



BP OIL

BP Oil Company
Environmental Remediation Management
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07 SEP 30 PM 3:01
COMMUNICATIONS

September 25, 1997

Alameda County Health Care Services Agency
Attention Ms. Eva Chu
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502-6577

RE: Former BP Oil Site No. 11133
2220 98th Avenue (at Bancroft)
Oakland, CA

Dear Ms. Chu:

This letter transmits groundwater monitoring and sampling report dated 30 July 1997 and 5 September 1997 prepared on behalf of BP by Alisto Engineering Group.

A petroleum release was documented during the replacement of underground storage tanks by Mobil Oil Corporation during 1987. BP purchased the site from Mobil in 1989, and Mobil later transferred management of the cleanup to BP. BP subsequently sold the site to the current operator (Tosco Corporation) during 1994. To comply with 1998 requirements for leak detection and prevention, the current tanks are understood to require spill buckets around the fill ports, and containment pans beneath the dispensers. The current tanks are believed to be constructed of double-wall fiberglass.

The 30 July 1997 groundwater monitoring and sampling report includes laboratory data for samples collected on 14 April 1997. You will note that aromatic petroleum hydrocarbons were detected in samples obtained from wells MW-1, AW-1, and RW-1. The highest benzene concentration this quarter (38,000 µg/l) was detected in a sample obtained from well RW-1.

The 5 September 1997 groundwater monitoring and sampling report includes laboratory data for samples collected on 2 July 1997. You will note that aromatic petroleum hydrocarbons were detected in samples obtained from wells MW-1, AW-1, RW-1, and AW-4. The highest benzene concentration this quarter (19,000 µg/l) was detected in a sample obtained from well RW-1.

MTBE concentration data is now shown in Figure 3, replacing the dissolved oxygen measurements shown in past reports. You should note that estimated MTBE concentrations for samples analyzed during 1993 and 1994 are also shown on Table 1 - Summary of Results of Groundwater Sampling. Prior laboratory documentation is appended to the enclosed report; I have no other information regarding the suspected or confirmed presence of MTBE

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11133
2220 98th Avenue
Oakland, California

BP OIL CO.
ENVIRONMENTAL DEPT.
WEST COAST REGION OFFICE

Project No. 10-025-13-004

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 5, 1997



Brady Nagle
Project Manager



Al Sevilla, P.E.
Principal



GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11133
2220 98th Avenue
Oakland, California

Project No. 10-025-13-004

September 5, 1997

INTRODUCTION

This report presents the results and findings of the July 2, 1997 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11133, 2220 98th Avenue, Oakland, California. A site vicinity map is shown on Figure 1.

FIELD PROCEDURES

Field activities were performed in accordance with the procedures and guidelines of the Alameda County Health Care Services Agency and the California Regional Water Quality Control Board, San Francisco Bay Region.

Before purging and sampling, the groundwater level in each well was measured from a permanent mark on top of the casing to the nearest 0.01 foot using an electronic sounder. The depth to groundwater and top of casing elevation data were used to calculate the groundwater elevation in each well 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.

FREE PRODUCT MONITORING AND RECOVERY

A product recovery canister has been installed in Monitoring Well MW-1 to recover liquid-phase product. Product thicknesses for this and previous monitoring events are presented in Table 1. The volume of product recovered is presented in Table 2.



SAMPLING AND ANALYTICAL RESULTS

The results of monitoring and laboratory analysis of the groundwater samples for this and previous quarters are summarized in Table 1. The potentiometric groundwater elevations as interpreted from the results of this monitoring event are shown on Figure 2. The results of groundwater analysis are shown on Figure 3. The laboratory report and chain of custody record are presented in Appendix B.



TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11133
 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet) (b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB	
MW-1	04/05/91	34.46		---	---	---	---	---	---	---	---	---	---	---	
MW-1	04/01/92	34.46		11.25	0.01	23.22	---	---	---	---	---	---	---	---	
MW-1	07/06/92	34.46		13.61	0.02	20.87	---	---	---	---	---	---	---	---	
MW-1	10/07/92	34.46		15.15	0.09	19.38	---	---	---	---	---	---	---	---	
MW-1	01/14/93	34.46		10.73	0.01	23.74	---	---	---	---	---	---	---	---	
MW-1	04/22/93	34.46		11.64	0.16	22.94	---	---	---	---	---	---	---	---	
MW-1	07/15/93	34.46		13.50	1.11	21.79	---	---	---	---	---	---	---	---	
MW-1	10/21/93	34.46		15.21	1.00	20.00	---	---	---	---	---	---	---	---	
MW-1	01/27/94	34.46		17.48	0.81	17.59	---	---	---	---	---	---	---	---	
MW-1	04/21/94	34.46		10.94	---	23.52	110000	1400	9100	3400	30000	11000	(c)	1.6	PACE
MW-1	09/09/94	34.46		13.80	---	20.66	---	---	---	---	---	---	---	---	---
MW-1	12/21/94	34.46		12.60	0.02	21.88	---	---	---	---	---	---	---	---	---
MW-1	01/30/95	34.46		---	---	---	---	---	---	---	---	---	---	---	---
MW-1	04/10/95	34.46		10.62	---	23.84	---	---	---	---	---	---	---	---	---
MW-1	06/29/95	34.46		18.72	---	15.74	---	---	---	---	---	---	---	---	---
MW-1	09/18/95	34.46		12.92	---	21.54	---	---	---	---	---	---	---	---	---
MW-1	12/07/95	34.46		13.82	---	20.64	---	---	---	---	---	---	---	---	---
MW-1	03/28/96	34.46		10.03	0.01	24.44	---	---	---	---	---	---	---	---	---
MW-1	06/20/96	34.46		11.29	0.02	23.19	---	---	---	---	---	---	---	---	---
MW-1	10/11/96	34.46		14.86	0.01	19.61	---	---	---	---	---	---	---	---	---
MW-1	01/02/97	34.46		11.03	0.01	23.44	---	---	---	---	---	---	---	---	---
MW-1	04/14/97	34.46		12.25	0.01	22.22	---	---	---	---	---	---	---	---	---
MW-1	04/15/97	34.46		---	---	---	35000	130	650	1700	8200	4800	---	---	SPL
MW-1	07/02/97	34.46		14.11	---	20.35	42000	ND<250	ND<500	2000	9600	ND<5000	5.5	---	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11133
 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-2	04/05/91	35.50		16.62	---	18.88		ND<50	0.6	0.9	ND<0.3	ND<0.3	---	---	SUP
MW-2	04/01/92	35.50		11.25	---	24.25		---	---	---	---	---	---	---	---
MW-2	04/02/92	35.50		---	---	---		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	APP
MW-2	07/06/92	35.50		12.72	---	22.78		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-2	10/07/92	35.50		15.08	---	20.42		ND<50	ND<0.5	1.8	ND<0.5	2.3	---	---	ANA
MW-2	01/14/93	35.50		9.69	---	25.81		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-2	04/22/93	35.50		10.46	---	25.04		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	30.00	(c)	PACE
MW-2	07/15/93	35.50		12.02	---	23.48		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	22	(c)	PACE
MW-2	10/21/93	35.50		13.12	---	22.38		ND<50	0.7	0.9	ND<0.5	0.9	---	---	PACE
MW-2	01/27/94	35.50		12.01	---	23.49		ND<50	0.6	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-2	04/21/94	35.50		10.60	---	24.90		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	1.1	PACE
MW-2	09/09/94	35.50		12.42	---	23.08		ND<50	ND<0.5	ND<0.5	ND<0.5	0.6	---	2.2	PACE
MW-2	12/21/94	35.50		10.85	---	24.65		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	1.2	PACE
MW-2	01/30/95	35.50		8.38	---	27.12		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	1.7	ATI
MW-2	04/10/95	35.50		9.00	---	26.50		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	7.8	ATI
MW-2	06/29/95	35.50		9.91	---	25.59		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	9.1	ATI
MW-2	09/18/95	35.50		10.98	---	24.52		---	---	---	---	---	---	---	---
MW-2	09/19/95	35.50		---	---	---		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	7.2	ATI
MW-2	12/07/95	35.50		12.30	---	23.20		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	2.4	ATI
MW-2	03/28/96	35.50		8.57	---	26.93		ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	3.2	SPL
MW-2	06/20/96	35.50		9.77	---	25.73		ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.2	SPL
MW-2	10/11/96	35.50		13.32	---	22.18		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	6.3	SPL
MW-2	01/02/97	35.50		9.60	---	25.90		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	6.7	SPL
MW-2	04/14/97	35.50		10.93	---	24.57		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.7	SPL
MW-2	07/02/97	35.50		12.57	---	22.93		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.9	SPL

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 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-3	04/05/91	36.53		17.84	---	18.69		ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	SUP
MW-3	04/01/92	36.53		15.64	---	20.89		---	---	---	---	---	---	---	---
MW-3	04/02/92	36.53		---	---	---		ND<50	1.4	ND<0.5	ND<0.5	ND<0.5	---	---	APP
MW-3	07/06/92	36.53		19.03	---	17.50		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-3	10/07/92	36.53		21.83	---	14.70		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-3	01/14/93	36.53		15.96	---	20.57		350	ND<0.5	ND<0.5	ND<0.5	ND<0.5	714	(c)	PACE
MW-3	04/22/93	36.53		16.20	---	20.33		2800	ND<0.5	ND<0.5	ND<0.5	ND<0.5	3600	(c)	PACE
MW-3	07/15/93	36.53		16.82	---	19.71		1400	1.2	ND<0.5	2.0	3.5	2200	(c)	PACE
MW-3	10/21/93	36.53		18.84	---	17.69		370	2.1	2.3	2.3	6.0	850	(c)	PACE
MW-3	01/27/94	36.53		18.00	---	18.53		1300	6.3	ND<0.5	ND<0.5	ND<0.5	4000	(c)	PACE
MW-3	04/21/94	36.53		16.62	---	19.91		2000	ND<0.5	ND<0.5	ND<0.5	ND<0.5	4300	(c)	PACE
MW-3	09/09/94	36.53		18.38	---	18.15		1300	ND<0.5	ND<0.5	0.5	1.2	---	3.0	PACE
MW-3	12/21/94	36.53		15.28	---	21.25		420	16	0.7	3.5	5.9	---	1.9	PACE
MW-3	01/30/95	36.53		12.62	---	23.91		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	2.5	ATI
MW-3	04/10/95	36.53		12.41	---	24.12		150	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	6.9	ATI
MW-3	06/29/95	36.53		14.95	---	21.58		100	(d) ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	6.4	ATI
MW-3	09/18/95	36.53		15.82	---	20.71		---	---	---	---	---	---	---	---
MW-3	09/19/95	36.53		---	---	---		82	ND<0.50	ND<0.50	ND<0.50	ND<1.0	260	7.0	ATI
MW-3	12/07/95	36.53		17.09	---	19.44		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	91	4.5	ATI
MW-3	03/28/96	36.53		11.90	---	24.63		ND<50	ND<0.5	ND<1	ND<1	ND<1	230	4.2	SPL
MW-3	06/20/96	36.53		12.66	---	23.87		260	ND<0.5	ND<1	ND<1	ND<1	370	4.4	SPL
MW-3	10/11/96	36.53		16.23	---	20.30		330	ND<0.5	ND<1.0	ND<1.0	ND<1.0	440	5.8	SPL
MW-3	01/02/97	36.53		12.17	---	24.36		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	140	6.0	SPL
MW-3	04/14/97	36.53		13.45	---	23.08		---	---	---	---	---	---	---	---
MW-3	04/15/97	36.53		---	---	---		1500	ND<0.5	ND<1.0	ND<1.0	ND<1.0	1800	5.6	SPL
MW-3	07/02/97	36.53		15.60	---	20.93		880	ND<0.5	ND<1.0	ND<1.0	ND<1.0	940	5.3	SPL

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 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet) (b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
AW-1	04/05/91	38.11		25.44	---	12.67	4100	1500	69	100	83	---	---	SUP
AW-1	04/01/92	38.11		23.22	---	14.89	---	---	---	---	---	---	---	---
AW-1	04/02/92	38.11		---	---	---	11000	1800	210	210	490	---	---	APP
AW-1	07/06/92	38.11		24.89	---	13.22	6500	4000	40	290	530	---	---	ANA
AW-1	10/07/92	38.11		26.55	---	11.56	4700	1500	41	47	300	---	---	ANA
QC-1 (e)	10/07/92	---		---	---	---	2900	1200	25	37	210	---	---	ANA
AW-1	01/14/93	38.11		23.73	---	14.38	2800	830	31	140	240	---	---	PACE
QC-1 (e)	01/14/93	---		---	---	---	4100	1700	28	130	230	---	---	PACE
AW-1	04/22/93	38.11		---	---	38.11	39000	14000	530	1800	6100	987	(c)	PACE
AW-1	07/15/93	38.11		22.50	---	15.61	6200	2200	28	210	540	840	(c)	PACE
AW-1	10/21/93	38.11		24.32	---	13.79	2400	820	13	55	120	830	(c)	PACE
AW-1	01/27/94	38.11		23.72	---	14.39	3500	1400	26	130	220	650	(c)	PACE
AW-1	04/21/94	38.11		22.48	---	15.63	40000	12000	1900	1600	5000	---	1.4	PACE
AW-1	09/09/94	38.11		23.04	---	15.07	3500	1600	5.0	200	250	---	2.1	PACE
QC-1 (e)	09/09/94	---		---	---	---	3900	1900	5.5	190	240	---	---	PACE
AW-1	12/21/94	38.11		21.70	---	16.41	7600	3100	36	370	320	---	1.6	PACE
AW-1	01/30/95	38.11		17.71	---	20.4	35000	23000	650	3200	4100	---	1.7	ATI
AW-1	04/10/95	38.11		20.04	---	18.07	60000	18000	2000	4300	11000	---	7.9	ATI
QC-1 (e)	04/10/95	---		---	---	---	56000	17000	2000	3900	10000	---	---	ATI
AW-1	06/29/95	38.11		20.60	---	17.51	72000	10000	7300	4200	15000	---	6.2	ATI
QC-1 (e)	06/29/95	---		---	---	---	86000	12000	8400	4800	18000	---	---	ATI
AW-1	09/18/95	38.11		21.87	---	16.24	---	---	---	---	---	---	---	---
AW-1	09/19/95	38.11		---	---	---	65000	12000	3100	4400	14000	1000	8.5	ATI
AW-1	12/07/95	38.11		22.06	---	16.05	25000	8700	ND<50	2500	1300	1100	2.9	ATI
AW-1	03/28/96	38.11		16.91	---	21.20	24000	11000	ND<100	3200	3390	ND<1000	6.6	SPL
AW-1	06/20/96	38.11		20.82	---	17.29	38000	6900	1100	3200	7300	ND<100	6.4	SPL
AW-1	10/11/96	38.11		23.20	---	14.91	33000	8500	69	3300	4230	580	6.3	SPL
AW-1	01/02/97	38.11		20.41	---	17.70	32000	8000	ND<50	3100	2300	700	6.7	SPL
AW-1	04/14/97	38.11		21.61	---	16.50	---	---	---	---	---	---	---	---
AW-1	04/15/97	---		---	---	---	31000	5000	160	2400	4540	340	5.4	SPL
AW-1	07/02/97	38.11		21.17	---	16.94	26000	5800	ND<100	2600	2200	ND<1000	6.2	SPL

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 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
AW-2	04/05/91	36.83		22.36	---	14.47		ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	SUP
AW-2	04/01/92	36.83		20.81	---	16.02		---	---	---	---	---	---	---	---
AW-2	04/02/92	36.83		---	---	---		130	25	2.3	0.7	2.1	---	---	APP
AW-2	07/06/92	36.83		23.57	---	13.26		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-2	10/07/92	36.83		25.24	---	11.59		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-2	01/14/93	36.83		20.82	---	16.01		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-2	04/22/93	36.83		19.37	---	17.46		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-2	07/15/93	36.83		21.29	---	15.54		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-2	10/21/93	36.83		23.14	---	13.69		ND<50	1.3	1.1	0.9	2.1	---	---	PACE
AW-2	01/27/94	36.83		22.34	---	14.49		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-2	04/21/94	36.83		21.15	---	15.68		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	2.0	PACE
AW-2	09/09/94	36.83		22.09	---	14.74		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	4.1	PACE
AW-2	12/21/94	36.83		20.12	---	16.71		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	2.0	PACE
AW-2	01/30/95	36.83		16.65	---	20.18		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	2.5	ATI
AW-2	04/10/95	36.83		16.22	---	20.61		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	4.4	ATI
AW-2	06/29/95	36.83		17.55	---	19.28		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	7.8	ATI
AW-2	09/18/95	36.83		19.87	---	16.96		---	---	---	---	---	---	---	---
AW-2	09/19/95	36.83		---	---	---		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	4.5	ATI
QC-1 (e)	09/19/95	---		---	---	---		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	ATI
AW-2	12/07/95	36.83		21.31	---	15.52		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	4.9	ATI
AW-2	03/28/96	36.83		15.61	---	21.22		ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.1	SPL
AW-2	06/20/96	36.83		16.30	---	20.53		ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	5.2	SPL
AW-2	10/11/96	36.83		19.60	---	17.23		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	6.0	SPL
AW-2	01/02/97	36.83		15.97	---	20.86		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	6.1	SPL
AW-2	04/14/97	36.83		17.19	---	19.64		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.3	SPL
AW-2	07/02/97	36.83		18.11	---	18.72		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.7	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11133
 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet) (b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
AW-3	04/05/91	39.13		23.90	---	15.23	5200	980	450	95	310	---	---	SUP
AW-3	04/01/92	39.13		22.50	---	16.63	4700	890	47	43	110	---	---	APP
AW-3	07/06/92	39.13		23.26	---	15.87	3900	3100	30	80	99	---	---	ANA
AW-3	10/07/92	39.13		24.75	---	14.38	5000	2600	ND<0.5	ND<0.5	59	---	---	ANA
AW-3	01/14/93	39.13		23.59	---	15.54	350	250	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-3	04/22/93	39.13		19.42	---	19.71	240	71	2.4	0.6	4.0	---	---	PACE
AW-3	07/15/93	39.13		20.09	---	19.04	650	71	2.8	1.5	1.1	38	(c)	PACE
AW-3	10/21/93	39.13		21.88	---	17.25	160	4.8	1.7	1.6	3.6	---	---	PACE
QC-1 (e)	10/21/93	---		---	---	---	170	6.1	2.0	1.7	4.4	---	---	PACE
AW-3	01/27/94	39.13		22.33	---	16.80	92	2.1	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-1 (e)	01/27/94	---		---	---	---	90	2.9	0.5	ND<0.5	ND<0.5	---	---	PACE
AW-3	04/21/94	39.13		20.96	---	18.17	150	3.6	0.8	0.9	2.5	---	1.3	PACE
AW-3	09/09/94	39.13		21.60	---	17.53	53	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	1.9	PACE
AW-3 (f)	12/21/94	39.13		---	---	---	---	---	---	---	---	---	---	---
AW-3 (f)	01/30/95	39.13		---	---	---	---	---	---	---	---	---	---	---
AW-3 (f)	04/10/95	39.13		---	---	---	---	---	---	---	---	---	---	---
AW-3	06/29/95	39.13		15.41	---	23.72	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	8.0	ATI
AW-3	09/18/95	39.13		17.83	---	21.30	---	---	---	---	---	---	---	---
AW-3	09/19/95	39.13		---	---	---	61000	11000	2900	4100	13000	790	7.4	ATI
AW-3	12/07/95	39.13		19.27	---	19.86	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	3.4	ATI
QC-1 (e)	12/07/95	---		---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	ATI
AW-3	03/28/96	39.13		13.85	---	25.28	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.1	SPL
QC-1 (e)	03/28/96	---		---	---	---	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	SPL
AW-3	06/20/96	39.13		14.47	---	24.66	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.2	SPL
QC-1 (e)	06/20/96	---		---	---	---	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	SPL
AW-3	10/11/96	39.13		17.97	---	21.16	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.7	SPL
QC-1 (e)	10/11/96	---		---	---	---	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	SPL
AW-3	01/02/97	39.13		13.00	---	26.13	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.6	SPL
AW-3	04/14/97	39.13		14.36	---	24.77	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.0	SPL
QC-1 (e)	04/15/97	---		---	---	---	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	SPL
AW-3	07/02/97	39.13		15.87	---	23.26	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.4	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11133
 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB	
AW-4	04/05/91	39.08		25.12	---	13.96		110000	40000	13000	2000	5500	---	---	SUP	
AW-4	04/01/92	39.08		23.56	---	15.52		230000	57000	31000	2900	7600	---	---	APP	
AW-4 (g)	04/01/92	39.08		23.56	---	15.52		210000	55000	23000	2900	7000	---	---	APP	
AW-4	07/06/92	39.08		25.87	---	13.21		38000	16000	5400	2000	6100	---	---	ANA	
AW-4	10/07/92	39.08		27.53	---	11.55		120000	41000	26000	4700	13000	---	---	ANA	
AW-4	01/14/93	39.08		24.12	---	14.96		62000	18000	14000	2700	7700	1400	(c)	---	PACE
AW-4	04/22/93	39.08		21.47	---	17.61		18000	1100	2100	320	3500	---	---	---	PACE
AW-4	07/15/93	39.08		23.30	---	15.78		21000	820	2300	590	3800	2000	(c)	---	PACE
AW-4	10/21/93	39.08		25.08	---	14.00		11000	570	83	630	2300	4600	(c)	---	PACE
AW-4	01/27/94	39.08		24.61	---	14.47		12000	420	460	600	2200	6400	(c)	---	PACE
AW-4	04/21/94	39.08		22.96	---	16.12		12000	110	250	150	1900	16	(c)	1.5	PACE
QC-1 (e)	04/21/94	---		---	---	---		14000	71	160	29	1200	13000	(c)	---	PACE
AW-4	09/09/94	39.08		23.85	---	15.23		9700	75	64	280	2000	---	---	2.1	PACE
AW-4 (f)	12/21/94	---		---	---	---		---	---	---	---	---	---	---	---	---
AW-4 (f)	01/30/95	---		---	---	---		---	---	---	---	---	---	---	---	---
AW-4	04/10/95	39.08		18.07	---	21.01		3700	69	8.7	44	130	---	---	8.5	ATI
AW-4	06/29/95	39.08		19.25	---	19.83		8000	62	190	190	1100	---	---	7.5	ATI
AW-4	09/18/95	39.08		20.73	---	18.35		---	---	---	---	---	---	---	---	---
AW-4	09/19/95	39.08		---	---	---		12000	660	1600	200	1900	7100	---	8.3	ATI
AW-4	12/07/95	39.08		22.49	---	16.59		41000	8400	7200	710	6300	5200	---	3.6	ATI
AW-4 (f)	03/28/96	39.08		16.49	---	22.59		---	---	---	---	---	---	---	---	---
AW-4	06/20/96	39.08		16.00	---	23.08		ND<50	ND<0.5	ND<1	ND<1	ND<1	12	---	---	SPL
AW-4	10/11/96	39.08		19.52	---	19.56		36000	12000	5500	ND<25	3800	880/1000	(h)	6.2	SPL
AW-4	01/02/97	39.08		15.80	---	23.28		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	22	---	6.4	SPL
QC-1 (e)	01/02/97	---		---	---	---		ND<50	61	3.8	3.5	8.1	110	---	---	SPL
AW-4	04/14/97	39.08		17.01	---	22.07		---	---	---	---	---	---	---	---	---
AW-4	04/15/97	39.08		---	---	---		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	5.4	SPL
AW-4	07/02/97	39.08		19.68	---	19.40		ND<50	21	ND<1.0	ND<1.0	ND<1.0	41	---	4.1	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11133
 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
AW-5	04/05/91	38.51		25.48	---	13.03		420	31	7.5	20	68	---	---	SUP
AW-5	04/01/92	38.51		23.95	---	14.56		---	---	---	---	---	---	---	---
AW-5	04/02/92	38.51		---	---	---		4000	270	63	190	290	---	---	APP
AW-5	07/06/92	38.51		26.48	---	12.03		1400	160	ND<2.5	250	58	---	---	ANA
AW-5	10/07/92	38.51		28.18	---	10.33		360	12	0.6	8.7	5	---	---	ANA
AW-5	01/14/93	38.51		24.15	---	14.36		1700	270	7.5	130	62	---	---	PACE
AW-5	04/22/93	38.51		22.43	---	16.08		2700	780	30	220	180	---	---	PACE
QC-1 (e)	04/22/93	---		---	---	---		3500	780	29	240	210	---	---	PACE
AW-5	07/15/93	38.51		24.31	---	14.20		1300	69	16	67	120	---	---	PACE
QC-1 (e)	07/15/93	---		---	---	---		1300	68	8.3	64	99	---	---	PACE
AW-5	10/21/93	38.51		26.05	---	12.46		510	9.6	1.5	17	45	75 (c)	---	PACE
AW-5	01/27/94	38.51		26.42	---	12.09		420	3.3	ND<0.5	1.0	0.9	---	---	PACE
AW-5	04/21/94	38.51		24.36	---	14.15		1000	110	25	56	27	75 (c)	1.3	PACE
AW-5	09/09/94	38.51		24.55	---	13.96		210	ND<0.5	ND<0.5	0.5	0.9	---	2.7	PACE
AW-5	12/21/94	38.51		22.30	---	16.21		410	ND<0.5	20	4.3	1.4	---	1.1	PACE
QC-1 (e)	12/21/94	---		---	---	---		340	ND<0.5	15	3.3	1.4	---	---	PACE
AW-5	01/30/95	38.51		18.88	---	19.63		210	0.6	11	8.8	2	---	1.5	ATI
AW-5	04/10/95	38.51		18.44	---	20.07		500	1.4	0.59	6.5	4.3	---	8.3	ATI
AW-5	06/29/95	38.51		19.92	---	18.59		490 (d)	1.2	0.58	7.3	2.2	---	6.9	ATI
AW-5	09/18/95	38.51		22.15	---	16.36		---	---	---	---	---	---	---	---
AW-5	09/19/95	38.51		---	---	---		260	0.62	ND<0.50	3.1	1.1	110	8.2	ATI
AW-5	12/07/95	38.51		23.75	---	14.76		60	ND<0.50	ND<0.50	ND<0.50	ND<1.0	210	4.3	ATI
AW-5	03/28/96	38.51		17.76	---	20.75		ND<50	ND<0.5	ND<1	ND<1	ND<1	63	3.0	SPL
AW-5	06/20/96	38.51		18.46	---	20.05		ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	3.6	SPL
AW-5	10/11/96	38.51		21.84	---	16.67		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.5	SPL
AW-5	01/02/97	38.51		18.01	---	20.50		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.6	SPL
AW-5	04/14/97	38.51		19.35	---	19.16		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.1	SPL
AW-5	07/02/97	38.51		20.29	---	18.22		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.0	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11133
 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
AW-6	04/05/91	37.08		22.48	---	14.60		1100	80	19	1.4	230	---	---	SUP
AW-6	04/01/92	37.08		22.50	---	14.58		---	---	---	---	---	---	---	---
AW-6	04/02/92	37.08		---	---	---		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	APP
AW-6	07/06/92	37.08		22.74	---	14.34		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-6	10/07/92	37.08		24.64	---	12.44		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-6	01/14/93	37.08		22.36	---	14.72		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-6	04/22/93	37.08		22.82	---	14.26		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-6	07/15/93	37.08		20.49	---	16.59		ND<50	ND<0.5	ND<0.5	ND<0.5	0.8	---	---	PACE
AW-6	10/21/93	37.08		22.84	---	14.24		ND<50	0.5	0.6	ND<0.5	0.7	---	---	PACE
AW-6	01/27/94	37.08		22.33	---	14.75		ND<50	ND<0.5	0.9	3.1	12	---	---	PACE
AW-6	04/21/94	37.08		20.66	---	16.42		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	1.7	PACE
AW-6	09/09/94	37.08		21.57	---	15.51		ND<50	0.9	ND<0.5	ND<0.5	0.5	---	2.9	PACE
AW-6	12/21/94	37.08		19.40	---	17.68		ND<50	1.8	0.8	0.8	3.2	---	1.1	PACE
AW-6	01/30/95	37.08		16.74	---	20.34		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	2.2	ATI
QC-1 (e)	01/30/95	---		---	---	---		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
AW-6	04/10/95	37.08		16.01	---	21.07		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	8.6	ATI
AW-6	06/29/95	37.08		17.54	---	19.54		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	6.3	ATI
AW-6	09/18/95	37.08		19.65	---	17.43		---	---	---	---	---	---	---	---
AW-6	09/19/95	37.08		---	---	---		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	25	8.3	ATI
AW-6	12/07/95	37.08		20.35	---	16.73		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	16	4.7	ATI
AW-6	03/28/96	37.08		14.99	---	22.09		ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.0	SPL
AW-6	06/20/96	37.08		15.59	---	21.49		ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.6	SPL
AW-6	10/11/96	37.08		19.09	---	17.99		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.3	SPL
AW-6	01/02/97	37.08		15.11	---	21.97		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.5	SPL
AW-6	04/14/97	37.08		16.25	---	20.83		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	3.9	SPL
AW-6	07/02/97	37.08		17.99	---	19.09		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.2	SPL

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 BP OIL COMPANY SERVICE STATION NO. 11133
 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
AW-7	04/05/91	37.60		23.38	---	14.22		ND<50	0.4	0.7	ND<0.3	ND<0.3	---	---	SUP
AW-7	04/01/92	37.60		21.92	---	15.68		---	---	---	---	---	---	---	---
AW-7	04/02/92	37.60		---	---	---		ND<50	ND<0.5	3.2	1.0	5.4	---	---	APP
AW-7	07/06/92	37.60		24.50	---	13.10		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-7	10/07/92	37.60		26.18	---	11.42		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-7	01/14/93	37.60		22.03	---	15.57		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-7	04/22/93	37.60		21.18	---	16.42		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-7	07/15/93	37.60		22.09	---	15.51		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-7	10/21/93	37.60		24.05	---	13.55		51	5.0	4.2	3.5	8.2	---	---	PACE
AW-7	01/27/94	37.60		23.40	---	14.20		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-7	04/21/94	37.60		22.24	---	15.36		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	2.5	PACE
AW-7	09/09/94	37.60		22.94	---	14.66		ND<50	ND<0.5	ND<0.5	ND<0.5	0.5	---	4.3	PACE
AW-7	12/21/94	37.60		20.86	---	16.74		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	2.2	PACE
AW-7	01/30/95	37.60		17.51	---	20.09		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	2.7	ATI
AW-7	04/10/95	37.60		16.69	---	20.91		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	4.8	ATI
AW-7	06/29/95	37.60		18.33	---	19.27		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	7.6	ATI
AW-7	09/18/95	37.60		20.68	---	16.92		---	---	---	---	---	---	---	---
AW-7	09/19/95	37.60		---	---	---		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	5.1	ATI
AW-7	12/07/95	37.60		22.15	---	15.45		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	5.2	ATI
AW-7	03/28/96	37.60		16.38	---	21.22		ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	3.9	SPL
AW-7	06/20/96	37.60		17.02	---	20.58		ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	5.0	SPL
AW-7	10/11/96	37.80		20.47	---	17.13		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	6.3	SPL
AW-7	01/02/97	37.60		16.70	---	20.90		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	6.2	SPL
AW-7	04/14/97	37.60		17.96	---	19.64		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.0	SPL
AW-7	07/02/97	37.60		19.11	---	18.49		ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.4	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11133
 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet) (b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
AW-8	04/05/91	40.86		26.68	---	14.18	80	1.9	2.2	0.5	1.3	---	---	SUP
AW-8	04/01/92	40.86		25.11	---	15.75	73	ND<0.5	0.7	ND<0.5	0.6	---	---	APP
AW-8	07/06/92	40.86		26.43	---	14.43	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-8	10/07/92	40.86		28.59	---	12.27	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
AW-8	01/14/93	40.86		25.55	---	15.31	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-8	04/22/93	40.86		22.29	---	18.57	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-8	07/15/93	40.86		23.42	---	17.44	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
AW-8	10/21/93	40.86		25.15	---	15.71	ND<50	1.9	1.8	1.3	3.3	---	---	PACE
AW-8	01/27/94	40.86		25.42	---	15.44	ND<50	ND<0.5	0.5	0.6	8.5	---	---	PACE
AW-8	04/21/94	40.86		24.14	---	16.72	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	1.5	PACE
AW-8	09/09/94	40.86		24.55	---	16.31	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	2.4	PACE
AW-8	12/21/94	40.86		22.72	---	18.14	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	1.1	PACE
AW-8	01/30/95	40.86		19.75	---	21.11	ND<50	ND<0.50	1	ND<0.50	1	---	0.8	ATI
AW-8	04/10/95	40.86		17.78	---	23.08	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	8.3	ATI
AW-8	06/29/95	40.86		18.18	---	22.68	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	8.3	ATI
AW-8	09/18/95	40.86		20.20	---	20.66	---	---	---	---	---	---	---	---
AW-8	09/19/95	40.86		---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	7.7	ATI
AW-8	12/07/95	40.86		21.54	---	19.32	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	4.4	ATI
AW-8	03/28/96	40.86		15.77	---	25.09	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	3.8	SPL
AW-8	06/20/96	40.86		16.41	---	24.45	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	3.6	SPL
AW-8	10/11/96	40.86		19.90	---	20.96	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	6.4	SPL
AW-8	01/02/97	40.86		15.89	---	24.97	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.9	SPL
AW-8	04/14/97	40.86		17.07	---	23.79	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	4.6	SPL
AW-8	07/02/97	40.86		18.67	---	22.19	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	5.6	SPL
AW-9	01/02/97	37.78		10.00	---	27.78	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	6.7	SPL
AW-9	(f) 04/14/97	37.78		---	---	---	---	---	---	---	---	---	---	---
AW-9	07/02/97	37.78		12.71	---	25.07	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	6.0	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11133
 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
RW-1	04/05/91	37.73		---	---	---		---	---	---	---	---	---	---	---
RW-1	04/01/92	37.73		22.81	0.30	15.14		---	---	---	---	---	---	---	---
RW-1	07/06/92	37.73		26.92	0.41	11.12		---	---	---	---	---	---	---	---
RW-1	10/07/92	37.73		28.51	1.26	10.16		---	---	---	---	---	---	---	---
RW-1	01/14/93	37.73		23.75	0.25	14.17		---	---	---	---	---	---	---	---
RW-1	04/22/93	37.73		22.70	1.38	16.07		---	---	---	---	---	---	---	---
RW-1	07/15/93	37.73		26.10	0.81	12.24		---	---	---	---	---	---	---	---
RW-1	10/21/93	37.73		25.40	0.49	12.70		---	---	---	---	---	---	---	---
RW-1	10/21/93	37.73		25.40	0.49	12.70		---	---	---	---	---	---	---	---
RW-1	01/27/94	37.73		28.02	0.37	9.99		---	---	---	---	---	---	---	---
RW-1	04/21/94	37.73		23.10	0.91	15.31		---	---	---	---	---	---	---	---
RW-1	09/09/94	37.73		24.39	1.04	14.12		---	---	---	---	---	---	---	---
RW-1	(i) 12/21/94	37.73		---	---	---		---	---	---	---	---	---	---	---
RW-1	12/07/95	37.73		25.71	1.04	12.80		150000	34000	35000	4300	21000	2700	---	ATI
RW-1	03/28/96	37.73		16.75	0.18	21.12		---	---	---	---	---	---	---	---
RW-1	(i) 06/20/96	37.73		25.10	0.02	12.64		---	---	---	---	---	---	---	---
RW-1	10/11/96	37.73		25.51	0.00	12.22		130000	20000	32000	2800	20700	1400/1200	(h) 7.4	SPL
RW-1	01/02/97	37.73		24.49	0.01	13.25		---	---	---	---	---	---	---	---
RW-1	04/14/97	37.73		23.99	0.04	13.77		---	---	---	---	---	---	---	---
RW-1	04/15/97	37.73		---	---	---		1800000	38000	190000	48000	281000	ND<25000	---	SPL
RW-1	07/02/97	37.73		16.40	0.20	21.48		140000	19000	55000	4400	32400	ND<10000	5.7	SPL
QC-1	(e) 07/02/97	---		---	---	---		130000	19000	54000	4700	33400	ND<10000	---	SPL
QC-2	(j) 10/07/92	---		---	---	---		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
QC-2	(j) 01/14/93	---		---	---	---		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(j) 04/22/93	---		---	---	---		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(j) 07/15/93	---		---	---	---		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(j) 10/21/93	---		---	---	---		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(j) 01/27/94	---		---	---	---		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(j) 04/21/94	---		---	---	---		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(j) 09/09/94	---		---	---	---		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(j) 12/21/94	---		---	---	---		ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2	(j) 01/30/95	---		---	---	---		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
QC-2	(j) 04/10/95	---		---	---	---		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
QC-2	(j) 06/27/95	---		---	---	---		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
QC-2	(j) 09/19/95	---		---	---	---		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	ATI
QC-2	(j) 12/07/95	---		---	---	---		ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	ATI
QC-2	(j) 03/28/96	---		---	---	---		ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	SPL
QC-2	(j) 06/20/96	---		---	---	---		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. 11133
 2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (Feet)	(a)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (Feet)	(b)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
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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
 --- Not available/applicable/measurable
 ND Not detected above reported detection limit
 PACE Pace, Inc.
 SUP Superior Analytical Laboratories, Inc.
 APP Applied Analytical Laboratory
 ANA Anametrix, Inc.
 ATI Analytical Technologies, Inc.
 SPL Southern Petroleum Laboratories

NOTES:

- (a) Top of casing elevations surveyed to the nearest 0.01 foot above mean sea level.
- (b) Groundwater elevations adjusted assuming a specific gravity of 0.75 for free product.
- (c) A copy of the documentation for this data is included in Appendix C of Alisto report 10-025-13-003.
- (d) MTBE peak. See documentation in Appendix C of Alisto report 10-025-13-003.
- (e) Blind duplicate.
- (f) Well inaccessible.
- (g) Duplicate.
- (h) EPA Methods 8020/8260 used.
- (i) Well not monitored and/or sampled due to vapor extraction system.
- (j) Travel blank.

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TABLE 2 - PRODUCT REMOVAL STATUS
 BP OIL COMPANY SERVICE STATION NO. 11133
 2220 98TH STREET, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)
RW-1	10/06/93	1.00	1.00
	10/14/94	1.00	2.00
	10/20/94	18.00	20.00
	10/26/94	3.00	23.00
	11/02/93	5.00	28.00
	11/10/94	6.00	34.00
	11/16/94	2.50	36.50
	11/23/94	5.00	41.50
	11/30/93	2.00	43.50
	12/07/93	4.00	47.50
	12/17/93	1.50	49.00
	01/04/94	5.00	54.00
	01/12/94	3.50	57.50
	01/20/94	2.50	60.00
	02/11/94	4.00	64.00
	02/18/93	3.50	67.50
	02/25/94	3.00	70.50
	03/04/94	3.50	74.00
	03/18/94	5.50	79.50
	03/30/94	4.00	83.50
	04/13/94	4.60	88.10
	04/21/94	4.20	92.30
	04/29/94	4.50	96.80
	05/06/94	5.50	102.30
	05/13/94	3.50	105.80
	05/20/94	3.50	109.30
	05/26/94	4.50	113.80
	06/02/94	3.50	117.30
	06/09/94	2.50	119.80
	06/16/94	3.50	123.30
	06/23/94	4.00	127.30
	06/29/94	2.50	129.80
	07/07/94	2.00	131.80
	07/12/94	3.00	134.80
	07/20/94	1.50	136.30
	07/29/94	3.50	139.80
08/05/94	1.50	141.30	
08/12/94	2.00	143.30	
08/18/94	2.50	145.80	
09/09/94	3.50	149.30	
09/16/94	4.00	153.30	
09/23/94	2.00	155.30	
12/07/95	0.00	155.30	
03/28/96	0.01	155.31	
06/20/96	0.00	155.31	
04/14/97	<0.05	155.31	
07/02/97	0.25	155.56	
MW-1	10/20/93	0.10	0.10
	11/10/93	0.10	0.20
	09/09/94	SHEEN	0.20
	10/26/94	SHEEN	0.20
	11/16/94	SHEEN	0.20
	12/21/94	0.25	0.45
	02/08/95	0.00	0.45
	04/10/95	0.25	0.70
	06/29/95	SHEEN	0.70
	09/18/95	SHEEN	0.70
	12/07/95	SHEEN	0.70
	03/28/96	<.001	0.70
	06/20/96	0.002	0.70
	10/11/96	<0.001	0.70
	01/02/97	<0.01	0.70
04/14/97	<0.01	0.70	
07/02/97	<0.01	0.70	

NOTE: Groundwater and soil vapor extraction equipment installed in RW-1 in October 1994.

F:\010-025\PRODUCT.WQ2



SOURCE:
 USGS MAP, OAKLAND EAST AND SAN LEANDRO
 QUADRANGLES, CALIFORNIA. 7.5 MINUTE SERIES. 1956.
 PHOTOREVISED 1980.

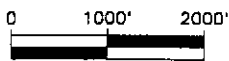


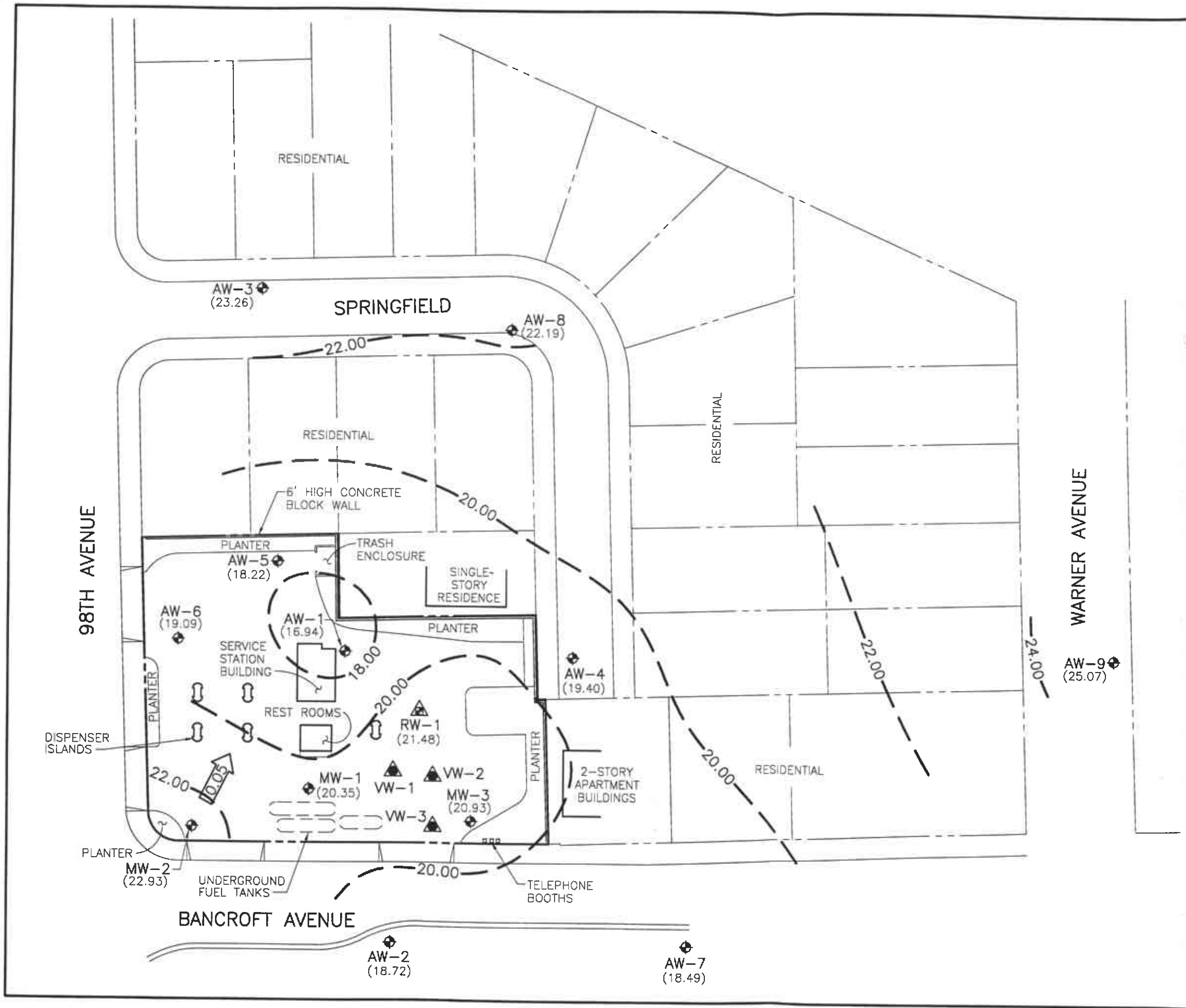
FIGURE 1

SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11133
 2220 98TH AVENUE
 OAKLAND, CALIFORNIA
 PROJECT NO. 10-025



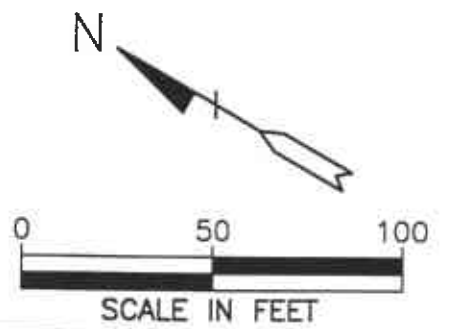
ALISTO ENGINEERING GROUP
 WALNUT CREEK, CALIFORNIA



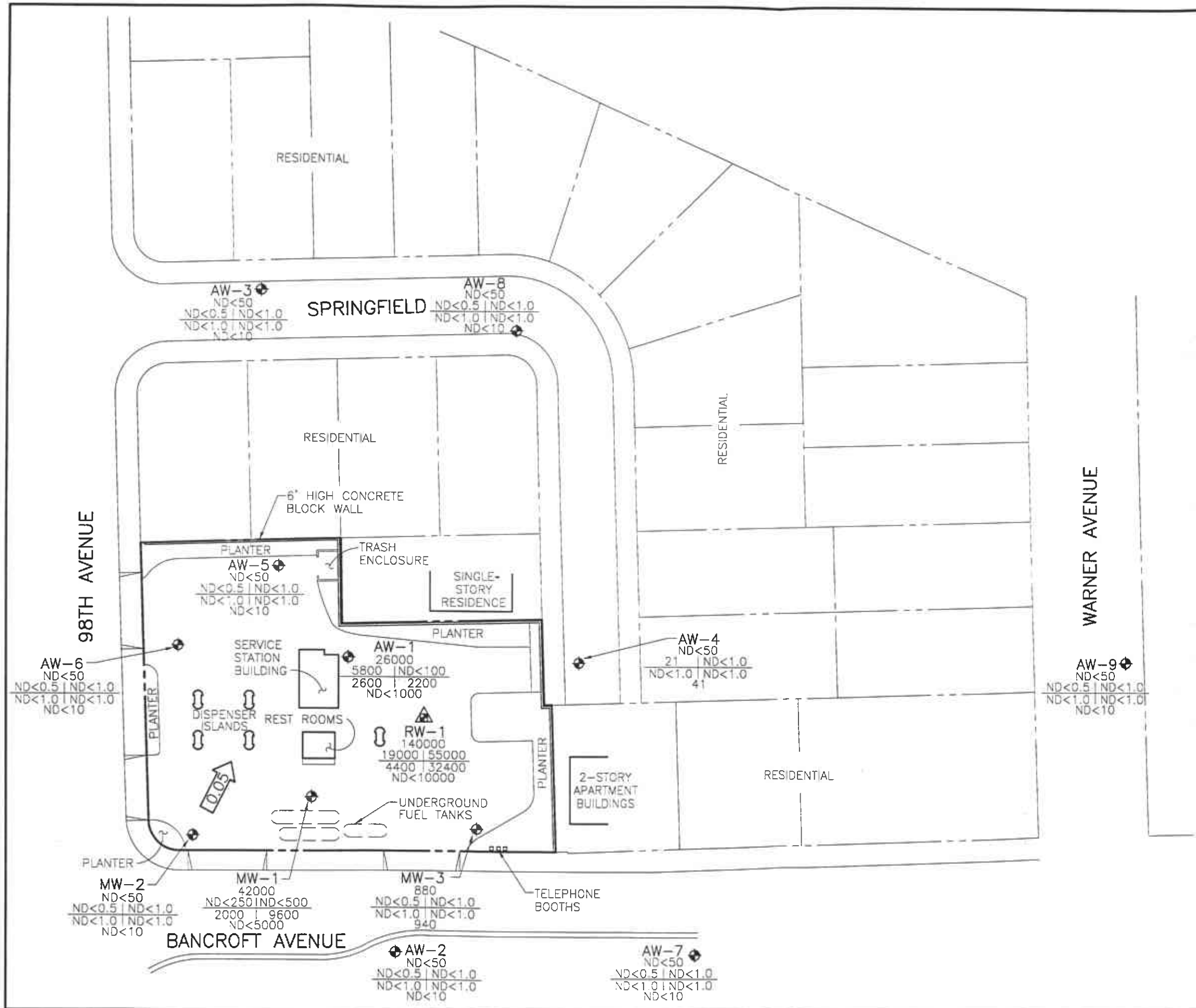
LEGEND

- ◆ GROUNDWATER MONITORING WELL
- ▲ VAPOR EXTRACTION WELL
- ▲ COMBINED GROUNDWATER RECOVERY/VAPOR EXTRACTION WELL
- (25.07) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 24.00 - GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL - 2.00 FEET)
- ← 0.05 ← CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP
JULY 2, 1997
 BP OIL SERVICE STATION NO. 11133
 2220 98TH AVENUE
 OAKLAND, CALIFORNIA
 PROJECT NO. 10-025



10025A-1 (REV. 8-12-97) HNS 1-25



LEGEND

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

FIGURE 3
CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER
JULY 2, 1997
 BP OIL SERVICE STATION NO. 11133
 2220 98TH AVENUE
 OAKLAND, CALIFORNIA
 PROJECT NO. 10-025

10025-10-025 8-17-97 11-50

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201

Project No. 10-025-013-004 Date: 7/2/17
Address 2220 98TH Ave. Day: M T ~~W~~ TH F
Contract No. G797553 City: Oakland
Station No. BP 11133 Sampler: LCB

DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS:	
MW-1	S-12	2"	34'	14.11	∅	0959	PPRS <i>Removed 2.01 gal FO</i>	
MW-2	S-1	2"	34.10'	12.57		0917		
MW-3	S-9	2"	21.83'	15.60		0947		
AW-1	S-11	2"	38.60'	21.17		0957		
AW-2	S-2	2"	35.20'	18.11		0926		
AW-3	S-3	?2	45'	15.87		0921		Dup must be from this well
AW-4	S-10	2"	35'	19.68		0957		
AW-5	S-4	4"	42.90'	20.29		0930		
AW-6	S-5	4"	34.20'	17.99		0934		
AW-7	S-6	2"	32.30'	19.11		0938		
AW-8	S-7	2"	39.20'	18.67	0940			
AW-9	S-8	2"	~40	12.71	0943			
RW-1	S-13	4"	240	16.40	.20	1005	Sample through dip tube (QC-1 (S-14))	

FIELD INSTRUMENT CALIBRATION DATA

pH METER *Jan* 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED N TIME 0910
D.O. METER *Jan* ZERO d.O. SOLUTION _____ BAROMETRIC PRESSURE 760 TEMP 69 WEATHER Clear
CONDUCTIVITY METER *Jan* 10,000 _____ TURBIDITY METER _____ 5.0 NTU _____ OTHER _____
LEAK DETECTOR: _____ ALARM MODE _____ NON ALARM MODE _____

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-2	12.57	2"	OK	∅	Y <input checked="" type="checkbox"/>	4	1027	71.4	7.74	275µs	5.9	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX <i>HCL</i>
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						8		70.3	7.48	321µs		<input type="checkbox"/> TPH Diesel <input type="checkbox"/> TOG 5520
34.10 - 12.57 = 21.53 x .16 = 3.44 x 3 = 10.32						11	1040	70.0	7.42	327µs	5.9	TIME/SAMPLE ID
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Bailer(s) <input type="checkbox"/> Sys Port												1044
Comments:												
Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
AW-2	18.11	2"	OK	∅	Y <input checked="" type="checkbox"/>	3	1056	72.4	7.71	265µs	5.5	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX <i>HCL</i>
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						6		71.3	7.49	310µs		<input type="checkbox"/> TPH Diesel <input type="checkbox"/> TOG 5520
35.20 - 18.11 = 17.09 x .16 = 2.73 x 3 = 8.19						9	1110	70.9	7.43	319µs	5.7	TIME/SAMPLE ID
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Bailer(s) <input type="checkbox"/> Sys Port												1112
Comments:												

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.

10-025-013-004

Address

2220 98TH Ave.

Contract No.

G797553

Station No.

BP 11133

Sampler:

Date:

7/2/97

Day:

MTWTHF

City:

Oakland

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
AW-3	15.87	2"	OK	Ø	Y (N)	5	1127	73.7	7.74	94µs	5.1	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX HCL <input type="checkbox"/> TPH Diesel <input type="checkbox"/> TOG 5520 TIME/SAMPLE ID
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						10		72.4	7.57	99µs		
45 - 15.87 = 29.13 x .16 = 4.66 x 3 = 13.98						14	1142	71.6	7.49	100µs	5.4	
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port												
Comments:												
1144												
Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
AW-5	20.29	4"	OK	Ø	Y (N)	15	1153	72.6	7.40	422µs	3.7	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX HCL <input type="checkbox"/> TPH Diesel <input type="checkbox"/> TOG 5520 TIME/SAMPLE ID
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						30		72.1	7.19	451µs		
42.90 - 20.29 = 22.61 x .65 = 14.70 x 3 = 44.10						45	1220	71.3	7.10	156µs	4.0	
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port												
Comments:												
1225												
Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
AW-6	17.99	4"	OK	Ø	Y (N)	10	1241	71.3	7.21	272µs	4.9	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX HCL <input type="checkbox"/> TPH Diesel <input type="checkbox"/> TOG 5520 TIME/SAMPLE ID
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						22		70.6	7.10	310µs		
34.20 - 17.99 = 16.21 x .65 = 10.54 x 3 = 31.62						32	1300	69.7	7.03	321µs	5.2	
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port												
Comments:												
1310												
Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
AW-7	19.11	2"	OK	Ø	Y (N)	2	1327	72.2	7.49	270µs	5.0	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX HCL <input type="checkbox"/> TPH Diesel <input type="checkbox"/> TOG 5520 TIME/SAMPLE ID
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						7		71.3	7.21	315µs		
32.30 - 19.11 = 13.19 x .16 = 2.11 x 3 = 6.33						6.5	1344	70.7	7.14	319µs	5.4	
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port												
Comments:												
1344												
Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
AW-8	18.67	2"	OK	Ø	Y (N)	3	1357	72.4	7.94	1010µs	5.4	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX HCL <input type="checkbox"/> TPH Diesel <input type="checkbox"/> TOG 5520 TIME/SAMPLE ID
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						7		71.3	7.67	1071µs		
39.20 - 18.67 = 20.53 x .16 = 3.28 x 3 = 9.84						10	1410	70.3	7.60	1078µs	5.6	
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port												
Comments:												
1415												

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.

10-025-013-004

Address

2220 98TH Ave.

Contract No.

G797553

Station No.

BP 11133

Sampler:

Date:

7/2/97

Day:

MTWTF

City:

Oakland

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
Aw-9	12.71	2"	OK	Ø	Y (D)	4	1525	72.9	7.67	372µs	6.0	
Total Depth - Water Level=						x Well Vol. Factor=	x#vol. to Purge	PurgeVol.				
35.00 - 12.71 = 22.29						x .16 = 3.57	x 3 = 10.71	13.11	7	72.0	7.40	410µs
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port												
Comments:												

- EPA 601
- TPH-G/BTEX HCL
- TPH Diesel
- TOG 5520
- TIME/SAMPLE ID

1542

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
Mw-3	15.60	2"	OK	Ø	Y (D)	1	1557	73.7	7.31	455µs	5.0
Total Depth - Water Level=						x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			
21.83 - 15.60 = 6.23						x .16 = 1.00	x 3 = 3.00	2	72.1	7.10	471µs
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s) OSys Port											
Comments:											

- EPA 601
- TPH-G/BTEX HCL
- TPH Diesel
- TOG 5520
- TIME/SAMPLE ID

1610

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING

Groundwater Sampling

GROUP

Date: 7/2/97 Project No. 10-025-13-2

1575 TREAT BOULEVARD, SUITE 201

Day: Wed Station No. 11133

WALNUT CREEK CA 94596 (510) 295-1650 FAX 295-1823

Weather: Clear Address Oakland

SAMPLER: WB

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	
Aw-4	19.68	2"	oil	Ø	Ø	3	1627	73.1	7.61	510µS	3.6	<input type="checkbox"/> EPA 601
Total Depth - Water Level=						5		72.4	7.42	536µS		<input checked="" type="checkbox"/> TPH-G/BTEX_HCl
x Well Vol. Factor=						8	1633	71.7	7.33	444µS	4.1	<input type="checkbox"/> TPH Diesel
x#vol. to Purge=												<input type="checkbox"/> TOG 5520
PurgeVol.												Time Sampled
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Baller(s) OSys Port												1640
Comments:												

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	
Aw-1	21.17	2"	oil	Ø	Ø	3	1654	71.2	6.97	700µS	6.1	<input type="checkbox"/> EPA 601
Total Depth - Water Level=						6		70.6	6.84	737µS		<input checked="" type="checkbox"/> TPH-G/BTEX_HCl
x Well Vol. Factor=						9	1704	69.6	6.79	717µS	6.2	<input type="checkbox"/> TPH Diesel
x#vol. to Purge=												<input type="checkbox"/> TOG 5520
PurgeVol.												Time Sampled
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Baller(s) OSys Port												1710
Comments:												

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	
Mw-1	14.11	2"	oil	Ø	Ø	4	1721	72.1	7.61	610µS	5.1	<input type="checkbox"/> EPA 601
Total Depth - Water Level=						7		71.4	7.30	650µS		<input checked="" type="checkbox"/> TPH-G/BTEX_HCl
x Well Vol. Factor=						10	1730	70.5	7.22	654µS	5.5	<input type="checkbox"/> TPH Diesel
x#vol. to Purge=												<input type="checkbox"/> TOG 5520
PurgeVol.												Time Sampled
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Baller(s) OSys Port												1733
Comments: <u>inadequate</u>												

Rw-1 4" Diam

$40 - 16.40 = 23.60 \times 0.65 = 15.34 \times 3 = 46.02 \text{ gal.}$

* Removed ~ .25 gal of FP

Time	Temp	Cond	pH	D.O.	Gal
1742	73.1	810µS	7.37	5.5	16
	72.9	847µS	7.24		32
1815	72.5	847µS	7.24	5.7	47

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD



July 16, 1997

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

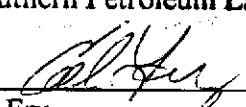
The following report contains analytical results for samples received at Southern Petroleum Laboratories (SPL) on July 8, 1997. The samples were assigned to Certificate of Analysis No(s).9707292 and analyzed for the parameters specified on the chain of custody.

There were no analytical problems encountered with this group of samples and all quality control data was within acceptance limits.

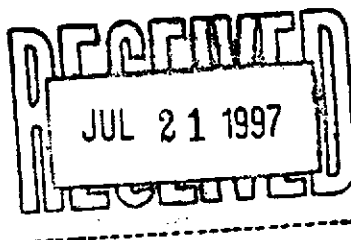
If you have any questions or comments pertaining to this data report, please do not hesitate to contact me. Please reference the above Certificate of Analysis Number(s) during any inquiries.

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



Ed Fry
Project Manager





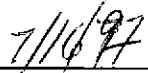
Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 97-07-292

Approved for Release by:



Ed Fry, Project Manager



Date:

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer

The attached analytical data package may not be reproduced except in full without the express written approval of this laboratory.



LABORATORIES

certificate of Analysis No. H9-9707292-01

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-1

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

Table with 5 columns: PARAMETER, RESULTS, DETECTION LIMIT, UNITS. Rows include MTBE, Benzene, Toluene, Ethylbenzene, Total Xylene.

Surrogate % Recovery
1,4-Difluorobenzene 97
4-Bromofluorobenzene 97
Method 8020A***
Analyzed by: HS
Date: 07/13/97

Total Petroleum Hydrocarbons-Gasoline ND 0.05 P mg/L

Surrogate % Recovery
1,4-Difluorobenzene 70
4-Bromofluorobenzene 100
California LUFT Manual
Analyzed by: HS
Date: 07/13/97 03:06:00

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.

8880 INTERCHANGE DR. HOUSTON, TX 77054 (713) 660-0901

200 AMBASSADOR CENTER #1903 SCOTT, LA 70583-8544 (318) 237-4SPL

459 HUGHES DRIVE TRAVERSE CITY, MI 49684 (616) 947-5777

1511 E. ORANGETHORPE AVE. FULLERTON, CA 92631 (714) 447-6868



LABORATORIES Certificate of Analysis No. H9-9707292-02

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-2

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1.0 P	µg/L
Ethylbenzene	ND	1.0 P	µg/L
Total Xylene	ND	1.0 P	µg/L

Surrogate % Recovery
1,4-Difluorobenzene 93
4-Bromofluorobenzene 97
Method 8020A***
Analyzed by: HS
Date: 07/13/97

Total Petroleum Hydrocarbons-Gasoline ND 0.05 P mg/L

Surrogate % Recovery
1,4-Difluorobenzene 67
4-Bromofluorobenzene 97
California LUFT Manual
Analyzed by: HS
Date: 07/13/97 03:35:00

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.

8880 INTERCHANGE DR.
HOUSTON, TX 77054
(713) 660-0901

SPL California License # 1903

366 AMBASSADOR CANYON PKWY.
SCOTT, LA 70583-8544
(318) 237-4SPL

459 HUGHES DRIVE
TRAVERSE CITY, MI 49684
(616) 947-5777

1511 E. ORANGETHORPE AVE.
FULLERTON, CA 92631
(714) 447-6868



LABORATORIES certificate of Analysis No. H9-9707292-03

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-3

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1.0 P	µg/L
Ethylbenzene	ND	1.0 P	µg/L
Total Xylene	ND	1.0 P	µg/L

Surrogate	% Recovery
1,4-Difluorobenzene	93
4-Bromofluorobenzene	97

Method 8020A***
Analyzed by: HS
Date: 07/13/97

Total Petroleum Hydrocarbons-Gasoline ND 0.05 P mg/L

Surrogate	% Recovery
1,4-Difluorobenzene	63
4-Bromofluorobenzene	97

California LUFT Manual
Analyzed by: HS
Date: 07/13/97 04:04:00

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

8880 INTERCHANGE DR.
HOUSTON, TX 77054
(713) 660-0901

360 AMBASSADOR CANNERY PKWY.
SCOTT, LA 70583-8544
(318) 237-4SPL

459 HUGHES DRIVE
TRAVERSE CITY, MI 49684
(616) 947-5777

1511 E. ORANGETHORPE AVE.
FULLERTON, CA 92631
(714) 447-6868



LABORATORIES Certificate of Analysis No. H9-9707292-04

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-4

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1.0 P	µg/L
Ethylbenzene	ND	1.0 P	µg/L
Total Xylene	ND	1.0 P	µg/L

Surrogate	% Recovery
1,4-Difluorobenzene	93
4-Bromofluorobenzene	97

Method 8020A***
Analyzed by: HS
Date: 07/13/97

Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
---------------------------------------	----	--------	------

Surrogate	% Recovery
1,4-Difluorobenzene	63
4-Bromofluorobenzene	93

California LUFT Manual
Analyzed by: HS
Date: 07/13/97 04:34:00

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

8880 INTERCHANGE DR.
HOUSTON, TX 77054
(713) 660-0901

308 AMBASSADOR OFFICE PKWY.
SCOTT, LA 70583-8544
(318) 237-4SPL

459 HUGHES DRIVE
TRAVERSE CITY, MI 49684
(616) 947-5777

1511 E. ORANGETHORPE AVE.
FULLERTON, CA 92631
(714) 447-6868



LABORATORIES certificate of Analysis No. H9-9707292-05

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-5

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

Table with 5 columns: PARAMETER, RESULTS, DETECTION LIMIT, UNITS. Rows include MTBE, Benzene, Toluene, Ethylbenzene, Total Xylene.

Surrogate % Recovery
1,4-Difluorobenzene 93
4-Bromofluorobenzene 97
Method 8020A***
Analyzed by: HS
Date: 07/13/97

Total Petroleum Hydrocarbons-Gasoline ND 0.05 P mg/L

Surrogate % Recovery
1,4-Difluorobenzene 67
4-Bromofluorobenzene 93
California LUFT Manual
Analyzed by: HS
Date: 07/13/97 05:06:00

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

8880 INTERCHANGE DR.
HOUSTON, TX 77054
(713) 660-0901

301 AMBASSADOR OFFER PKWY.
SCOTT, LA 70583-8544
(318) 237-4SPL

459 HUGHES DRIVE
TRAVERSE CITY, MI 49684
(616) 947-5777

1511 E. ORANGETHORPE AVE.
FULLERTON, CA 92631
(714) 447-6868



LABORATORIES

Certificate of Analysis No. H9-9707292-06

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-6

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

Table with 4 columns: PARAMETER, RESULTS, DETECTION LIMIT, UNITS. Rows include MTBE, Benzene, Toluene, Ethylbenzene, Total Xylene.

Surrogate % Recovery
1,4-Difluorobenzene 100
4-Bromofluorobenzene 97
Method 8020A***
Analyzed by: HS
Date: 07/13/97

Total Petroleum Hydrocarbons-Gasoline ND 0.05 P mg/L

Surrogate % Recovery
1,4-Difluorobenzene 63
4-Bromofluorobenzene 97
California LUFT Manual
Analyzed by: HS
Date: 07/13/97 05:36:00

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.

8880 INTERCHANGE DR.
HOUSTON, TX 77054
(713) 660-0901

500 AMBASSADOR CENTER PKWY
SCOTT, LA 70583-8544
(318) 237-4SPL

459 HUGHES DRIVE
TRAVERSE CITY, MI 49684
(616) 947-5777

1511 E. ORANGETHORPE AVE.
FULLERTON, CA 92631
(714) 447-6868



LABORATORIES

Certificate of Analysis No. H9-9707292-07

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-7

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

Table with 5 columns: PARAMETER, RESULTS, DETECTION LIMIT, UNITS. Rows include MTBE, Benzene, Toluene, Ethylbenzene, Total Xylene.

Surrogate % Recovery
1,4-Difluorobenzene 97
4-Bromofluorobenzene 97
Method 8020A***
Analyzed by: HS
Date: 07/14/97

Total Petroleum Hydrocarbons-Gasoline ND 0.05 P mg/L

Surrogate % Recovery
1,4-Difluorobenzene 63
4-Bromofluorobenzene 100
California LUFT Manual
Analyzed by: HS
Date: 07/14/97 06:40:00

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

8880 INTERCHANGE DR. HOUSTON, TX 77054 (713) 660-0901

300 AMBASSADOR OFFSHORE PKWY. SCOTT, LA 70583-8544 (318) 237-4SPL

459 HUGHES DRIVE TRAVERSE CITY, MI 49684 (616) 947-5777

1511 E. ORANGETHORPE AVE. FULLERTON, CA 92631 (714) 447-6868



LABORATORIES

Certificate of Analysis No. H9-9707292-08

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-8

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

Table with 5 columns: PARAMETER, RESULTS, DETECTION LIMIT, UNITS. Rows include MTBE, Benzene, Toluene, Ethylbenzene, Total Xylene.

Surrogate % Recovery
1,4-Difluorobenzene 93
4-Bromofluorobenzene 97

Method 8020A***
Analyzed by: HS
Date: 07/14/97

Total Petroleum Hydrocarbons-Gasoline ND 0.05 P mg/L

Surrogate % Recovery
1,4-Difluorobenzene 63
4-Bromofluorobenzene 97

California LUFT Manual
Analyzed by: HS
Date: 07/14/97 07:09:00

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.

8880 INTERCHANGE DR.
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(713) 660-0901

3601 AMBASSADOR CEMETERY PKWY.
SCOTT, LA 70583-8544
(318) 237-4SPL

459 HUGHES DRIVE
TRAVERSE CITY, MI 49684
(616) 947-5777

1511 E. ORANGETHORPE AVE.
FULLERTON, CA 92631
(714) 447-6868



LABORATORIES Certificate of Analysis No. H9-9707292-09

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-9

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

Table with 5 columns: PARAMETER, RESULTS, DETECTION LIMIT, UNITS. Rows include MTBE, Benzene, Toluene, Ethylbenzene, Total Xylene.

Surrogate % Recovery
1,4-Difluorobenzene 100
4-Bromofluorobenzene 97
Method 8020A***
Analyzed by: HS
Date: 07/14/97

Total Petroleum Hydrocarbons-Gasoline 0.88 0.05 P mg/L

Surrogate % Recovery
1,4-Difluorobenzene 60
4-Bromofluorobenzene 93
California LUFT Manual
Analyzed by: HS
Date: 07/13/97 06:06:00

(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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8880 INTERCHANGE DR.
HOUSTON, TX 77054
(713) 660-0901

308 AMBASSADOR CAFE PKWY.
SCOTT, LA 70583-8544
(318) 237-4SPL

459 HUGHES DRIVE
TRAVERSE CITY, MI 49684
(616) 947-5777

1511 E. ORANGETHORPE AVE.
FULLERTON, CA 92631
(714) 447-6868



LABORATORIES Certificate of Analysis No. H9-9707292-10

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

P.O.#
 G797553, COC#076986
 DATE: 07/16/97

PROJECT: BP Oil #11133
 SITE: Oakland, CA
 SAMPLED BY: Alisto Engineering
 SAMPLE ID: S-10

PROJECT NO: 10-025-13-4
 MATRIX: WATER
 DATE SAMPLED: 07/02/97
 DATE RECEIVED: 07/08/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	41	10 P	µg/L
Benzene	21	0.5 P	µg/L
Toluene	ND	1.0 P	µg/L
Ethylbenzene	ND	1.0 P	µg/L
Total Xylene	ND	1.0 P	µg/L

Surrogate % Recovery
 1,4-Difluorobenzene 93
 4-Bromofluorobenzene 97
 Method 8020A***
 Analyzed by: HS
 Date: 07/14/97

Total Petroleum Hydrocarbons-Gasoline ND 0.05 P mg/L

Surrogate % Recovery
 1,4-Difluorobenzene 63
 4-Bromofluorobenzene 100
 California LUFT Manual
 Analyzed by: HS
 Date: 07/14/97 07:37:00

(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.

8880 INTERCHANGE DR.
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 (616) 947-5777

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LABORATORIES

Certificate of Analysis No. H9-9707292-11

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-11

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

Table with 5 columns: PARAMETER, RESULTS, DETECTION LIMIT, UNITS. Rows include MTBE, Benzene, Toluene, Ethylbenzene, Total Xylene.

Surrogate % Recovery
1,4-Difluorobenzene 93
4-Bromofluorobenzene 100
Method 8020A***
Analyzed by: HS
Date: 07/13/97

Total Petroleum Hydrocarbons-Gasoline 26 5 P mg/L

Surrogate % Recovery
1,4-Difluorobenzene 63
4-Bromofluorobenzene 97
California LUFT Manual
Analyzed by: HS
Date: 07/13/97 07:06:00

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.

JPL California License #1903

8880 INTERCHANGE DR
HOUSTON, TX 77054
(713) 660-0901

501 AMBASSADOR PKWY PKWY
SCOTT, LA 70583-8544
(318) 237-4SPL

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TRAVERSE CITY, MI 49684
(616) 947-5777

1511 E. ORANGETHORPE AVE.
FULLERTON, CA 92631
(714) 447-6868



LABORATORIES

Certificate of Analysis No. H9-9707292-12

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-12

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

Table with 4 columns: PARAMETER, RESULTS, DETECTION LIMIT, UNITS. Rows include MTBE, Benzene, Toluene, Ethylbenzene, Total Xylene.

Surrogate % Recovery
1,4-Difluorobenzene 93
4-Bromofluorobenzene 100

Method 8020A***
Analyzed by: HS
Date: 07/13/97

Total Petroleum Hydrocarbons-Gasoline 42 25 P mg/L

Surrogate % Recovery
1,4-Difluorobenzene 62
4-Bromofluorobenzene 93

California LUFT Manual
Analyzed by: HS
Date: 07/13/97 07:35:00

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.

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8880 INTERCHANGE DR.
HOUSTON, TX 77054
(713) 660-0901

550 AMBASSADOR CANYON PKWY.
SCOTT, LA 70583-8544
(318) 237-4SPL

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TRAVERSE CITY, MI 49684
(616) 947-5777

1511 E. ORANGETHORPE AVE.
FULLERTON, CA 92631
(714) 447-6868



LABORATORIES Certificate of Analysis No. H9-9707292-13

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

P.O.#
G797553, COC#076986
DATE: 07/16/97

PROJECT: BP Oil #11133
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-13

PROJECT NO: 10-025-13-4
MATRIX: WATER
DATE SAMPLED: 07/02/97
DATE RECEIVED: 07/08/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10000 P	µg/L
Benzene	19000	500 P	µg/L
Toluene	55000	1000 P	µg/L
Ethylbenzene	4400	1000 P	µg/L
Total Xylene	32400	1000 P	µg/L

Surrogate % Recovery
 1,4-Difluorobenzene 97
 4-Bromofluorobenzene 97
 Method 8020A***
 Analyzed by: HS
 Date: 07/14/97

Total Petroleum Hydrocarbons-Gasoline 140 50 P mg/L

Surrogate % Recovery
 1,4-Difluorobenzene 63
 4-Bromofluorobenzene 97
 California LUFT Manual
 Analyzed by: HS
 Date: 07/14/97 09:59:00

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.

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8880 INTERCHANGE DR.
HOUSTON, TX 77054
(713) 660-0901

580 AMBASSADOR CENTER PKWY.
SCOTT, LA 70583-8544
(318) 237-4SPL

459 HUGHES DRIVE
TRAVERSE CITY, MI 49684
(616) 947-5777

1511 E. ORANGETHORPE AVE.
FULLERTON, CA 92631
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LABORATORIES Certificate of Analysis No. H9-9707292-14

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

P.O.#
 G797553, COC#076986
 DATE: 07/16/97

PROJECT: BP Oil #11133
 SITE: Oakland, CA
 SAMPLED BY: Alisto Engineering
 SAMPLE ID: S-14

PROJECT NO: 10-025-13-4
 MATRIX: WATER
 DATE SAMPLED: 07/02/97
 DATE RECEIVED: 07/08/97

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10000 P	µg/L
Benzene	19000	500 P	µg/L
Toluene	54000	1000 P	µg/L
Ethylbenzene	4700	1000 P	µg/L
Total Xylene	33400	1000 P	µg/L

Surrogate % Recovery
 1,4-Difluorobenzene 93
 4-Bromofluorobenzene 100
 Method 8020A***
 Analyzed by: HS
 Date: 07/14/97

Total Petroleum Hydrocarbons-Gasoline 130 50 P mg/L

Surrogate % Recovery
 1,4-Difluorobenzene 63
 4-Bromofluorobenzene 97
 California LUFT Manual
 Analyzed by: HS
 Date: 07/14/97 10:27:00

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.

8880 INTERCHANGE DR.
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 (616) 947-5777

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 FULLERTON, CA 92631
 (714) 447-6868

QUALITY CONTROL

DOCUMENTATION



SURROGATE RECOVERY SUMMARY

07/16/97 11:27:17

AMOUNT ADDED	CONC. MEASURED	RECOVERY	LIMITS
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Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: 9707292-01A CLIENT SAMPLE ID:S-1

1,4-Difluorobenzene	30	29	97	70- 131
4-Bromofluorobenzene	30	29	97	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: 9707292-02A CLIENT SAMPLE ID:S-2

1,4-Difluorobenzene	30	28	93	70- 131
4-Bromofluorobenzene	30	29	97	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: 9707292-03A CLIENT SAMPLE ID:S-3

1,4-Difluorobenzene	30	28	93	70- 131
4-Bromofluorobenzene	30	29	97	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: 9707292-04A CLIENT SAMPLE ID:S-4

1,4-Difluorobenzene	30	28	93	70- 131
4-Bromofluorobenzene	30	29	97	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: 9707292-05A CLIENT SAMPLE ID:S-5

1,4-Difluorobenzene	30	28	93	70- 131
4-Bromofluorobenzene	30	29	97	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: 9707292-06A CLIENT SAMPLE ID:S-6

1,4-Difluorobenzene	30	30	100	70- 131
4-Bromofluorobenzene	30	29	97	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: 9707292-09A CLIENT SAMPLE ID:S-9

1,4-Difluorobenzene	30	30	100	70- 131
4-Bromofluorobenzene	30	29	97	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: 9707292-11A CLIENT SAMPLE ID:S-11

1,4-Difluorobenzene	30	28.0000	93	70- 131
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	AMOUNT ADDED	CONC. MEASURED	RECOVERY	LIMITS
4-Bromofluorobenzene	30	30.0000	100	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: 9707292-12A CLIENT SAMPLE ID:S-12

1,4-Difluorobenzene	30	28.0000	93	70- 131
4-Bromofluorobenzene	30	30.0000	100	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: 9707292-13A CLIENT SAMPLE ID:S-13

1,4-Difluorobenzene	30	29.0000	97	70- 131
4-Bromofluorobenzene	30	29.0000	97	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: 9707292-14A CLIENT SAMPLE ID:S-14

1,4-Difluorobenzene	30	28.0000	93	70- 131
4-Bromofluorobenzene	30	30.0000	100	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: Method Blank CLIENT SAMPLE ID:

1,4-Difluorobenzene	30	29	97	70- 131
4-Bromofluorobenzene	30	29	97	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: LCS CLIENT SAMPLE ID:

1,4-Difluorobenzene	30	28	93.3	70- 131
4-Bromofluorobenzene	30	30	100	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: Matrix Spike CLIENT SAMPLE ID:9707292-01A

1,4-DIFLUOROBENZENE	30	29	97	70- 131
4-BROMOFLUOROBENZENE	30	30	100	43- 135

Method 8020A*** BATCH#:HP_S970713055100
 WORK ORDER: Matrix Spike Dup. CLIENT SAMPLE ID:9707292-01A

1,4-Difluorobenzene	30	29	97	70- 131
4-Bromofluorobenzene	30	29	97	43- 135



SURROGATE RECOVERY SUMMARY

07/16/97 11:27:17

AMOUNT ADDED	CONC. MEASURED	RECOVERY	LIMITS
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California LUFT Manual BATCH#:HP S970713091000
WORK ORDER: 9707292-01A CLIENT SAMPLE ID:S-1

1,4-Difluorobenzene	30	21	70	50- 150
4-Bromofluorobenzene	30	30	100	50- 150

California LUFT Manual BATCH#:HP S970713091000
WORK ORDER: 9707292-02A CLIENT SAMPLE ID:S-2

1,4-Difluorobenzene	30	20	67	50- 150
4-Bromofluorobenzene	30	29	97	50- 150

California LUFT Manual BATCH#:HP S970713091000
WORK ORDER: 9707292-03A CLIENT SAMPLE ID:S-3

1,4-Difluorobenzene	30	19	63	50- 150
4-Bromofluorobenzene	30	29	97	50- 150

California LUFT Manual BATCH#:HP S970713091000
WORK ORDER: 9707292-04A CLIENT SAMPLE ID:S-4

1,4-Difluorobenzene	30	19	63	50- 150
4-Bromofluorobenzene	30	28	93	50- 150

California LUFT Manual BATCH#:HP S970713091000
WORK ORDER: 9707292-05A CLIENT SAMPLE ID:S-5

1,4-Difluorobenzene	30	20	67	50- 150
4-Bromofluorobenzene	30	28	93	50- 150

California LUFT Manual BATCH#:HP S970713091000
WORK ORDER: 9707292-06A CLIENT SAMPLE ID:S-6

1,4-Difluorobenzene	30	19	63	50- 150
4-Bromofluorobenzene	30	29	97	50- 150

California LUFT Manual BATCH#:HP S970713091000
WORK ORDER: 9707292-09A CLIENT SAMPLE ID:S-9

1,4-Difluorobenzene	30	18	60	50- 150
4-Bromofluorobenzene	30	28	93	50- 150

California LUFT Manual BATCH#:HP S970713091000
WORK ORDER: 9707292-10A CLIENT SAMPLE ID:S-10

1,4-Difluorobenzene	30	19	63	50- 150
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AMOUNT CONC. RECOVERY LIMITS
ADDED MEASURED

4-Bromofluorobenzene	30	28	93	50- 150
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California LUFT Manual BATCH#:HP_S970713091000
WORK ORDER: 9707292-11A CLIENT SAMPLE ID:S-11

1,4-Difluorobenzene	30	19.0000	63	50- 150
4-Bromofluorobenzene	30	29.0000	97	50- 150

California LUFT Manual BATCH#:HP_S970713091000
WORK ORDER: 9707292-12A CLIENT SAMPLE ID:S-12

1,4-Difluorobenzene	30	18.6000	62	50- 150
4-Bromofluorobenzene	30	28.0000	93	50- 150

California LUFT Manual BATCH#:HP_S970713091000
WORK ORDER: Method Blank CLIENT SAMPLE ID:

1,4-Difluorobenzene	30	20	67	50- 150
4-Bromofluorobenzene	30	29	97	50- 150

California LUFT Manual BATCH#:HP_S970713091000
WORK ORDER: LCS CLIENT SAMPLE ID:

1,4-Difluorobenzene	30	29	96.7	50- 150
4-Bromofluorobenzene	30	30	100	50- 150

California LUFT Manual BATCH#:HP_S970713091000
WORK ORDER: Matrix Spike CLIENT SAMPLE ID:9707292-02A

1,4-Difluorobenzene	30	31	103	50- 150
4-Bromofluorobenzene	30	30	100	50- 150

California LUFT Manual BATCH#:HP_S970713091000
WORK ORDER: Matrix Spike Dup. CLIENT SAMPLE ID:9707292-02A

1,4-Difluorobenzene	30	34	113	50- 150
4-Bromofluorobenzene	30	31	103	50- 150

Method 8020A*** BATCH#:HP_S970714024300
WORK ORDER: 9707292-07A CLIENT SAMPLE ID:S-7

1,4-Difluorobenzene	30	29	97	70- 131
4-Bromofluorobenzene	30	29	97	43- 135



07/16/97 11:27:17

AMOUNT ADDED	CONC. MEASURED	RECOVERY	LIMITS
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Method 8020A*** BATCH#:HP_S970714024300
 WORK ORDER: 9707292-08A CLIENT SAMPLE ID:S-8

1,4-Difluorobenzene	30	28	93	70- 131
4-Bromofluorobenzene	30	29	97	43- 135

Method 8020A*** BATCH#:HP_S970714024300
 WORK ORDER: 9707292-10A CLIENT SAMPLE ID:S-10

1,4-Difluorobenzene	30	28	93	70- 131
4-Bromofluorobenzene	30	29	97	43- 135

Method 8020A*** BATCH#:HP_S970714024300
 WORK ORDER: Method Blank CLIENT SAMPLE ID:

1,4-Difluorobenzene	30	28	93	70- 131
4-Bromofluorobenzene	30	29	97	43- 135

Method 8020A*** BATCH#:HP_S970714024300
 WORK ORDER: LCS CLIENT SAMPLE ID:

1,4-Difluorobenzene	30	29	96.7	70- 131
4-Bromofluorobenzene	30	30	100	43- 135

Method 8020A*** BATCH#:HP_S970714024300
 WORK ORDER: Matrix Spike CLIENT SAMPLE ID:9707292-07A

1,4-DIFLUOROBENZENE	30	29	97	70- 131
4-BROMOFLUOROBENZENE	30	30	100	43- 135

Method 8020A*** BATCH#:HP_S970714024300
 WORK ORDER: Matrix Spike Dup. CLIENT SAMPLE ID:9707292-07A

1,4-Difluorobenzene	30	29	97	70- 131
4-Bromofluorobenzene	30	30	100	43- 135

California LUFT Manual BATCH#:HP_S970715135500
 WORK ORDER: 9707292-07A CLIENT SAMPLE ID:S-7

1,4-Difluorobenzene	30	19	63	50- 150
4-Bromofluorobenzene	30	30	100	50- 150

California LUFT Manual BATCH#:HP_S970715135500
 WORK ORDER: 9707292-08A CLIENT SAMPLE ID:S-8

1,4-Difluorobenzene	30	19	63	50- 150
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	AMOUNT ADDED	CONC. MEASURED	RECOVERY	LIMITS
4-Bromofluorobenzene	30	29	97	50- 150

California LUFT Manual
WORK ORDER: 9707292-10A

BATCH#:HP_S970715135500
CLIENT SAMPLE ID:S-10

1,4-Difluorobenzene	30	19	63	50- 150
4-Bromofluorobenzene	30	30	100	50- 150

California LUFT Manual
WORK ORDER: 9707292-13A

BATCH#:HP_S970715135500
CLIENT SAMPLE ID:S-13

1,4-Difluorobenzene	30	19.0000	63	50- 150
4-Bromofluorobenzene	30	29.0000	97	50- 150

California LUFT Manual
WORK ORDER: 9707292-14A

BATCH#:HP_S970715135500
CLIENT SAMPLE ID:S-14

1,4-Difluorobenzene	30	19.0000	63	50- 150
4-Bromofluorobenzene	30	29.0000	97	50- 150

California LUFT Manual
WORK ORDER: Method Blank

BATCH#:HP_S970715135500
CLIENT SAMPLE ID:

1,4-Difluorobenzene	30	20	19.8	50- 150
4-Bromofluorobenzene	30	29	29.4	50- 150

California LUFT Manual
WORK ORDER: Matrix Spike

BATCH#:HP_S970715135500
CLIENT SAMPLE ID:9707292-08A

1,4-Difluorobenzene	30	26	87	50- 150
4-Bromofluorobenzene	30	30	100	50- 150

California LUFT Manual
WORK ORDER: Matrix Spike Dup.

BATCH#:HP_S970715135500
CLIENT SAMPLE ID:9707292-08A

1,4-Difluorobenzene	30	28	93	50- 150
4-Bromofluorobenzene	30	30	100	50- 150

- « = Recovery outside of control limits
- * = Methods for Chemical Analysis of Water & Wastes, 1983, EPA
- ** = Standard Methods for Examination of Water & Wastewater, 17th
- *** = Test Methods for Evaluating Solid Waste, EPA SW846, 3rd



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

LABORATORIES
Matrix: Aqueous
Units: µg/L

Batch Id: HP_S970713055100

LABORATORY CONTROL SAMPLE

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
MTBE	ND	50	39	78.0	20 - 110
Benzene	ND	50	41	82.0	62 - 121
Toluene	ND	50	46	92.0	66 - 136
Ethyl_Benzene	ND	50	46	92.0	70 - 136
O-Xylene	ND	50	47	94.0	74 - 134
M and P Xylene	ND	100	96	96.0	77 - 140
Total Xylene	ND	150	0	0	-

MATRIX SPIKES

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
MTBE	ND	20	22	110	22	110	0	20	39 - 150
BENZENE	ND	20.0	23	115	22	110	4.44	25	39 - 150
TOLUENE	ND	20.0	22	110	21	105	4.65	26	56 - 134
ETHYL_BENZENE	ND	20.0	22	110	21	105	4.65	38	61 - 128
O-XYLENE	ND	20.0	22	110	22	110	0	29	40 - 130
M AND P XYLENE	ND	40.0	44	110	42	105	4.65	20	43 - 152
TOTAL XYLENE	ND	60.0	0	0	0	0	0		-

Analyst: HS

Sequence Date: 07/13/97

SPL ID of sample spiked: 9707292-01A

Sample File ID: S_G7475.TX0

Method Blank File ID:

Blank Spike File ID: S_G7468.TX0

Matrix Spike File ID: S_G7471.TX0

Matrix Spike Duplicate File ID: S_G7472.TX0

* = Values Outside QC Range. < = Data outside Method Specification Limits.

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

ND = Not Detected/Below Detection Limit

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

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

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

(**) = Source: SPL-Houston Historical Data (4th Q '95)

(***) = Source: SPL-Houston Historical Data (3rd Q '96)

SAMPLES IN BATCH(SPL ID):

9707292-06A 9707292-09A 9707292-12A 9707500-01A
 9707303-01A 9707303-02A 9707296-06A 9707296-08A
 9707296-09A 9707292-14A 9707292-11A 9707292-13A
 9707296-07A 9707292-01A 9707292-02A 9707292-03A
 9707292-04A 9707292-05A



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

MATRIX: Aqueous
Units: µg/L

Batch Id: HP_S970714024300

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
MTBE	ND	50	38	76.0	20 - 110
Benzene	ND	50	38	76.0	62 - 121
Toluene	ND	50	41	82.0	66 - 136
Ethyl_Benzene	ND	50	44	88.0	70 - 136
O-Xylene	ND	50	44	88.0	74 - 134
M and P Xylene	ND	100	86	86.0	77 - 140

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
MTBE	ND	20	21	105	20	100	4.88	20	39 - 150
BENZENE	ND	20	21	105	21	105	0	25	39 - 150
TOLUENE	ND	20	20	100	20	100	0	26	56 - 134
ETHYL_BENZENE	ND	20	21	105	20	100	4.88	38	61 - 128
O-XYLENE	ND	20	20	100	20	100	0	29	40 - 130
M AND P XYLENE	ND	40	40	100	41	102	1.98	20	43 - 152

Analyst: HS
Sequence Date: 07/14/97
SPL ID of sample spiked: 9707292-07A
Sample File ID: S_G7508.TX0
Method Blank File ID:
Blank Spike File ID: S_G7500.TX0
Matrix Spike File ID: S_G7503.TX0
Matrix Spike Duplicate File ID: S_G7504.TX0

* = Values Outside QC Range. < = Data outside Method Specification Limits.
NC = Not Calculated (Sample exceeds spike by factor of 4 or more)
ND = Not Detected/Below Detection Limit
% Recovery = [(<1> - <2>) / <3>] x 100
LCS % Recovery = (<1> / <3>) x 100
Relative Percent Difference = [(<4> - <5>) / [(<4> + <5>) x 0.5]] x 100
(**) = Source: SPL-Houston Historical Data (4th Q '95)
(***) = Source: SPL-Houston Historical Data (3rd Q '96)

SAMPLES IN BATCH(SPL ID):
9707292-09A 9707455-03A 9707455-04A 9707455-05A
9707455-06A 9707424-01A 9707424-03A 9707424-05A
9707424-02A 9707292-08A 9707551-02B 9707292-07A
9707292-10A



** SPL BATCH QUALITY CONTROL REPORT **
CA LUFT

Matrix: Aqueous
Units: mg/L

Batch Id: HP_S970713091000

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
Petroleum Hydrocarbons-Gas	ND	1.0	0.98	98.0	50 - 150

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
			PETROLEUM HYDROCARBONS-GAS	ND	0.90	0.98			

Analyst: HS
Sequence Date: 07/13/97
SPL ID of sample spiked: 9707292-02A
Sample File ID: SSG7476.TX0
Method Blank File ID:
Blank Spike File ID: SSG7469.TX0
Matrix Spike File ID: SSG7473.TX0
Matrix Spike Duplicate File ID: SSG7474.TX0

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

SAMPLES IN BATCH(SPL ID):
9707292-05A 9707292-06A 9707292-12A 9707292-09A
9707292-10A 9707292-11A 9707292-01A 9707292-02A
9707292-03A 9707292-04A



** SPL BATCH QUALITY CONTROL REPORT **
CA LUFT

MATRIX: Aqueous
Units: mg/L

Batch Id: HP_970715135500

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
Petroleum Hydrocarbons-Gas	ND	1.0	0.91	91.0	50 - 150

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
PETROLEUM HYDROCARBONS-GAS	ND	0.9	0.79	87.8	0.86	95.6	8.51	50	50 - 150

Analyst: HS

Sequence Date: 07/14/97

SPL ID of sample spiked: 9707292-08A

Sample File ID: SSG7513.TX0

Method Blank File ID:

Blank Spike File ID: SSG7502.TX0

Matrix Spike File ID: SSG7505.TX0

Matrix Spike Duplicate File ID: SSG7506.TX0

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

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

ND = Not Detected/Below Detection Limit

% Recovery = $[(<1> - <2>) / <3>] \times 100$

LCS % Recovery = $(<1> / <3>) \times 100$

Relative Percent Difference = $[(<4> - <5>) / ((<4> + <5>) \times 0.5)] \times 100$

(**) = Source: Temporary Limits

(***) = Source: Temporary Limits

SAMPLES IN BATCH(SPL ID):

9707296-07A 9707296-08A 9707292-13A 9707292-14A
9707455-05A 9707455-04A 9707455-02A 9707455-06A
9707292-07A 9707292-08A 9707292-10A 9707296-06A

CHAIN OF CUSTODY
AND
SAMPLE RECEIPT CHECKLIST



9707292

CHAIN OF CUSTODY

No. 076986

Page 1 of 2

CONSULTANT'S NAME Alisto Engineering		ADDRESS 1575 Trent Blvd #201		CITY w.c.	STATE Ca	ZIP CODE 94598	
BP SITE NUMBER 11133	BP CORNER ADDRESS/CITY Oakland			CONSULTANT PROJECT NUMBER 10-025-13-4			
CONSULTANT PROJECT MANAGER Brady Nagle		PHONE NUMBER (510) 295-1650	FAX NUMBER 295-1823		CONSULTANT CONTRACT NUMBER 6797553		
BP CONTACT Scott Hooton		BP ADDRESS Renton, wa	PHONE NUMBER -		FAX NO. -		
LAB CONTACT SPL		LABORATORY ADDRESS Texas	PHONE NUMBER -		FAX NO. -		
SAMPLED BY (Please Print Name) Larry Buenvenida		SAMPLED BY (Signature) <i>[Signature]</i>		SHIPMENT DATE 7-7-97		SHIPMENT METHOD Fed Ex	

TAT: 24 Hours 48 Hours 1 Week Standard 2 Weeks

ANALYSIS REQUIRED

AIRBILL NUMBER **3848478533**

SAMPLE DESCRIPTION	COLLECTION DATE	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE		TPH-61	STX-E	MTBE									COMMENTS		
	COLLECTION TIME		NO.	TYPE (VOL.)	LAB SAMPLE #															
S-1	7/2/97	w	3	HCL	X	X														
S-2																				
S-3																				
S-4																				
S-5																				
S-6																				
S-7																				
S-8																				
S-9																				
S-10																				
S-11																				
S-12																				

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
<i>[Signature]</i>	7/2/97		Patricia Lyettor	7/7/97	0800	
Patricia Lyettor	7/7/97	1400	Debbie Sillas	7/8/97	0930	



9707292

CHAIN OF CUSTODY

No. 083350

Page 2 of 2

CONSULTANT'S NAME: Alisto Engineering ADDRESS: 1575 Trent Blvd #201 CITY: W.C. Ga STATE: Ga ZIP CODE: 94598

BP SITE NUMBER: 11133 BP CORNER ADDRESS/CITY: Oakland, Ga CONSULTANT PROJECT NUMBER: 10-025-13-4

CONSULTANT PROJECT MANAGER: Brady Wayne PHONE NUMBER: (510) 295-1650 FAX NUMBER: 295-1883 CONSULTANT CONTRACT NUMBER: 6797553

BP CONTACT: Scott Hooton BP ADDRESS: Newton, WA PHONE NUMBER: - FAX NO.: -

LAB CONTACT: SPL LABORATORY ADDRESS: Texas PHONE NUMBER: - FAX NO.: -

SAMPLED BY (Please Print Name): Larry Brewster SAMPLED BY (Signature): [Signature] SHIPMENT DATE: 7/7/97 SHIPMENT METHOD: FedEx

TAT: 24 Hours 48 Hours 1 Week Standard 2 Weeks

ANALYSIS REQUIRED: [Blank]

AIRBILL NUMBER: 3848470533

SAMPLE DESCRIPTION	COLLECTION DATE	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE	LAB SAMPLE #	COMMENTS
	COLLECTION TIME		NO.	TYPE (VOL.)			
S-13	7/2/97	W	3	Hcl			RET SEC
S-14	7/2/97	W	3	Hcl			

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
<u>[Signature]</u>	<u>7/2/97</u>		<u>Patricia Letton</u>	<u>7/7/97</u>	<u>0800</u>	
<u>Patricia Letton</u>	<u>7/7/97</u>	<u>1400</u>	<u>Alene Sells</u>	<u>7/8/97</u>	<u>0930</u>	

SPL Houston Environmental Laboratory

Sample Login Checklist

Date: 7/8/97	Time: 0930
---------------------------------------------------------------------------	-------------------------------------------------------------------------

SPL Sample ID: 9707292

		<u>Yes</u>	<u>No</u>
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:	5° C	
10	Method of sample delivery to SPL:		
	SPL Delivery		
	Client Delivery		
	FedEx Delivery (airbill #)	3848478538	
	Other:		
11	Method of sample disposal:		
	SPL Disposal	✓	
	HOLD		
	Return to Client		

Name: Alma Sales	Date: 7/8/97
--------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------

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

BP Site Number: 11133
 ERM Contact: G797553
 Sampling Date: 07/02/97
 Matrix Description: Water
 Date Final Report Received: 07/21/97
 Laboratory & Location: SPL, Houston, Texas

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

Notes: _____

Data Validation Completed by: Brady Nagle
 (signature): Brady Nagle
 Date: 9/3/97