GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11105
3519 Castro Valley Boulevard
Castro Valley, California

Project No. 10-138-10-003

Prepared for:

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August 7, 1998

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GROUNDWATER MONITORING AND SAMPLING REPORT

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INTRODUCTION

This report presents the results and findings of the April 23, 1998 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11105, 3519 Castro Valley Boulevard, Castro Valley, 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.

Groundwater monitoring was performed April 26, 1998 at the neighboring Xtra Oil Company service station, 3495 Castro Valley Boulevard. The results are presented in Table 2.

SAMPLING AND ANALYTICAL RESULTS

The results of monitoring and laboratory analysis of the groundwater samples collected during 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 laboratory 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. 11105
3519 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

ALISTO PROJECT NO. 10-138

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
ESE-1 (c)	10/05/92	177.69	11.22	166.47	2100	370	150	17	110	---	---	---
ESE-1D (d)	10/05/92	---	---	---	2300	370	160	16	110	---	---	---
ESE-1	04/01/93	177.69	8.79	168.90	5900	1500	410	110	390	---	---	PACE
ESE-1	06/29/93	177.69	10.34	167.35	7600	2900	390	130	460	---	---	PACE
ESE-1	09/23/93	177.69	10.91	166.78	2000	490	40	20	56	600 (e)	---	PACE
QC-1 (d)	09/23/93	---	---	---	1500	420	39	19	56	550 (e)	---	PACE
ESE-1	12/10/93	177.69	9.93	167.76	1800	480	42	19	66	921 (e)	3.2	PACE
QC-1 (d)	12/10/93	---	---	---	1500	380	38	17	55	770 (e)	---	PACE
ESE-1	02/17/94	177.69	9.64	168.05	1900	380	48	24	80	590 (e)	---	PACE
QC-1 (d)	02/17/94	---	---	---	2200	430	42	19	65	680 (e)	---	PACE
ESE-1	08/08/94	177.69	11.72	165.97	2100	450	46	16	50	760 (e)	5.1	PACE
ESE-1	10/12/94	177.69	10.48	167.21	760	240	16	51	39	230 (e)	3.5	PACE
ESE-1	01/19/95	177.69	7.77	169.92	840	600	120	22	58	---	8.0	ATI
ESE-1	05/02/95	177.69	8.69	169.00	2000	640	67	24	98	---	8.5	ATI
ESE-1	07/28/95	177.69	10.12	167.57	190	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	7.9	ATI
ESE-1	11/17/95	177.69	10.57	167.12	200	3.4	ND<1.0	1	ND<2.0	600	7.7	ATI
ESE-1	02/07/96	177.69	7.41	170.28	750	370	23	21	64	680	2.5	SPL
ESE-1	04/23/96	177.69	9.12	168.57	310	100	ND<1	ND<1	ND<1	1500	6.3	SPL
ESE-1	07/09/96	177.69	10.12	167.57	730	230	74	13	63	750	2.9	SPL
ESE-1	10/10/96	177.69	10.80	166.89	420	26	1.6	7.3	12	430	7.4	SPL
ESE-1	01/20/97	177.69	8.52	169.17	660	290	4.2	13	36	450	5.9	SPL
ESE-1	04/25/97	177.69	9.77	167.92	410	ND<0.5	ND<1.0	ND<1.0	ND<1.0	580	5.3	SPL
ESE-1	07/18/97	177.69	10.55	167.14	420	ND<0.5	ND<1.0	ND<1.0	ND<1.0	370	5.0	SPL
ESE-1	10/27/97	177.69	10.36	167.33	300	56	ND<1.0	6.5	ND<1.0	220	4.8	SPL
ESE-1	01/22/98	177.69	7.52	170.17	4200	440	9	15	17.7	1300	4.2	SPL
ESE-1	**04/23/98**	177.69	8.80	168.89	15000	**3400**	190	910	900	**4900**	4.2	SPL
QC-1	**04/23/98**	---	---	---	15000	**2600**	140	730	730	**4400**	---	SPL
ESE-2	10/05/92	178.23	11.68	166.55	300	5.4	16	3.9	45	---	---	---
ESE-2	04/01/93	178.23	9.17	169.06	240	27	ND<0.5	17	2.6	123 (e)	---	PACE
ESE-2	06/29/93	178.23	10.88	167.35	1700	260	24	110	23	---	---	PACE
QC-1 (d)	06/29/93	---	---	---	1300	240	17	110	25	---	---	PACE
ESE-2	09/23/93	178.23	11.56	166.67	240	3.1	0.5	0.6	2.5	900 (e)	---	PACE
ESE-2	12/10/93	178.23	10.48	167.75	250	2.4	2.4	1.5	11	940 (e)	2.6	PACE
ESE-2	02/17/94	178.23	10.06	168.17	900	ND<0.5	ND<0.5	ND<0.5	ND<0.5	930 (e)	---	PACE
ESE-2	08/08/94	178.23	11.11	167.12	750	ND<0.5	ND<0.5	ND<0.5	ND<0.5	1400 (e)	5.1	PACE
ESE-2	10/12/94	178.23	11.31	166.92	1700	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3000 (e)	3.6	PACE
ESE-2	01/19/95	178.23	8.25	169.98	300	2	0.9	0.7	1	---	8.1	ATI
ESE-2	05/02/95	178.23	9.21	169.02	1200	4	ND<2.5	ND<2.5	ND<5.0	---	8.4	ATI
ESE-2	07/28/95	178.23	10.64	167.59	2000	ND<2.5	ND<2.5	ND<2.5	ND<5.0	---	7.7	ATI
ESE-2	11/17/95	178.23	11.13	167.10	3600	ND<25	ND<25	ND<25	ND<50	12000	7.4	ATI
QC-1 (d)	11/17/95	---	---	---	3400	ND<25	ND<25	ND<25	ND<50	12000	---	ATI
ESE-2	02/07/96	178.23	7.94	170.29	450	ND<0.5	ND<1	ND<1	ND<1	2300	1.8	SPL
ESE-2	04/23/96	178.23	9.73	168.50	260	0.9	ND<1	ND<1	ND<1	8600	7.2	SPL
ESE-2	07/09/96	178.23	10.70	167.53	780	ND<2.5	ND<5	ND<5	ND<5	13393	3.0	SPL
ESE-2	10/10/96	178.23	11.39	166.84	2900	ND<0.5	ND<1.0	ND<1.0	ND<1.0	12000	7.0	SPL
ESE-2	01/20/97	178.23	9.04	169.19	ND<250	ND<2.5	ND<5.0	ND<5.0	ND<5.0	13000	6.2	SPL
ESE-2	04/25/97	178.23	10.31	167.92	2700	ND<0.5	ND<1.0	ND<1.0	ND<1.0	15000	5.9	SPL
ESE-2	07/18/97	178.23	11.02	167.21	11000	ND<5	ND<10	ND<10	ND<10	11000	5.0	SPL
ESE-2	10/27/97	178.23	10.93	167.30	6100	ND<2.5	ND<5.0	ND<5.0	ND<5.0	7100	4.8	SPL
QC-1 (d)	10/27/97	---	---	---	6600	ND<2.5	ND<5.0	ND<5.0	ND<5.0	7400	---	SPL
ESE-2	01/22/98	178.23	7.93	170.30	13000	ND<0.5	ND<1.0	ND<1.0	ND<1.0	10000	4.6	SPL
QC-1 (d)	01/22/98	---	---	---	13000	ND<0.5	ND<1.0	ND<1.0	ND<1.0	10000	---	SPL
ESE-2	04/23/98	178.23	9.34	168.89	**19000**	ND<5	ND<10	ND<10	ND<10	**36000**	4.2	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11105
3519 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

ALISTO PROJECT NO. 10-138

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-7	07/28/95	176.55	9.25	167.30	ND<50	0.54 (g)	0.54	ND<0.50	ND<1.0	---	7.1	ATI
MW-7	11/17/95	176.55	9.73	166.82	1100	ND<10	ND<10	ND<10	ND<20	4000	6.3	ATI
MW-7	02/07/96	176.55	6.48	170.07	610	ND<0.5	ND<1	ND<1	ND<1	2500	4.1	SPL
QC-1 (d)	02/07/96	---	---	---	280	ND<0.5	ND<1	ND<1	ND<1	2600	---	SPL
MW-7	04/23/96	176.55	6.37	168.18	110	ND<0.5	ND<1	ND<1	ND<1	3500	6.4	SPL
QC-1 (d)	04/23/96	---	---	---	230	ND<0.5	ND<1	ND<1	ND<1	3500	---	SPL
MW-7	07/09/96	176.55	9.24	167.31	230	ND<0.5	ND<1	ND<1	ND<1	4296	3.1	SPL
QC-1 (d)	07/09/96	---	---	---	220	ND<0.5	ND<1	ND<1	ND<1	4400	---	SPL
MW-7	10/10/96	176.55	10.05	166.50	---	---	---	---	---	---	---	---
MW-7	10/11/96	176.55	---	---	1600	ND<0.5	ND<1.0	ND<1.0	ND<1.0	3000	6.9	SPL
MW-7	01/20/97	176.55	7.51	169.04	ND<50	0.63	1	ND<1.0	ND<1.0	2600	5.7	SPL
MW-7	04/25/97	176.55	8.79	167.76	---	---	---	---	---	---	---	---
MW-7	04/28/97	176.55	---	---	1500	ND<0.5	ND<1.0	ND<1.0	ND<1.0	3600	5.1	SPL
QC-1 (d)	04/28/97	---	---	---	7700	3500	ND<25	74	37	ND<250	---	SPL
MW-7	07/18/97	176.55	9.50	167.05	1400	ND<0.5	ND<1.0	ND<1.0	ND<1.0	2600	5.2	SPL
MW-7	10/27/97	176.55	9.19	167.36	420	ND<0.5	ND<1.0	ND<1.0	ND<1.0	560	4.9	SPL
MW-7	01/22/98	176.55	6.45	170.10	3100	ND<0.5	ND<1.0	ND<1.0	1.4	2300	4.2	SPL
MW-7	04/23/98	176.55	8.02	168.53	[illegible]	ND<0.5	ND<1.0	ND<1.0	ND<1.0	[illegible]	3.9	SPL
MW-8	07/28/95	176.34	7.80	168.54	1100	ND<2.5	ND<2.5	ND<2.5	ND<5.0	---	7.2	ATI
MW-8	11/17/95	176.34	8.29	168.05	8300	75	5.3	670	240	140	7.0	ATI
MW-8	02/07/96	176.34	4.99	171.35	2300	33	ND<10	190	216	ND<100	1.7	SPL
MW-8	04/23/96	176.34	6.09	170.25	2000	[illegible]	ND<20	150	26	ND<250	5.1	SPL
MW-8 (h)	07/09/96	---	---	---	---	---	---	---	---	---	---	---
QC-2 (i)	04/01/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (i)	06/29/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (i)	09/23/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (i)	12/10/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (i)	02/17/94	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (i)	08/08/94	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (i)	10/12/94	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (i)	01/19/95	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	ATI
QC-2 (i)	05/02/95	---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
QC-2 (i)	07/28/95	---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
QC-2 (i)	11/17/95	---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	ATI
QC-2 (i)	02/07/96	---	---	---	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	SPL
QC-2 (i)	04/23/96	---	---	---	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	SPL
QC-2 (i)	07/09/96	---	---	---	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. 11105
3519 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

ALISTO PROJECT NO. 10-138

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

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
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 applicable/available/measured/analyzed
PACE	Pace, Inc.
ATI	Analytical Technologies, Inc.
SPL	Southern Petroleum Laboratories

NOTES:

(a) Top of casing elevations surveyed relative to mean sea level.

(b) Groundwater elevations in feet relative to mean sea level.

(c) Additional analysis of the sample collected from ESE-1 on 10/5/92 detected 96 ug/l total petroleum hydrocarbons as diesel and 1.8 ug/l 1,2-dichloroethane.

(d) Blind duplicate.

(e) A copy of the documentation for this data is included in Appendix C of Alisto report 10-138-09-004.

(f) Top of casing lowered by 0.07 foot after the monitoring event on 4/01/93.

(g) Sample result may be falsely elevated due to matrix interference.

(h) Well destroyed.

(i) Travel blank.

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TABLE 2 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
XTRA OIL COMPANY SERVICE STATION
3495 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

ALISTO PROJECT NO. 10-138

WELL ID		DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)		DEPTH TO WATER (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)
MW-1		08/19/91	175.73		9.31	166.42	48	47	13	8.4	0.99	29
MW-1		09/17/91	175.73		9.50	166.23	39	19	4.9	4.1	1.2	5.9
MW-1		10/10/91	175.73		9.70	166.03	28	19	4.1	4.7	1.0	4.8
MW-1		11/25/91	175.73		9.41	166.32	170	36	5.6	5.6	1.6	8.4
MW-1		12/23/91	175.73		9.65	166.08	78	34	9.3	7.3	0.54	13
MW-1		01/14/92	175.73		8.57	167.16	39	19	7.3	8.7	1.3	8.9
MW-1		05/29/92	175.73		8.59	167.14	120	11	8.8	16	2.3	15
MW-1		11/13/92	175.73		9.13	190.87	120	4.4	5.8	10	2.1	13
MW-1		02/23/93	200.00	(c)	7.34	ERR	100	14	4.5	11	2.1	12
MW-1		05/18/93	177.43	(d)	8.12	169.31	92	30	4.0	11	2.5	15
MW-1		08/30/93	177.43		8.78	168.65	77	9.4	6.4	11	2.2	12
MW-1		11/24/93	177.43		8.74	168.69	66	8.2	6.3	8.9	2.0	11
MW-1		02/28/94	177.43		7.44	169.99	90	110	11	9.6	2.1	9.9
MW-1		05/19/94	177.43		8.05	169.38	---	---	---	---	---	---
MW-1		08/22/94	177.43		8.67	168.76	---	---	---	---	---	---
MW-1		11/18/94	177.43		7.14	170.29	---	---	---	---	---	---
MW-1		02/23/95	177.43		7.72	169.71	---	---	---	---	---	---
MW-1		05/02/95	177.43		6.96	170.47	---	---	---	---	---	---
MW-1		07/28/95	177.43		8.27	169.16	---	---	---	---	---	---
MW-1		10/26/95	177.43		8.45	168.98	---	---	---	---	---	---
MW-1		01/29/96	177.43		6.17	171.26	---	---	---	---	---	---
MW-1		02/07/96	177.43		6.09	171.34	---	---	---	---	---	---
MW-1		04/23/96	177.43		7.47	169.96	---	---	---	---	---	---
MW-1		07/09/96	177.43		8.16	169.27	---	---	---	---	---	---
MW-1		01/20/97	177.43		7.12	170.31	---	---	---	---	---	---
MW-1		04/25/97	177.43		7.98	169.45	---	---	---	---	---	---
MW-1		07/24/97	177.43		8.71	168.72	---	---	---	---	---	---
MW-1		08/26/97	177.37	(e)	8.51	168.86	---	---	---	---	---	---
MW-1		11/06/97	177.37		8.79	168.58	---	---	---	---	---	---
MW-1		01/24/98	177.37		6.61	170.76	---	---	---	---	---	---
MW-1		04/26/98	177.37		7.50	169.87	---	---	---	---	---	---
MW-2		08/19/91	175.45		9.60	165.85	69	19	26	22	2.1	18
MW-2		09/17/91	175.45		10.23	165.22	74	56	10	11	1.4	8.1
MW-2		10/10/91	175.45		10.39	165.06	85	360	21	25	2.1	14
MW-2		11/25/91	175.45		9.81	165.64	230	130	11	9.7	1.4	9.7
MW-2		12/23/91	175.45		10.39	165.06	2100	700	36	130	79	560
MW-2		01/14/92	175.45		8.97	166.48	59	1600	17	14	1.8	15
MW-2		05/27/95	175.45		9.31	166.14	89	130	18	19	1.7	14
MW-2		11/13/92	198.61	(c)	8.70	189.91	79	8.2	10	13	1.4	8.6
MW-2		02/23/93	198.61		6.39	192.22	76	7.0	12	17	1.6	9.6
MW-2		05/18/93	176.04	(d)	7.73	168.31	67	44	9.2	12	1.4	9.3
MW-2		08/30/93	176.04		8.64	167.40	110	110	11	14	1.8	11
MW-2		11/24/93	176.04		8.47	167.57	12	79	13	17	2.5	17
MW-2		02/28/94	176.04		6.99	169.05	91	13	13	16	1.5	9.0
MW-2		05/19/94	176.04		7.70	168.34	---	---	---	---	---	---
MW-2		08/22/94	176.04		8.59	167.45	---	---	---	---	---	---
MW-2		11/18/94	176.04		6.92	169.12	---	---	---	---	---	---
MW-2		02/23/95	176.04		7.51	168.53	---	---	---	---	---	---
MW-2		05/02/95	176.04		6.79	169.25	---	---	---	---	---	---
MW-2		07/28/95	176.04		7.99	168.05	---	---	---	---	---	---
MW-2		10/26/95	176.04		8.21	167.83	---	---	---	---	---	---
MW-2		01/29/96	176.04		5.16	170.88	---	---	---	---	---	---
MW-2	(f)	02/07/96	176.04		5.70	170.34	---	---	---	---	---	---

TABLE 2 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
XTRA OIL COMPANY SERVICE STATION
3495 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

ALISTO PROJECT NO. 10-138

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (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)
MW-3	08/19/91	175.00	8.95	166.05	170	150	82	31	4.4	22
MW-3	09/17/91	175.00	9.20	165.80	180	140	47	25	2.6	15
MW-3	10/10/91	175.00	9.43	165.57	140	39	57	31	2.2	14
MW-3	11/25/91	175.00	9.19	165.81	150	74	65	31	3.4	18
MW-3	12/23/91	175.00	9.37	165.63	740	540	30	61	31	180
MW-3	01/14/92	175.00	8.24	166.76	130	270	76	30	3.4	21
MW-3	05/29/92	175.00	8.45	166.55	370	27	91	57	3.0	21
MW-3	11/13/92	175.00	7.86	167.14	140	4.7	38	24	2.0	12
MW-3	02/23/93	190.97 (c)	8.01	182.96	110	8.1	31	18	1.9	11
MW-3	05/18/93	176.41 (d)	7.12	169.29	130	7.2	36	21	2.1	12
MW-3	08/30/93	176.41	7.64	168.77	130	32	36	21	1.9	8.2
MW-3	11/24/93	176.41	7.55	168.86	160	24	48	26	2.2	12
MW-3	02/28/94	176.41	6.68	169.73	110	210	36	21	1.9	11
MW-3	05/19/94	176.41	7.15	169.26	---	---	---	---	---	---
MW-3	08/22/94	176.41	7.65	168.76	---	---	---	---	---	---
MW-3	11/18/94	176.41	6.05	170.36	---	---	---	---	---	---
MW-3	02/23/95	176.41	7.24	169.17	---	---	---	---	---	---
MW-3	05/02/95	176.41	6.50	169.91	---	---	---	---	---	---
MW-3	07/28/95	176.41	7.80	168.61	---	---	---	---	---	---
MW-3	10/26/95	176.41	7.72	168.69	---	---	---	---	---	---
MW-3	01/29/96	176.41	5.77	170.64	---	---	---	---	---	---
MW-3	02/07/96	176.41	5.05	171.36	---	---	---	---	---	---
MW-3	04/23/96	176.41	6.81	169.60	---	---	---	---	---	---
MW-3	07/09/96	176.41	7.61	168.80	---	---	---	---	---	---
MW-3	01/20/97	176.41	6.35	170.06	---	---	---	---	---	---
MW-3	04/25/97	176.41	7.12	169.29	---	---	---	---	---	---
MW-3	07/24/97	176.41	7.90	168.51	---	---	---	---	---	---
MW-3	08/26/97	176.60 (e)	7.67	168.93	---	---	---	---	---	---
MW-3	11/06/97	176.60	7.80	168.80	---	---	---	---	---	---
MW-3	01/24/98	176.60	5.90	170.70	---	---	---	---	---	---
MW-3	04/26/98	176.60	6.85	169.75	---	---	---	---	---	---
MW-4	08/20/97	176.35	7.66	168.69	---	---	---	---	---	---
MW-4	08/26/97	176.35	8.92	167.43	---	---	---	---	---	---
MW-4	11/06/97	176.35	9.16	167.19	---	---	---	---	---	---
MW-4	01/24/98	176.35	6.61	169.74	---	---	---	---	---	---
MW-4	04/26/98	176.35	6.87	169.48	---	---	---	---	---	---

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
ug/l	Micrograms per liter
---	Not available

NOTES:

(a) Top of casing elevations relative to mean sea level.

(b) Groundwater elevations in feet above mean sea level.

(c) Well resurveyed on December 5, 1992.

(d) Well resurveyed on March 24, 1993.

(e) Well resurveyed on August 20, 1997.

(f) Well destroyed February 7, 1996.

F:\01\10-138\XTRA-OIL.WQ2

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

N

QUADRANGLE LOCATION

0 1000' 2000'

FIGURE 1

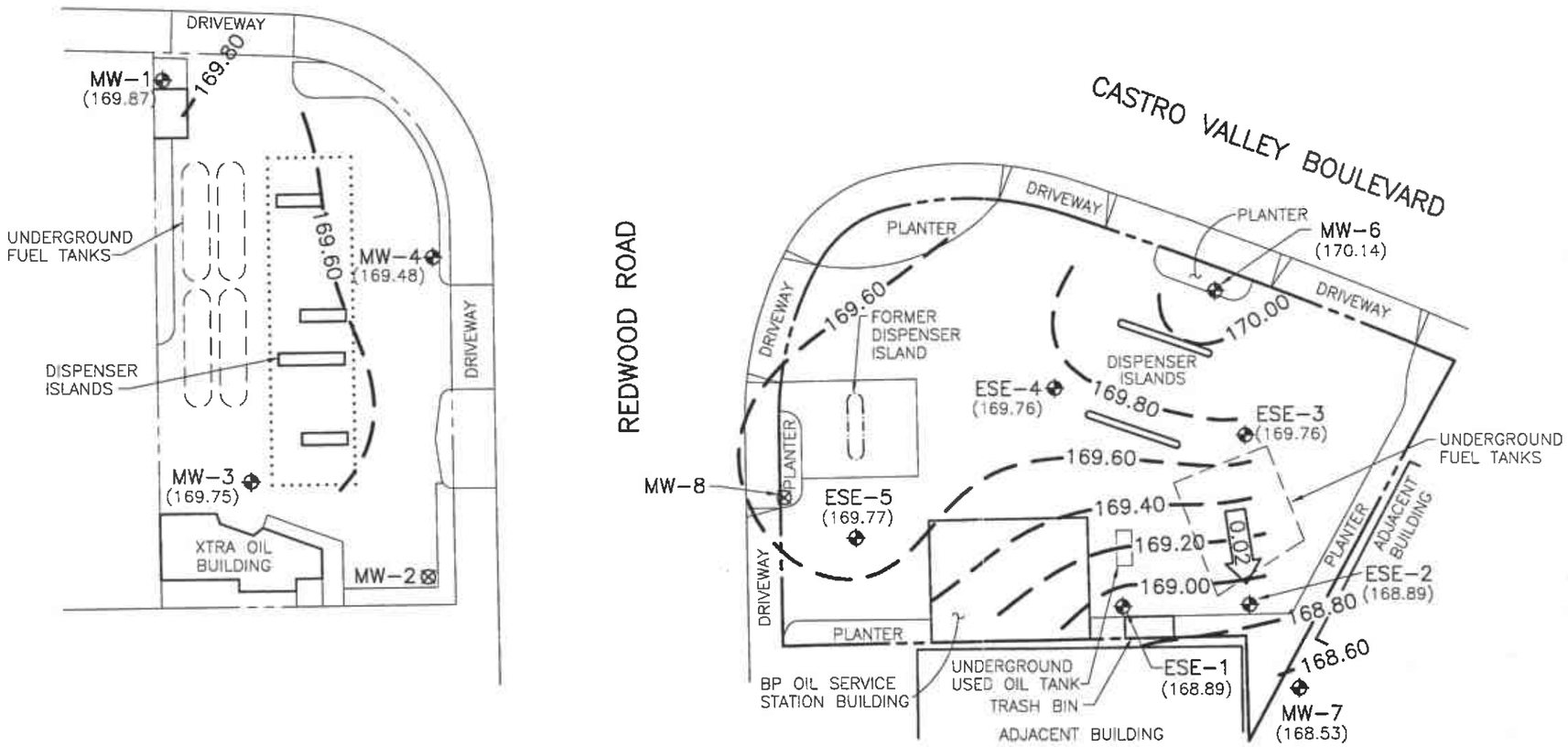
SITE VICINITY MAP

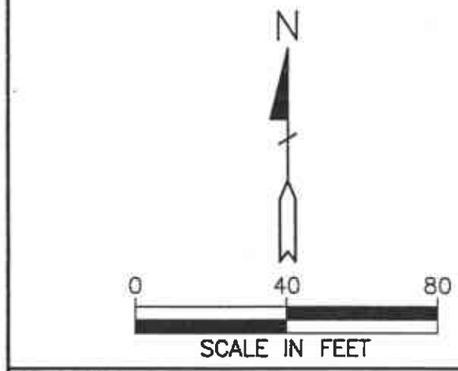
BP OIL SERVICE STATION NO. 11105
3519 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

PROJECT NO. 10-138

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10138---DWG 10-17-95 MAP 1=1





LEGEND

⊕	GROUNDWATER MONITORING WELL
⊠	DESTROYED WELL
(168.53)	GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
168.60	GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.20 FOOT)
0.02	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

NOTES:

1. Potentiometric groundwater elevation contours were generated with Quicksurf using the Kriging method with an exponential variogram on a triangulated grid surface.
2. All Xtra Oil wells were monitored on April 26, 1998.

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

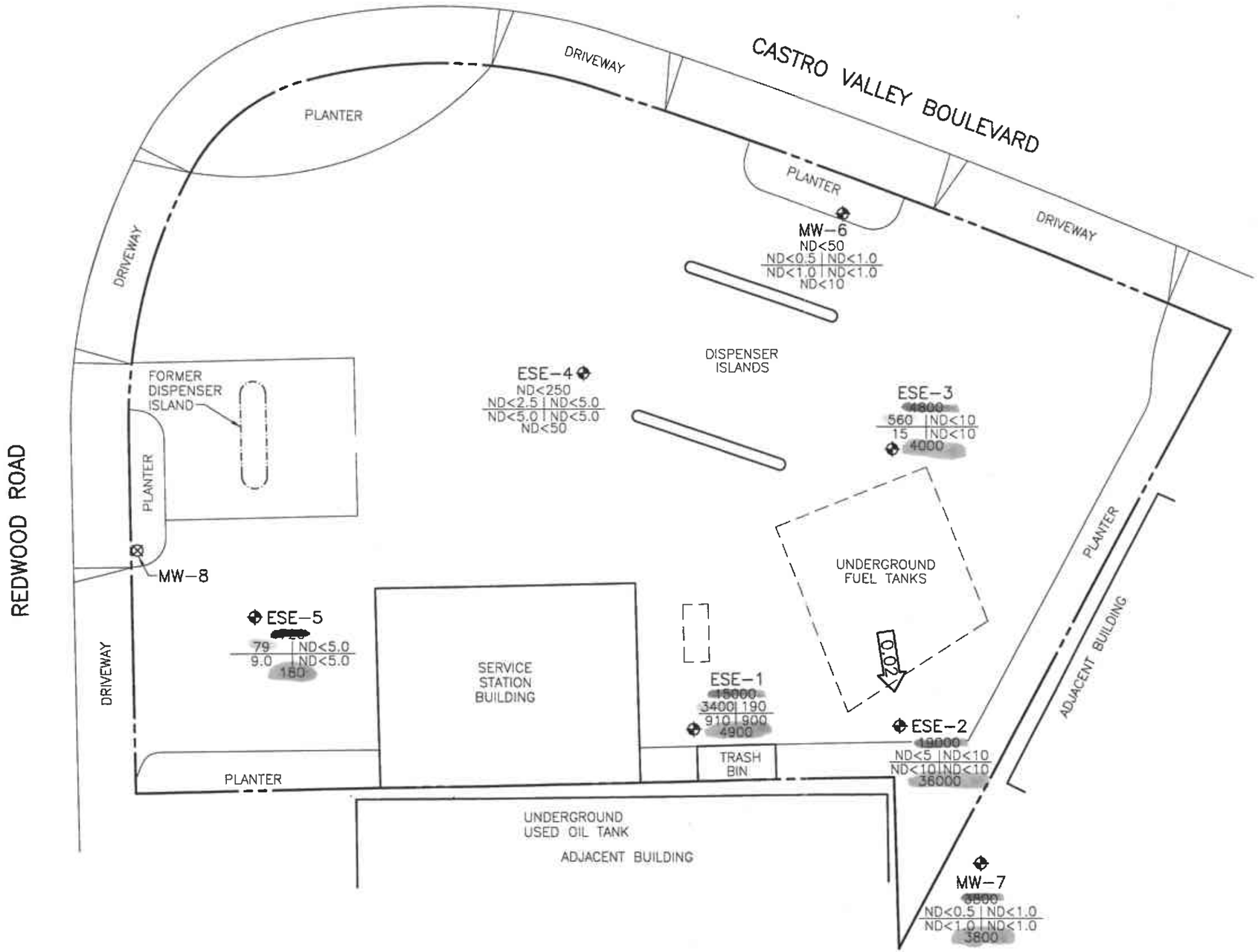
APRIL 23 AND 26, 1998

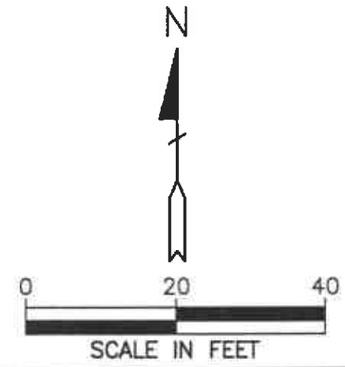
BP OIL SERVICE STATION NO. 11105
3519 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

PROJECT NO. 10–138

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

101380-2.DWG 8-2-98 RKW 1=40





LEGEND

◆	GROUNDWATER MONITORING WELL
⊠	DESTROYED 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
0.02	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

APRIL 23, 1998

BP OIL SERVICE STATION NO. 11105
3519 CASTRO VALLEY BOULEVARD
CASTRO VALLEY, CALIFORNIA

PROJECT NO. 10-138

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10138C-2DWG 8-2-98 MW 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. 10-138-10-003 Date: 4/23/98

Address 3515 Castro Valley Blvd Day: M T W (TH) F

Contract No. H176918 City: Castro Valley

Station No. BP 11105 Sampler: LB

DEPTH TO GROUNDWATER SUMMARY

	WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS: JOINT
8	ESE-1	S-7	2"	30.00	8.80	∅	1047	(5-8) QC-1 from this well
7	ESE-2	S-6	2"	30.00	9.34		1044	
3	ESE-3	S-3	2"	30.00	8.44		1029	
2	ESE-4	S-2	2"	25.00	7.90		1026	
4	ESE-5	S-4	2"	24.00	6.31		1034	
1	MW-6	S-1	2"	29.43	9.10		1024	
5	MW-7	S-5	2"	19.85	8.02	↓	1039	[redacted]
6	MW-8	—	—	—	—	—	—	Destroyed Well

BLK

FIELD INSTRUMENT CALIBRATION DATA

pH METER Ion 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED (Y) N TIME 1001

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 OPERATION: _____ 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-6	9.10	2"	OK	∅	Y (N)	3	1120	68.3	7.71	422µs	3.9
Total Depth - Water Level=		x Well Vol. Factor=		x#vol. to Purge	PurgeVol.	7		67.2	7.42	441µs	
29.43-9.10 = 20.33 X .16 = 3.25 X 3 =					9.75	10	1130	66.3	7.38	449µs	4.2

Purge Method: (X) Surface Pump O Disp.Tube O Winch O Disp. Bailer(s)___ O Sys Port

Comments:

- O EPA 601_____
- (X) TPH-G/BTEX___
- O TPH Diesel_____
- O TOG 5520 ___

TIME/SAMPLE ID: 1133

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. 10-138-10-003 Date: 4/23/97
Address 3515 Castro Valley Blvd Day: M T W (H) F
Contract No. H176918 City: Castro Valley
Station No. BP 11105 Sampler: LW

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
ESE-4	7.90	2"	OIC	Ø	Y (N)	3	1144	67.8	7.71	417µS	4.0
						6		67.1	7.58	433µS	
						9	1156	66.3	7.51	451µS	4.0

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
25.00 - 7.90 = 17.10 X .16 = 2.74 X 3 = 8.22
Purge Method: (X) Surface Pump O Disp.Tube O Winch O Disp. Bailer(s)___ O Sys Port
Comments:

O EPA 601_____ (X) TPH-G/BTEX___ O TPH Diesel____ O TOG 5520 ___
TIME/SAMPLE ID: 1157

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
ESE-1	8.44	2"	OIC	Ø	Y (N)	3	1210	66.6	7.93	439µS	4.0
						7		65.8	7.80	460µS	
						11	1219	65.1	7.70	471µS	4.2

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
~~30.00 - 8.44 =~~ 30.00 - 8.80 = 21.20 X .16 = 3.39 X 3 = 10.17
Purge Method: (X) Surface Pump O Disp.Tube O Winch O Disp. Bailer(s)___ O Sys Port
Comments:

O EPA 601_____ (X) TPH-G/BTEX___ O TPH Diesel____ O TOG 5520 ___
TIME/SAMPLE ID: 1225

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
ESE-5	6.31	2"	OK	Ø	Y (N)	3	1237	68.7	7.83	597µS	4.6
						6		67.3	7.68	610µS	
						9	1249	67.0	7.64	617µS	4.6

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
24.00 - 6.31 = 17.69 X .16 = 2.83 X 3 = 8.49
Purge Method: (X) Surface Pump O Disp.Tube O Winch O Disp. Bailer(s)___ O Sys Port
Comments:

O EPA 601_____ (X) TPH-G/BTEX___ O TPH Diesel____ O TOG 5520 ___
TIME/SAMPLE ID: 1251

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-7	8.02	2"	OIC	Ø	Y (N)	2	1330	66.3	7.77	411µS	3.7
						4		65.4	7.62	439µS	
						6	1344	65.1	7.58	448µS	3.9

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
19.85 - 8.02 = 11.83 X .16 = 1.89 X 3 = 5.67
Purge Method: (X) Surface Pump O Disp.Tube O Winch O Disp. Bailer(s)___ O Sys Port
Comments:

O EPA 601_____ (X) TPH-G/BTEX___ O TPH Diesel____ O TOG 5520 ___
TIME/SAMPLE ID: 1355

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. 10-138-10-003 Date: 4/23/97
Address 3515 Castro Valley Blvd Day: M T W (TH) F
Contract No. H176918 City: Castro Valley
Station No. BP 11105 Sampler: WB

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
ESE-2	9.34	2"	OK	Ø	Y (N)	3	1431	67.4	7.60	466µS	4.1
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			7		66.3	7.41	479µS	
30.00 - 9.34 = 20.66 x .16 = 3.31 x 3 = 9.93						10	1441	66.3	7.33	489µS	4.2
Purge Method: (Surface Pump) ODisp.Tube OWinch ODisp. Baller(s)___ OSys Port											
Comments:											

TIME/SAMPLE ID: 1445

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
ESE-3	8.44	2"	OK	Ø	Y (N)	4	1501	65.9	7.89	501µS	3.9
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			7		65.2	7.79	519µS	
30.00 - 8.44 = 21.56 x .16 = 3.45 x 3 = 10.35						11	1515	64.8	7.67	522µS	3.9
Purge Method: (Surface Pump) ODisp.Tube OWinch ODisp. Baller(s)___ OSys Port											
Comments:											

TIME/SAMPLE ID: 1518

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	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. Baller(s)___ OSys Port											
Comments:											

TIME/SAMPLE ID:

- O EPA 601_____
- (Ø) TPH-G/BTEX___
- O TPH Diesel_____
- O TOG 5520 ___

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

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

May 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 April 28, 1998. The sample(s) was assigned to Certificate of Analysis No.(s) 9804D13 and analyzed for all parameters as listed on the chain of custody.

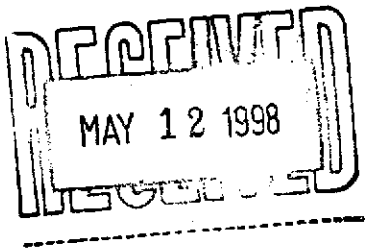
Any data flag or quality control exception associated with this report will be footnoted in the analytical results page(s) or the quality control summary page(s).

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
Project Manager



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

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-04-D13

Approved for Release by:

Joel Grice, Project Manager Date: 5/8/98

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. H9-9804D13-01

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

P.O.# H176918, COC#088978
DATE: 05/08/98

PROJECT: #11105,N/A
SITE: Castro Valley
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-1

PROJECT NO: 10-138-10-3
MATRIX: WATER
DATE SAMPLED: 04/23/98
DATE RECEIVED: 04/28/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	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	100		
4-Bromofluorobenzene	103		
Method 8020A***			
Analyzed by: TB			
Date: 05/02/98			
Gasoline Range Organics	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	103		
California LUFT Manual for Gasoline			
Analyzed by: TB			
Date: 05/02/98 01:37:00			

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. H9-9804D13-02

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

P.O.# H176918, COC#088978
DATE: 05/08/98

PROJECT: #11105,N/A
SITE: Castro Valley
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-2

PROJECT NO: 10-138-10-3
MATRIX: WATER
DATE SAMPLED: 04/23/98
DATE RECEIVED: 04/28/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	50 P	ug/L
Benzene	ND	2.5 P	ug/L
Toluene	ND	5.0 P	ug/L
Ethylbenzene	ND	5.0 P	ug/L
Total Xylene	ND	5.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	113		
Method 8020A***			
Analyzed by: VHZ			
Date: 05/05/98			
Gasoline Range Organics	ND	0.25 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	113		
California LUFT Manual for Gasoline			
Analyzed by: VHZ			
Date: 05/05/98 05:51:00			

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. H9-9804D13-03

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

P.O.#
H176918, COC#088978
DATE: 05/08/98

PROJECT: #11105,N/A
SITE: Castro Valley
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-3

PROJECT NO: 10-138-10-3
MATRIX: WATER
DATE SAMPLED: 04/23/98
DATE RECEIVED: 04/28/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	4000	100 P	ug/L
Benzene	560	5 P	ug/L
Toluene	ND	10 P	ug/L
Ethylbenzene	15	10 P	ug/L
Total Xylene	ND	10 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	97		
4-Bromofluorobenzene	117		
Method 8020A***			
Analyzed by: VHZ			
Date: 05/05/98			
Gasoline Range Organics	4.8	0.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	90		
4-Bromofluorobenzene	100		
California LUFT Manual for Gasoline			
Analyzed by: VHZ			
Date: 05/05/98 08:45:00			

(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.
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HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9804D13-04

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

P.O.# H176918, COC#088978
DATE: 05/08/98

PROJECT: #11105,N/A
SITE: Castro Valley
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-4

PROJECT NO: 10-138-10-3
MATRIX: WATER
DATE SAMPLED: 04/23/98
DATE RECEIVED: 04/28/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	180	50 P	ug/L
Benzene	79	2.5 P	ug/L
Toluene	ND	5.0 P	ug/L
Ethylbenzene	9.0	5.0 P	ug/L
Total Xylene	ND	5.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	120		
Method 8020A***			
Analyzed by: VHZ			
Date: 05/05/98			
Gasoline Range Organics	0.72	0.25 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	107		
California LUFT Manual for Gasoline			
Analyzed by: VHZ			
Date: 05/05/98 08:20:00			

(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. H9-9804D13-05

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

P.O.# H176918, COC#088978
DATE: 05/08/98

PROJECT: #11105,N/A
SITE: Castro Valley
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-5

PROJECT NO: 10-138-10-3
MATRIX: WATER
DATE SAMPLED: 04/23/98
DATE RECEIVED: 04/28/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	3800	100 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	97		
4-Bromofluorobenzene	107		
Method 8020A***			
Analyzed by: VHZ			
Date: 05/05/98			
Gasoline Range Organics	3.8	0.50 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	90		
4-Bromofluorobenzene	107		
California LUFT Manual for Gasoline			
Analyzed by: VHZ			
Date: 05/05/98 07:59:00			

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

Certificate of Analysis No. H9-9804D13-06

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

P.O.# H176918, COC#088978
DATE: 05/08/98

PROJECT: #11105,N/A
SITE: Castro Valley
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-6

PROJECT NO: 10-138-10-3
MATRIX: WATER
DATE SAMPLED: 04/23/98
DATE RECEIVED: 04/28/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	36000	1000 P	ug/L
Benzene	ND	5 P	ug/L
Toluene	ND	10 P	ug/L
Ethylbenzene	ND	10 P	ug/L
Total Xylene	ND	10 P	ug/L
Surrogate	**% Recovery**		
4-Bromofluorobenzene	110		
Method 8020A***			
Analyzed by: fab			
Date: 05/07/98			
Gasoline Range Organics	19	0.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	110		
California LUFT Manual for Gasoline			
Analyzed by: VHZ			
Date: 05/05/98 09:37:00			

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

Certificate of Analysis No. H9-9804D13-07

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

P.O.# H176918, COC#088978
DATE: 05/08/98

PROJECT: #11105,N/A
SITE: Castro Valley
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-7

PROJECT NO: 10-138-10-3
MATRIX: WATER
DATE SAMPLED: 04/23/98
DATE RECEIVED: 04/28/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	4900	250 P	ug/L
Benzene	3400	12 P	ug/L
Toluene	190	25 P	ug/L
Ethylbenzene	910	25 P	ug/L
Total Xylene	900	25 P	ug/L
Surrogate	**% Recovery**		
4-Bromofluorobenzene	119		
Method 8020A***			
Analyzed by: fab			
Date: 05/07/98			
Gasoline Range Organics	15	1.2 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	95		
4-Bromofluorobenzene	105		
California LUFT Manual for Gasoline			
Analyzed by: VHZ			
Date: 05/05/98 10:03:00			

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

Certificate of Analysis No. H9-9804D13-08

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

P.O.# H176918, COC#088978
DATE: 05/08/98

PROJECT: #11105,N/A
SITE: Castro Valley
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-8

PROJECT NO: 10-138-10-3
MATRIX: WATER
DATE SAMPLED: 04/23/98
DATE RECEIVED: 04/28/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	4400	250 P	ug/L
Benzene	2800	12 P	ug/L
Toluene	140	25 P	ug/L
Ethylbenzene	730	25 P	ug/L
Total Xylene	730	25 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	97		
4-Bromofluorobenzene	117		
Method 8020A***			
Analyzed by: VHZ			
Date: 05/05/98			
Gasoline Range Organics	15	1.2 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	95		
4-Bromofluorobenzene	105		
California LUFT Manual for Gasoline			
Analyzed by: VHZ			
Date: 05/05/98 10:28:00			

(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: VARE980502085400

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	54	108	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	1	20	24	115	22	105	9.09	20	39 - 150
BENZENE	ND	20	21	105	18	90.0	15.4	21	32 - 164
TOLUENE	ND	20	20	100	17	85.0	16.2	20	38 - 159
ETHYLBENZENE	ND	20	20	100	17	85.0	16.2	19	52 - 142
O XYLENE	ND	20	20	100	17	85.0	16.2	18	53 - 143
M & P XYLENE	ND	40	40	100	34	85.0	16.2	17	53 - 144

Analyst: TB

Sequence Date: 05/02/98

SPL ID of sample spiked: 9804D13-01A

Sample File ID: E_D4228.TX0

Method Blank File ID:

Blank Spike File ID: E_D4220.TX0

Matrix Spike File ID: E_D4222.TX0

Matrix Spike Duplicate File ID: E_D4223.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): 9804C18-01A 9804C18-04A 9804D56-02A 9804D56-07A 9804D13-05A 9804D13-01A 9804C18-09A

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

** SPL BATCH QUALITY CONTROL REPORT **

METHOD 8020

Batch Id: VARE980505085000

Matrix: Aqueous

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	49	98.0	72 - 128
Benzene	ND	50	49	98.0	61 - 119
Toluene	ND	50	48	96.0	65 - 125
EthylBenzene	ND	50	48	96.0	70 - 118
O Xylene	ND	50	49	98.0	72 - 117
M & P Xylene	ND	100	96	96.0	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	19	95.0	21	105	10.0	20	39 - 150
BENZENE	ND	20	22	110	21	105	4.65	21	32 - 164
TOLUENE	ND	20	18	90.0	17	85.0	5.71	20	38 - 159
ETHYLBENZENE	ND	20	20	100	19	95.0	5.13	19	52 - 142
O XYLENE	ND	20	20	100	19	95.0	5.13	18	53 - 143
M & P XYLENE	ND	40	40	100	37	92.5	7.79	17	53 - 144

Analyst: VHZ

Sequence Date: 05/05/98

SPL ID of sample spiked: 9805056-01A

Sample File ID: E_E1046.TX0

Method Blank File ID:

Blank Spike File ID: E_E1039.TX0

Matrix Spike File ID: E_E1041.TX0

Matrix Spike Duplicate File ID: E_E1042.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):

9804D09-06A 9804D09-07A 9804B02-07A 9804B02-09A
9804D09-09A 9804A68-10A 9804B02-08A 9804B02-10A
9804D09-08A 9804D13-02A 9804D13-04A 9804D13-03A
9804D13-05A 9804D13-06A 9804D13-08A 9805056-01A
9804D56-03A

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

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

Batch Id: VARE980506193100

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	52	104	72 - 128
Benzene	ND	50	51	102	61 - 119
Toluene	ND	50	51	102	65 - 125
EthylBenzene	ND	50	51	102	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	20	23	115	22	110	4.44	20	39 - 150
BENZENE	ND	20	20	100	20	100	0	21	32 - 164
TOLUENE	ND	20	20	100	19	95.0	5.13	20	38 - 159
ETHYLBENZENE	ND	20	20	100	19	95.0	5.13	19	52 - 142
O XYLENE	ND	20	20	100	19	95.0	5.13	18	53 - 143
M & P XYLENE	ND	40	39	97.5	38	95.0	2.60	17	53 - 144

Analyst: fab
Sequence Date: 05/06/98
SPL ID of sample spiked: 9804D75-02A
Sample File ID: E_E1114.TX0
Method Blank File ID:
Blank Spike File ID: E_E1106.TX0
Matrix Spike File ID: E_E1108.TX0
Matrix Spike Duplicate File ID: E_E1109.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):

9804D75-04A 9804D75-05A 9804D75-06A 9804D75-07A
9804D25-01A 9804D75-08A 9804D75-09A 9804D25-02A
9804D25-03A 9804D25-04A 9804B57-01A 9804B57-02A
9804D13-07A 9804D13-06A 9804B77-05A 9804D75-02A
9804D75-03A

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

** SPL BATCH QUALITY CONTROL REPORT **

California LUFT Manual for Gasoline

Batch Id: VARE980502092000

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	0.84	84.0	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	6.1	0.90	6.1	NC	6.9	NC	NC	36	36 - 160

Analyst: TB
Sequence Date: 05/02/98
SPL ID of sample spiked: 9804D13-05A
Sample File ID: EED4227.TX0
Method Blank File ID:
Blank Spike File ID: EED4221.TX0
Matrix Spike File ID: EED4224.TX0
Matrix Spike Duplicate File ID: EED4225.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): 9804D13-01A 9804D09-02A

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

** SPL BATCH QUALITY CONTROL REPORT **

California LUFT Manual for Gasoline

Batch Id: VARE980504180000

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	1.0	100	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	0.90	0.71	78.9	0.68	75.6	4.27	36	36 - 160

Analyst: VHZ

Sequence Date: 05/04/98

SPL ID of sample spiked: 9804D09-03A

Sample File ID: EEE1013.TX0

Method Blank File ID:

Blank Spike File ID: EEE1005.TX0

Matrix Spike File ID: EEE1008.TX0

Matrix Spike Duplicate File ID: EEE1009.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): 9804D09-07A 9804D09-08A 9804D09-09A 9804D13-02A 9804D13-05A 9804D09-02A 9804D09-03A 9804D09-06A

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

** SPL BATCH QUALITY CONTROL REPORT **

California LUFT Manual for Gasoline

Batch Id: VARE980505091610

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	0.87	87.0	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	0.90	0.82	91.1	0.63	70.0	26.2	36	36 - 160

Analyst: VHZ

Sequence Date: 05/05/98

SPL ID of sample spiked: 9804D56-03A

Sample File ID: EEE1047.TX0

Method Blank File ID:

Blank Spike File ID: EEE1040.TX0

Matrix Spike File ID: EEE1043.TX0

Matrix Spike Duplicate File ID: EEE1044.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): 9804D13-04A 9804D13-03A 9804D13-06A 9804D13-07A 9804D13-08A

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
4-28-98	1000

SPL Sample ID:
9804D13

			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 #)	384372224	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
[signature]	4-28-98

9804D13

CHAIN OF CUSTODY

No. 088978

Page 1 of 1

CONSULTANT'S NAME: Alisto Engineering	CONSULTANT'S ADDRESS: 1575 Treat Blvd #201, W.C. CA 94598		
BP SITE NUMBER: 11105	BP SITE / FACILITY ADDRESS: Castro Valley		CONSULTANT PROJECT NUMBER: 10-138-10-3
CONSULTANT PROJECT MANGER: Brady Nagle	PHONE NUMBER: (510) 295-1650	FAX NUMBER: 295-1823	CONSULTANT CONTRACT NUMBER: H176918
BP CONTACT: Scott Hooton	BP ADDRESS: Renton, WA	PHONE NUMBER: –	FAX NO.: –
LAB CONTACT: SPL	LABORATORY ADDRESS: 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: 4-27-98

SHIPMENT METHOD: Fed Ex

AIRBILL NUMBER: 3848472224

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

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE	COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH-D	TPH-G BTEX	COMMENTS
S-1	4/23/98	4/23/98	W	3	HCl		X	X	
S-2							X	X	
S-3							X	X	
S-4							X	X	
S-5							X	X	
S-6							X	X	
S-7							X	X	
S-8							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]	4/24/98	0800	P. Yeaton	4/27/98	1400
P. Yeaton	4/27/98	1400			
			Randy Turnell	4-28-98	1000

4 pg

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:	11105
ERM Contact:	H176918
Sampling Date:	4/23/98
Matrix Description:	Water
Date Final Report Received:	5/12/98
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 in one of three matrix spikes for TPH-G was not calculated due to sample exceeding spike by a factor of 4 or more; MS/MSD relative % difference in one four matrix spikes for M & P xylenes values 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: 8/4/98