08	5.22	0.05	2.90	---	---	---	---	---	---	---	---	---	---	---
MW-9		02/05/96	8.08	4.76	0.01	3.33	---	---	---	---	---	---	---	---	---	---	---
MW-9		04/24/96	8.08	4.62	0.09	3.53	---	---	---	---	---	---	---	---	---	---	---
MW-9		07/15/96	8.08	5.11	0.04	3.00	---	---	---	---	---	---	---	---	---	---	---
MW-9		07/30/96	8.08	5.15	---	2.93	---	---	---	---	---	---	---	---	---	---	---
MW-9		11/04/96	8.08	6.75	0.01	1.34	---	---	---	---	---	---	---	---	---	---	---
MW-9		05/17/97	8.08	5.42	---	2.66	---	---	---	---	---	---	---	---	---	---	---
QC-1	(e)	05/17/97	---	---	---	---	97000	---	16000	7700	2300	18400	40000	---	---	7.0	SPL
MW-9		08/11/97	8.08	5.37	---	2.71	97000	---	16000	8200	2300	17300	39000	---	---	---	SPL
QC-1	(e)	08/11/97	---	---	---	---	71000	---	12000	340	2100	4300	26000	---	---	9.1	SPL
MW-9		11/17/97	8.08	5.62	Sheen	2.46	100000	---	14000	360	3200	5790	27000	---	---	---	SPL
QC-1	(e)	11/17/97	---	---	---	---	100000	---	22000	4800	3100	17900	32000	---	---	8.3	SPL
MW-9		01/29/98	8.08	4.07	Sheen	4.01	100000	---	24000	5300	3500	19300	35000	---	---	---	SPL
QC-1	(e)	01/29/98	---	---	---	---	250000	---	20000	21000	3100	18500	110000	---	---	6.6	SPL
MW-9		06/22/98	8.08	4.28	---	3.80	250000	---	20000	20000	3100	18400	110000	---	---	---	SPL
QC-1	(e)	06/22/98	---	---	---	---	280000	---	21000	18000	3800	21200	110000	---	---	5.8	SPL
							290000	---	20000	17000	3800	21200	110000	---	---	---	SPL
QC-2	(g)	11/05/92	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2	(g)	10/12/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2	(g)	02/15/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2	(g)	05/11/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2	(g)	08/01/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2	(g)	10/18/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2	(g)	01/13/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	---	ATI
QC-2	(g)	04/13/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	---	ATI
QC-2	(g)	07/11/95	---	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	---	ATI
QC-2	(g)	11/02/95	---	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	---	---	ATI
QC-2	(g)	02/05/96	---	---	---	---	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	---	---	SPL
QC-2	(g)	04/24/96	---	---	---	---	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	---	---	SPL
QC-2	(g)	07/16/96	---	---	---	---	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. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

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)	TOG (ug/l)	HVOC (ug/l) (c)	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
TOG	Total oil and grease
HVOC	Halogenated volatile organic compounds
DO	Dissolved oxygen
ug/l	Micrograms per liter
ppm	Parts per million
ND	Not detected above reported detection limit
---	Not analyzed/applicable/measurable
PACE	Pace, Inc.
ATI	Analytical Technologies, Inc.
SPL	Southern Petroleum Laboratories

NOTES:

(a) Top of casing elevations surveyed relative to an established benchmark with an elevation of 8.11 feet above mean sea level

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

(c) Detection limits vary; see laboratory report.

(d) A copy of the documentation for this data is included in Appendix C of Alisto report 10-061-07-004.

(e) Blind duplicate.

(f) EPA Methods 8020/8260 used.

(g) Travel blank.

F:\10\10-061\10-061GW WQ2

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

N

0 1000' 2000'

QUADRANGLE LOCATION

FIGURE 1

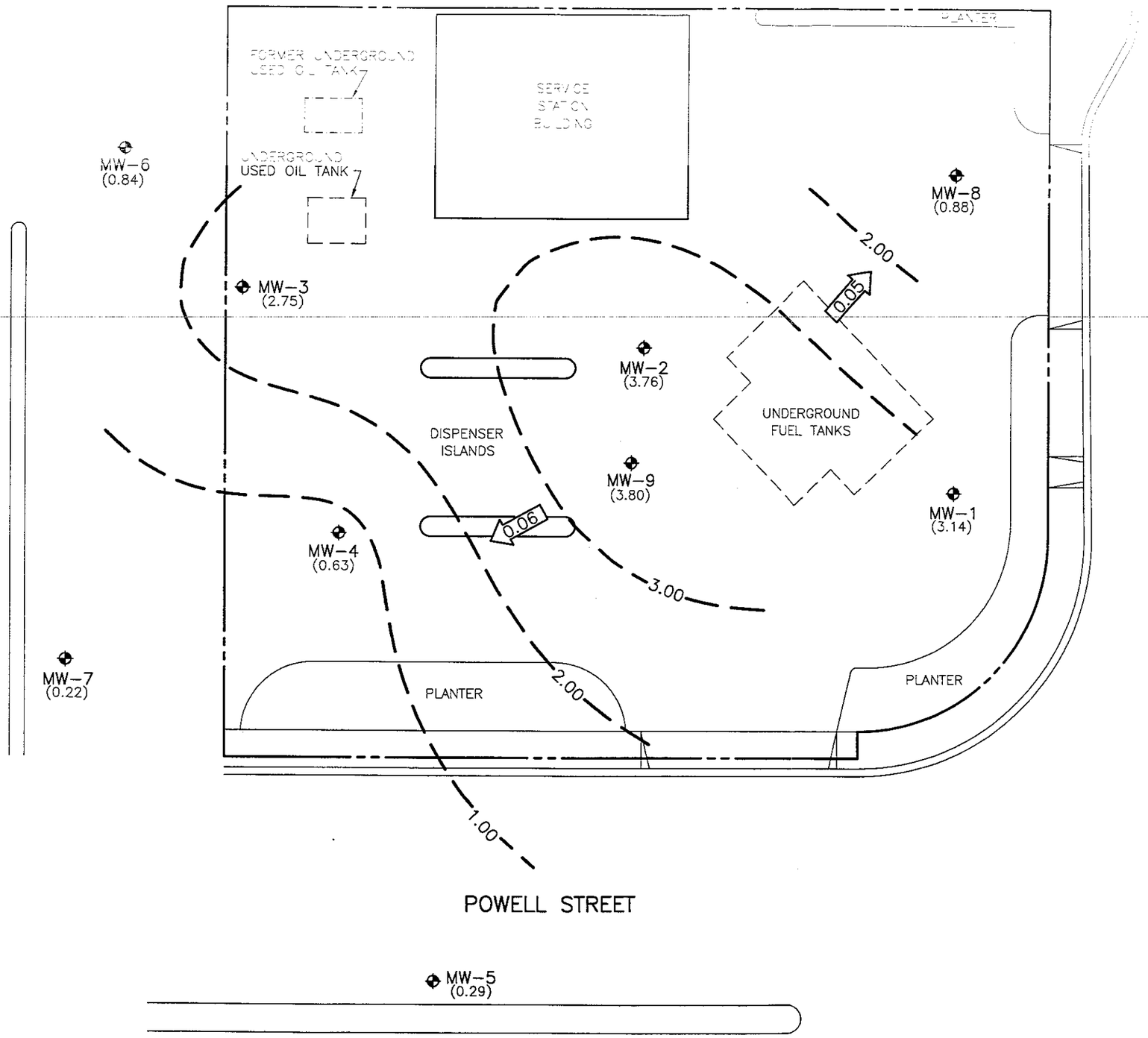
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA

PROJECT NO. 10-061

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10061B — DWG 12-30-93 RKW 1=1



N

0 20 40

SCALE IN FEET

LEGEND

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

NOTE:
Potentiometric groundwater elevation contours were generated with Quicksurf using the Kriging method with a spherical variogram on a triangulated grid surface.

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

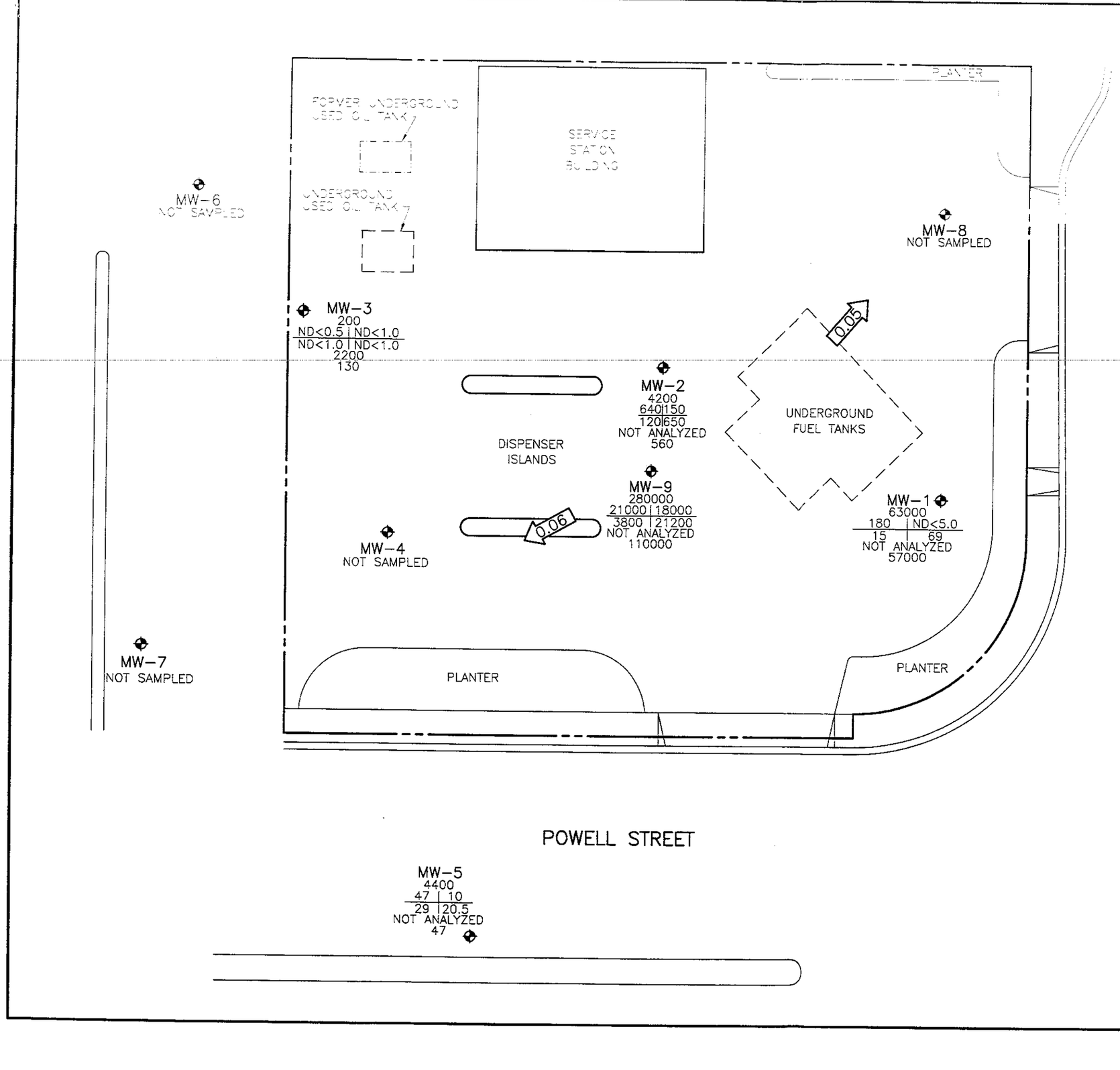
JUNE 22, 1998

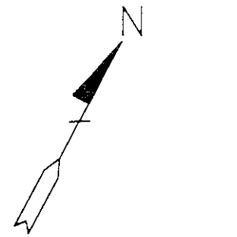
BP OIL SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA

PROJECT NO. 10–061

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

100610-2.DWG 6-7-98 TM1 1=20





LEGEND

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

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

JUNE 22, 1998

BP OIL SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA

PROJECT NO. 10-061

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10061E-7.DWG 8-24-98 TAT 1=20

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

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. 10-061-08-004 Date: 6/22/98
Address 1700 Powell St. Day: (M) T W TH F
Contract No. H177106 City: Emeryville
Station No. BP 11126 Sampler: C B

DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS: Operating as BP
MW-1	S-3	2"	11.62'	4.62	Ø	1040	
MW-2	S-1	2"	11.91'	4.80		1015	
MW-3	S-2	2"	12.08'	5.50		1036	ADDITIONAL ANALYSIS/TPH-D/TOG
MW-4	N/S	2"	11.06'	7.49		1017	ANNUAL-Do Not Sample
MW-5	S-4	2"	13.70'	7.40		1043	
MW-6	N/S	2"	13.25'	7.68		1024	ANNUAL-Do Not Sample
MW-7	↓	2"	13.72'	7.39		1029	ANNUAL-Do Not Sample
MW-8	↓	2"	13.65'	7.72	↓	1033	ANNUAL-Do Not Sample
MW-9	S-4 / S-5	4"	13.85'	4.28	Iridescence	1048	QC-1 (S-6) from this well

BM

FIELD INSTRUMENT CALIBRATION DATA

pH METER Ion 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED (Y) N TIME 0935
D.O. METER Ion ZERO d.O. SOLUTION _____ BAROMETRIC PRESSURE _____ TEMP 63 WEATHER Cloudy
CONDUCTIVITY METER Ion 10,000 _____ TURBIDITY METER _____ 5.0 NTU _____ OTHER X
LEAK DETECTOR : _____ ALARM MODE _____ NON ALARM MODE

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-2	4.80	2"	OK	Ø	Y (N)	1	1115	66.7	7.47	1.12 ms	4.9
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			3		65.8	7.40	1.23 ms	
11.91 - 4.80 = 7.11 x .16 =	1.14 x 3 =	3.42				4	1124	63.6	7.31	1.34 ms	5.4
Purge Method: ⊗Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601____
⊗ TPH-G/BTEX___
O TPH Diesel___
O TOG 5520 ___

TIME/SAMPLE ID
1127

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. 10-061-08-004 Date: 6/23/98
Address 1700 Powell St. Day: (M) T W TH F
Contract No. H177106 City: Emeryville
Station No. BP 11126 Sampler: [illegible]

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.	Analyses
MW-3	5.50	2"	ok	Ø	Y (N)	1	1140	67.7	7.69	4.10ms	5.3	⊗ EPA 601
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						2		66.2	7.49	4.49ms		⊗ TPH-G/BTEX
12.08' - 5.50 = 6.58 x .16 = 1.05 x 3 = 3.15						4	1150	66.0	7.44	4.59ms	5.5	⊗ TPH Diesel
Purge Method: ⊗Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port												⊗ TOG 5520
Comments:												TIME/SAMPLE ID: 1154
MW-1	4.62	2"	ok	Ø	Y N	1	1210	66.6	7.81	1.57ms	6.0	O EPA 601
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						2		66.0	7.47	1.74ms		⊗ TPH-G/BTEX
11.62' - 4.62 = 7.00 x .16 = 1.12 x 3 = 3.36						4	1217	64.7	7.33	1.74ms	6.0	O TPH Diesel
Purge Method: ⊗Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port												O TOG 5520
Comments:												TIME/SAMPLE ID: 1220
MW-5	7.40	2"	ok	Ø	Y (N)	1	1247	68.3	7.92	1.77ms	6.0	O EPA 601
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						2		67.2	7.55	1.87ms		⊗ TPH-G/BTEX
13.70' - 7.40 = 6.30 x .16 = 1.01 x 3 = 3.03						4	1256	66.4	7.47	1.90ms	6.6	O TPH Diesel
Purge Method: ⊗Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port												O TOG 5520
Comments:												TIME/SAMPLE ID: 1259
MW-9	4.28	4"	ok	Ø	(Y) N	6	1309	66.1	7.81	1.76ms	5.6	O EPA 601
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						12		65.0	7.49	1.92ms		⊗ TPH-G/BTEX
13.85' - 4.28 = 9.57 x .65 = 6.22 x 3 = 18.66						19	1326	64.7	7.49	1.97ms	5.8	O TPH Diesel
Purge Method: ⊗Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port												O TOG 5520
Comments:												TIME/SAMPLE ID: 1330

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

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

July 8, 1998

Mr. Scott Hooton
BP OIL COMPANY
295 SW 41st St, Bldg 13, Ste N
Renton, WA 98055

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on June 25, 1998. The sample(s) was assigned to Certificate of Analysis No.(s) 9806C07 and analyzed for all parameters as listed on the chain of custody.

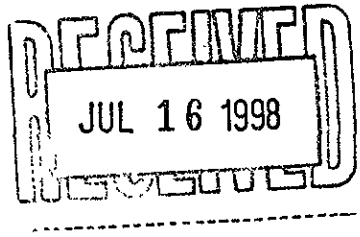
Any data flag or quality control exception associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s).

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

Joel Grice
Senior Organic Project Manager



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

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-06-C07

Approved for Release by:

Joel Grice, Senior Organic Project Manager

Date: 7/9/98

Greg Grandits
Laboratory Director

Cynthia Schreiner
Quality Assurance Officer

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

Certificate of Analysis No. H9-9806C07-01

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

P.O.# H177106, COC#098672
DATE: 07/08/98

PROJECT: #11126, N/A
SITE: Emeryville,CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-1

PROJECT NO: 10-061-8
MATRIX: WATER
DATE SAMPLED: 06/22/98
DATE RECEIVED: 06/25/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	560	100 P	ug/L
Benzene	640	5 P	ug/L
Toluene	150	1.0 P	ug/L
Ethylbenzene	120	1.0 P	ug/L
Total Xylene	650	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	97		
Method 8020A***			
Analyzed by: AA			
Date: 07/06/98			
Gasoline Range Organics	4.2	0.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	107		
4-Bromofluorobenzene	103		
California LUFT Manual for Gasoline			
Analyzed by: AA			
Date: 07/06/98 01:47:00			

(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. H9-9806C07-02

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

P.O.# H177106, COC#098672
DATE: 07/08/98

PROJECT: #11126, N/A
SITE: Emeryville,CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-2

PROJECT NO: 10-061-8
MATRIX: WATER
DATE SAMPLED: 06/22/98
DATE RECEIVED: 06/25/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	130	10 P	ug/L
Benzene	ND	0.5 P	ug/L
Toluene	ND	1.0 P	ug/L
Ethylbenzene	ND	1.0 P	ug/L
Total Xylene	ND	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	110		
4-Bromofluorobenzene	100		
Method 8020A***			
Analyzed by: AA			
Date: 07/06/98			
Gasoline Range Organics	0.20	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	97		
4-Bromofluorobenzene	107		
California LUFT Manual for Gasoline			
Analyzed by: AA			
Date: 07/06/98 01:21:00			
Diesel Range Organics	2.2	0.20 P	mg/L
Surrogate	**% Recovery**		
n-Pentacosane	64		
California LUFT Manual for Diesel			
Analyzed by: RR			
Date: 07/07/98 11:54:00			

(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. H9-9806C07-02

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

P.O.# H177106, COC#098672
DATE: 07/08/98

PROJECT: #11126, N/A
SITE: Emeryville,CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-2

PROJECT NO: 10-061-8
MATRIX: WATER
DATE SAMPLED: 06/22/98
DATE RECEIVED: 06/25/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
Hydrocarbons by Gravimetry Method 5520 B & F ** Analyzed by: AMG Date: 07/06/98 13:00:00	ND	5	mg/L
California TPH-D Extraction Method 3510C *** Analyzed by: DR Date: 06/26/98 11:00:00	06/26/98		

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.

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

Certificate of Analysis No. H9-9806C07-02

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

P.O.# H177106, COC#098672
07/08/98

PROJECT: #11126, N/A
SITE: Emeryville,CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-2

PROJECT NO: 10-061-8
MATRIX: WATER
DATE SAMPLED: 06/22/98
DATE RECEIVED: 06/25/98

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Dichlorodifluoromethane	ND	5.0	µg/L
Chloromethane	ND	5.0	µg/L
Vinyl chloride	ND	5.0	µg/L
Bromomethane	ND	5.0	µg/L
Chloroethane	ND	5.0	µg/L
Trichlorofluoromethane	ND	5.0	µg/L
1,1-Dichloroethene	ND	5.0	µg/L
Methylene chloride	ND	5.0	µg/L
Trans-1,2-Dichloroethene	ND	5.0	µg/L
1,1-Dichloroethane	ND	5.0	µg/L
Chloroform	ND	5.0	µg/L
1,1,1-Trichloroethane	ND	5.0	µg/L
Carbon tetrachloride	ND	5.0	µg/L
1,2-Dichloroethane	ND	5.0	µg/L
2-Chloroethylvinyl ether	ND	5.0	µg/L
Trichloroethene	ND	5.0	µg/L
1,2-Dichloropropane	ND	5.0	µg/L
Bromodichloromethane	ND	5.0	µg/L
cis-1,3-Dichloropropene	ND	5.0	µg/L
trans-1,3-Dichloropropene	ND	5.0	µg/L
1,1,2-Trichloroethane	ND	5.0	µg/L
Tetrachloroethene	ND	5.0	µg/L
Dibromochloromethane	ND	5.0	µg/L
Chlorobenzene	ND	5.0	µg/L
Bromoform	ND	5.0	µg/L
1,1,2,2-Tetrachloroethane	ND	5.0	µg/L
1,3-Dichlorobenzene	ND	5.0	µg/L
1,4-Dichlorobenzene	ND	5.0	µg/L
1,2-Dichlorobenzene	ND	5.0	µg/L

METHOD: 8010, Halogenated Volatile Organics

(continued on next page)

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

Certificate of Analysis No. H9-9806C07-02

BP Oil Company

SAMPLE ID: S-2

SURROGATES	% RECOVERY
Fluorobenzene	107

ANALYZED BY: WK DATE/TIME: 06/30/98 08:07:00
METHOD: 8010, Halogenated Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

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. H9-9806C07-03

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

P.O.# H177106, COC#098672
DATE: 07/08/98

PROJECT: #11126, N/A
SITE: Emeryville,CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-3

PROJECT NO: 10-061-8
MATRIX: WATER
DATE SAMPLED: 06/22/98
DATE RECEIVED: 06/25/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	57000	1200 P	ug/L
Benzene	180	2.5 P	ug/L
Toluene	ND	5.0 P	ug/L
Ethylbenzene	15	5.0 P	ug/L
Total Xylene	69	5.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	96		
Method 8020A***			
Analyzed by: AA			
Date: 07/06/98			
Gasoline Range Organics	63	6 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	96		
4-Bromofluorobenzene	99		
California LUFT Manual for Gasoline			
Analyzed by: AA			
Date: 07/06/98 02:13:00			

(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. H9-9806C07-05

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

P.O.# H177106, COC#098672
DATE: 07/08/98

PROJECT: #11126, N/A
SITE: Emeryville,CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-5

PROJECT NO: 10-061-8
MATRIX: WATER
DATE SAMPLED: 06/22/98
DATE RECEIVED: 06/25/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	110000	2500 P	ug/L
Benzene	21000	120 P	ug/L
Toluene	18000	250 P	ug/L
Ethylbenzene	3800	250 P	ug/L
Total Xylene	21200	250 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	103		
4-Bromofluorobenzene	96		
Method 8020A***			
Analyzed by: AA			
Date: 07/06/98			
Gasoline Range Organics	280	12 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	101		
4-Bromofluorobenzene	103		
California LUFT Manual for Gasoline			
Analyzed by: AA			
Date: 07/06/98 02:39:00			

(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. H9-9806C07-04

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

P.O.# H177106, COC#098672
DATE: 07/08/98

PROJECT: #11126, N/A
SITE: Emeryville,CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-4

PROJECT NO: 10-061-8
MATRIX: WATER
DATE SAMPLED: 06/22/98
DATE RECEIVED: 06/25/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	47	10 P	ug/L
Benzene	47	0.5 P	ug/L
Toluene	10	1.0 P	ug/L
Ethylbenzene	29	1.0 P	ug/L
Total Xylene	20.5	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	110		
4-Bromofluorobenzene	113		
Method 8020A***			
Analyzed by: fab			
Date: 07/03/98			
Gasoline Range Organics	4.4	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	87		
4-Bromofluorobenzene	127		
California LUFT Manual for Gasoline			
Analyzed by: fab			
Date: 07/03/98 02:25:00			

(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. H9-9806C07-06

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

P.O.# H177106, COC#098672
DATE: 07/08/98

PROJECT: #11126, N/A
SITE: Emeryville,CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-6

PROJECT NO: 10-061-8
MATRIX: WATER
DATE SAMPLED: 06/22/98
DATE RECEIVED: 06/25/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	110000	2500 P	ug/L
Benzene	20000	120 P	ug/L
Toluene	17000	250 P	ug/L
Ethylbenzene	3800	250 P	ug/L
Total Xylene	21200	250 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	97		
Method 8020A***			
Analyzed by: AA			
Date: 07/06/98			
Gasoline Range Organics	290	12 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	101		
4-Bromofluorobenzene	103		
California LUFT Manual for Gasoline			
Analyzed by: AA			
Date: 07/06/98 03:05:00			

(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

QUALITY CONTROL

DOCUMENTATION

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

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020

Batch Id: VARE980706213700

Units: ug/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	43	86.0	72 - 128
Benzene	ND	50	51	102	61 - 119
Toluene	ND	50	51	102	65 - 125
EthylBenzene	ND	50	50	100	70 - 118
O Xylene	ND	50	51	102	72 - 117
M & P Xylene	ND	100	100	100	72 - 116

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	100	93	93.0	78	78.0	17.5	20	39 - 150
BENZENE	ND	100	95	95.0	80	80.0	17.1	21	32 - 164
TOLUENE	ND	100	95	95.0	81	81.0	15.9	20	38 - 159
ETHYLBENZENE	ND	100	91	91.0	77	77.0	16.7	19	52 - 142
O XYLENE	ND	100	97	97.0	82	82.0	16.8	18	53 - 143
M & P XYLENE	ND	200	190	95.0	160	80.0	17.1 *	17	53 - 144

Analyst: AA
Sequence Date: 07/06/98
SPL ID of sample spiked: 9806A93-01A
Sample File ID: E_G1025.TX0
Method Blank File ID:
Blank Spike File ID: E_G1014R.TX0
Matrix Spike File ID: E_G1016.TX0
Matrix Spike Duplicate File ID: E_G1017.TX0

* = Values outside QC Range due to Matrix Interference (except RPD)
« = 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):

9806A84-02A 9806A84-01A 9806A93-01A 9806A93-02A
9806C07-02A 9806C06-04A 9806C06-02A 9806C06-03A
9806C07-01A 9806C07-03A 9806C07-05A 9806C07-06A
9806C05-01A 9806C05-02A 9806C05-03A

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

** SPL BATCH QUALITY CONTROL REPORT **
Method 8020A***

Batch Id: VARE980702193900

Units: ug/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	41	82.0	72 - 128
Benzene	ND	50.0	51	102	61 - 119
Toluene	ND	50.0	52	104	65 - 125
EthylBenzene	ND	50.0	51	102	70 - 118
O Xylene	ND	50.0	52	104	72 - 117
M & P Xylene	ND	100.0	110	110	72 - 116

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	17	85.0	17	85.0	0	20	39 - 150
BENZENE	160	20.0	150	NC	150	NC	NC	21	32 - 164
TOLUENE	ND	20.0	19	95.0	19	95.0	0	20	38 - 159
ETHYLBENZENE	ND	20.0	19	95.0	19	95.0	0	19	52 - 142
O XYLENE	ND	20.0	20	100	20	100	0	18	53 - 143
M & P XYLENE	ND	40.0	39	97.5	38	95.0	2.60	17	53 - 144

Analyst: fab
Sequence Date: 07/02/98
SPL ID of sample spiked: 9806A71-06C
Sample File ID: E_F5177.TX0
Method Blank File ID:
Blank Spike File ID: E_FS171.TX0
Matrix Spike File ID: E_F5173.TX0
Matrix Spike Duplicate File ID: E_F5174.TX0

* = *Values outside QC Range due to Matrix Interference (except RPD)*
« = 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): 9806C07-01A 9806C07-04A 9806C07-03A

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** SPL BATCH QUALITY CONTROL REPORT **

Method Modified 8015B*** for Gasoline

Batch Id: VARE980706211100

Units: mg/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
Gasoline Range Organics	ND	1.0	1.1	110	64 - 131

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
GASOLINE RANGE ORGANICS	ND	0.9	0.70	77.8	0.74	82.2	5.50	36	36 - 160

Analyst: AA
Sequence Date: 07/06/98
SPL ID of sample spiked: 9806A93-02A
Sample File ID: EEG1026.TX0
Method Blank File ID:
Blank Spike File ID: EEG1018.TX0
Matrix Spike File ID: EEG1022.TX0
Matrix Spike Duplicate File ID: EEG1023.TX0

* = Values outside QC Range due to Matrix Interference (except RPD)
« = 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):

9806A93-01A 9806A93-02A 9806A71-14C 9806A71-02C
9806C07-02A 9806A71-01C 9806A71-13C 9806C06-04A
9806C06-02A 9806C06-03A 9806C07-01A 9806C07-03A
9806C07-05A 9806C07-06A 9806C05-01A 9806C05-02A
9806C05-03A

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** SPL BATCH QUALITY CONTROL REPORT **
Method Modified 8015B*** for Gasoline

Batch Id: VARE980702200500

Matrix: Aqueous
Units: mg/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
Gasoline Range Organics	ND	1.0	1.1	110	64 - 131

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
GASOLINE RANGE ORGANICS	ND	0.9	0.82	91.1	0.86	95.6	4.82	36	36 - 160

Analyst: fab
Sequence Date: 07/02/98
SPL ID of sample spiked: 9806A71-08C
Sample File ID: EEF5178.TX0
Method Blank File ID:
Blank Spike File ID: EEF5172.TX0
Matrix Spike File ID: EEF5175.TX0
Matrix Spike Duplicate File ID: EEF5176.TX0

* = Values outside QC Range due to Matrix Interference (except RPD)
« = 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): 9806A71-03C 9806A71-04C 9806A71-10C 9806A71-11C 9806A71-12C 9806A71-06C 9806A71-08C 9806A71-09C 9806C07-04A

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Batch Id: HP_T980707011000

Units: mg/L

B L A N K 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
DIESEL	ND	5.0	4.5	90.0	4.6	92.0	2.20	43	60 - 139

Analyst: RR
Sequence Date: 07/07/98
Method Blank File ID:
Sample File ID:
Blank Spike File ID: T_F4217.TX0
Matrix Spike File ID:
Matrix Spike Duplicate File ID:

* = 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
Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100
(**) = Source: SPL-Houston Historical Data (2nd Q '97)

SAMPLES IN BATCH(SPL ID): 9806C07-02C

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** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8010***

Batch Id: HP_F980630071900

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
Dichlorodifluoromethane	ND	20	23	115	9 - 168
Chloromethane	ND	20	25	125	11 - 139
Vinyl chloride	ND	20	23	115	51 - 126
Bromomethane	ND	20	18	90.0	34 - 141
Chloroethane	ND	20	23	115	27 - 174
Trichlorofluoromethane	ND	20	20	100	60 - 140
1,1-Dichloroethene	ND	20	20	100	51 - 132
Methylene chloride	ND	20	21	105	44 - 151
Trans-1,2-Dichloroethene	ND	20	21	105	50 - 155
1,1-Dichloroethane	ND	20	21	105	52 - 132
Chloroform	ND	20	20	100	75 - 124
1,1,1-Trichloroethane	ND	20	20	100	41 - 138
Carbon tetrachloride	ND	20	21	105	61 - 124
1,2-Dichloroethane	ND	20	20	100	79 - 121
2-Chloroethylvinyl ether	ND	20	20	100	38 - 122
Trichloroethene	ND	20	20	100	36 - 146
1,2-Dichloropropane	ND	20	20	100	44 - 151
Bromodichloromethane	ND	20	20	100	65 - 135
cis-1,3-Dichloropropene	ND	20	22	110	59 - 149
trans-1,3-Dichloropropene	ND	20	21	105	79 - 121
1,1,2-Trichloroethane	ND	20	21	105	66 - 129
Tetrachloroethene	ND	20	21	105	79 - 121
Dibromochloromethane	ND	20	20	100	52 - 148
Chlorobenzene	ND	20	22	110	84 - 126
Bromoform	ND	20	19	95.0	48 - 132
1,1,2,2-Tetrachloroethane	ND	20	21	105	51 - 151
1,3-Dichlorobenzene	ND	20	21	105	75 - 124
1,4-Dichlorobenzene	ND	20	22	110	72 - 125
1,2-Dichlorobenzene	ND	20	21	105	20 - 190

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
DICHLORODIFLUOROMETHANE	ND	20	8.6	43.0	10	50.0	15.1	48	36 - 152
CHLOROMETHANE	ND	20	13	65.0	15	75.0	14.3	29	39 - 175
VINYL CHLORIDE	ND	20	11	55.0	14	70.0	24.0	44	32 - 156
BROMOMETHANE	ND	20	10	50.0	12	60.0	18.2	52	26 - 180
CHLOROETHANE	2.9	20	15	60.5	17	70.5	15.3	42	27 - 174

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** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8010***

Batch Id: HP_F980630071900

Units: µg/L

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
TRICHLOROFLUOROMETHANE	ND	20	10	50.0	12	60.0	18.2	38	36 - 163
1,1-DICHLOROETHENE	ND	20	12	60.0	13	65.0	8.00	42	57 - 140
METHYLENE CHLORIDE	ND	20	15	75.0	16	80.0	6.45	32	67 - 137
TRANS-1,2-DICHLOROETHENE	ND	20	14	70.0	15	75.0	6.90	31	58 - 154
1,1-DICHLOROETHANE	3.4	20	17	68.0	18	73.0	7.09	50	47 - 132
CHLOROFORM	ND	20	16	80.0	17	85.0	6.06	40	53 - 132
1,1,1-TRICHLOROETHANE	ND	20	13	65.0	15	75.0	14.3	27	34 - 135
CARBON TETRACHLORIDE	ND	20	13	65.0	14	70.0	7.41	32	54 - 111
1,2-DICHLOROETHANE	ND	20	17	85.0	18	90.0	5.71	50	49 - 155
2-CHLOROETHYLVINYL ETHER	ND	20	0	0 *	0	0 *	0	20	38 - 152
TRICHLOROETHENE	ND	20	13	65.0	15	75.0	14.3	29	30 - 146
1,2-DICHLOROPROPANE	ND	20	16	80.0	18	90.0	11.8	41	44 - 123
BROMODICHLOROMETHANE	ND	20	17	85.0	18	90.0	5.71	38	49 - 179
CIS-1,3-DICHLOROPROPENE	ND	20	16	80.0	18	90.0	11.8	34	38 - 137
TRANS-1,3-DICHLOROPROPENE	ND	20	16	80.0	17	85.0	6.06	47	38 - 164
1,1,2-TRICHLOROETHANE	ND	20	17	85.0	18	90.0	5.71	43	45 - 128
TETRACHLOROETHENE	ND	20	12	60.0	14	70.0	15.4	38	17 - 138
DIBROMOCHLOROMETHANE	ND	20	17	85.0	18	90.0	5.71	41	38 - 162
CHLOROBENZENE	48	20	48	0 *	53	25.0 *	200 *	50	58 - 122
BROMOFORM	ND	20	16	80.0	17	85.0	6.06	49	31 - 174
1,1,2,2-TETRACHLOROETHANE	ND	20	17	85.0	19	95.0	11.1	50	21 - 181
1,3-DICHLOROBENZENE	ND	20	16	80.0	17	85.0	6.06	36	24 - 151
1,4-DICHLOROBENZENE	2.7	20	17	71.5	20	86.5	19.0 *	12	46 - 150
1,2-DICHLOROBENZENE	1.3	20	17	78.5	18	83.5	6.17	12	44 - 153

Analyst: WK
Sequence Date: 06/30/98
SPL ID of sample spiked: 9806C65-10A
Sample File ID: FFF5038.TX0
Method Blank File ID:
Blank Spike File ID: FFF5035.TX0
Matrix Spike File ID: FFF5032.TX0
Matrix Spike Duplicate File ID: FFF5033.TX0

* = Values outside QC Range due to Matrix Interference (except RPD)
« = 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 Limits (1st Q '97)
(***) = Source: SPL-Houston Historicals 1st Quarter'97

SAMPLES IN BATCH(SPL ID):

9806D05-04A 9806B95-01A 9806B95-02A 9806C07-02D
9806C10-06A 9806B21-01A 9806A57-03D 9806D05-02A
9806D05-01A 9806D05-03A

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 07/06/98
Analyzed on: 07/06/98
Analyst: AMG

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Hydrocarbons by Gravimetry
Method 5520 B & F **

SPL Sample ID Number	Method Blank mg/L	Sample Result mg/L	Spike Added mg/L	Matrix Spike Result mg/L	Matrix Spike Recovery %	Matrix Spike Duplicate Result mg/L	Matrix Spike Duplicate Recovery %	RPD (%)	QC LIMITS (Advisory) RPD Max	% REC
BLANK	ND	ND	40	35	87.5	35	87.5	0	7.9	84 -108

980706AMG -9807145

Samples in batch:

9806C07-02B 9806C68-01C 9806D14-01C 9806E42-01C

COMMENTS:

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
6/25/98	1000

SPL Sample ID:
9806C07

			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:		2 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	8057884	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
Ruben Stob	6/25/98

BP

9806C07

CHAIN OF CUSTODY

No. 098672

Page ____ of ____

CONSULTANT'S NAME: Alisto Engineering	CONSULTANT'S ADDRESS: 1575 Treat Blvd Suite 201 Walnut Creek		
BP SITE NUMBER: 11126	BP SITE/FACILITY ADDRESS: Emeryville		CONSULTANT PROJECT NUMBER: 10-061-8
CONSULTANT PROJECT MANGER: Brady Nagle	PHONE NUMBER: (925) 295-1650	FAX NUMBER: (925) 295	CONSULTANT CONTRACT NUMBER: H177106
BP CONTACT: Scott Hooton	BP ADDRESS: Renton WA	PHONE NUMBER: —	FAX NO.: —
LAB CONTACT: Joel Grice	LABORATORY ADDRESS: Houston Texas	PHONE NUMBER: —	FAX NO.: —
BP CONTACT REQUESTING RUSH TAT (Print BP Contact Name)	RUSH REQUESTED OF (Print Consultant Contact Name)	DATE/TIME	SHIPMENT DATE: 6/24/98
			SHIPMENT METHOD: Fed Ex
			AIRBILL NUMBER: 805188475482

TAT: ☐ 24 Hours ☐ 48 Hours ☐ 72 Hours ☒ Standard 7 or 14 Days

SAMPLE DESCRIPTION	COLLECTION DATE	COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH-G/BTEX 8021	MTBE	TOG 5520	TPH-D	HVOCs						COMMENTS
S-1	6-22-98		water				X	X									
S-2	↓		↓				X	X	X	X	X						
S-3	↓		↓				X	X									
S-4	↓		↓				X	X									
S-5	↓		↓				X	X									
S-6	↓		↓				X	X									

SAMPLED BY (Please Print Name)

SAMPLED BY (Signature)

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION (Print Name / Signature)	DATE	TIME	ACCEPTED BY /AFFILIATION (Print Name / Signature)	DATE	TIME
[signature]			P. Yelton	6/23/98	1300
P. Yelton	6/24/98	1600	[signature]	6/25/98	1000

2°

CLV-16722-A (2/97)
PKG/50

DISTRIBUTION: WHITE - ORIGINAL (WITH DATA) YELLOW - BP PINK - LAB BLUE - CONSULTANT FIELD STAFF

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

BP Site Number:	11126
ERM Contact:	H177106
Sampling Date:	6/22/98
Matrix Description:	Water
Date Final Report Received:	7/16/98
Laboratory & Location:	SPL, Houston, Texas

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

MS/MSD recovery and relative % difference for one of two matrix spikes for benzene was not calculated due to sample exceeding spike by a factor of 4 or more. MS/MSD relative % difference value for M and P xylenes in one of two matrix spikes was outside QC range due to matrix interference. MS/MSD limits are advisory only; as stated in SW-846, Section 8.7 to 8.8, if the MS/MSD results fall outside the advisable ranges, a laboratory control samples (LCS) must be analyzed and fall within those ranges. LCS results are within quality control limits.

Data Validation Completed by: Brady Nagle

(signature): Brady Nagle

Date: 7/3/98