ALISTO ENGINEERING GROUP

ENVIRONMENTAL PROTECTION

98 OCT 20 PM 4:05

October 14, 1998

Mr. Raymond Maxwell
East Bay Municipal Utility District
Source Control Division
Post Office Box 24055
Oakland, California 94623-1055

10-025-16-002

Subject: Groundwater Remediation System Semiannual Report - October 1998
BP Oil Company Service Station 11133
2220 98th Avenue
Oakland, California
Wastewater Discharge Permit No. 503-00381

Dear Mr. Maxwell:

On behalf of BP Oil Company, we have enclosed a summary of analytical results for the groundwater remediation system sampling events and quantity discharged for BP Oil Company Service Station No. 11133, 2220 98th Avenue, Oakland, California. This report covers April 1, 1998 through September 30, 1998.

The results of sample analysis indicate that the system effluent is in compliance with the discharge requirements during this reporting period. The total volume discharged for the period is presented in Table 1. The results of influent, intermediate and effluent sample analysis are presented in Table 2. The sampling locations are shown in Figure 1. The laboratory reports and chain of custody records are presented in Attachment A.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

1575 TREAT BOULEVARD, SUITE 201 • WALNUT CREEK, CA 94598 • (510) 295-1650 • FAX (510) 295-1823
CONTRACTORS LICENSE NO. A-652544

Please call if you have questions regarding this report.

Sincerely,

ALISTO ENGINEERING GROUP

Peter Beaver
Engineering Manager

Enclosures

cc: Mr. Scott Hooton, BP Oil Company
Ms. Eva Chu, Alameda County Health Care Services Agency

TABLE 1 - FLOW DATA FOR GROUNDWATER REMEDIATION SYSTEM
BP OIL COMPANY SERVICE STATION NO. 11133
2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

Date		Flow Meter Reading (gallons)	Effluent Discharged (gallons)	Total Effluent Discharged (gallons)	Average Flow Rate (gpd)	Average Flow Rate (gpm)	Influent TPH-G Concentration (ug/l)	Period Hydrocarbons Removed (lb)	Cumulative Hydrocarbons Removed (lb)
03/21/95		0	0	0	---	---	299,100	NC	NC
03/27/95		3,069	3,069	3,069	512	0.71	350,600	9.0	9.0
05/02/95		4,280	1,211	4,280	34	0.05	245,400	2.5	11.5
06/01/95		5,390	1,110	5,390	37	0.05	460,600	4.3	15.7
06/28/95		7,634	2,244	7,634	83	0.12	301,300	5.6	21.4
07/31/95		9,480	1,846	9,480	56	0.08	301,300	4.6	26.0
08/30/95		11,869	2,389	11,869	80	0.11	276,700	5.5	31.5
09/28/95		19,572	7,703	19,572	266	0.37	322,800	20.7	52.3
10/18/95		21,266	1,694	21,266	85	0.12	396,200	5.6	57.9
11/14/95		28,880	7,614	28,880	282	0.39	238,100	15.1	73.0
12/27/95		39,395	10,515	39,395	245	0.34	165,100	14.5	87.5
01/22/96		42,994	3,599	42,994	138	0.19	236,400	7.1	94.6
02/27/96		53,058	10,064	53,058	280	0.39	380,000	31.9	126.5
03/01/96		55,609	2,551	55,609	850	1.18	380,000	8.1	134.6
03/25/96		59,409	3,800	59,409	158	0.22	266,300	8.4	143.0
04/30/96		65,132	5,723	65,132	159	0.22	189,000	9.0	152.1
05/30/96		82,551	17,419	82,551	581	0.81	276,200	40.1	192.2
07/01/96	(a)	83,210	659	83,210	21	0.03	151,000	0.8	193.0
07/31/96	(b)	84,444	1,234	84,444	41	0.06	151,000	1.6	194.6
08/27/96		98,824	14,380	98,824	533	0.74	124,500	14.9	209.5
09/30/96		107,482	8,658	107,482	255	0.35	306,100	22.1	231.6
10/29/96		114,368	6,886	114,368	237	0.33	1,930	0.1	231.7
11/25/96		122,583	8,215	122,583	304	0.42	154,500	10.6	242.3
12/31/96	(a)	131,256	8,673	131,256	241	0.33	59,740	4.3	246.7
02/24/97	(b)	132,257	1,001	132,257	250	0.35	308,300	2.6	249.2
03/25/97		138,149	5,892	138,149	1,403	1.95	340,400	16.7	266.0
04/14/97	(a)	138,290	141	138,290	30	0.04	278,500	0.3	266.3
05/20/97	(c)	138,372	82	138,372	36	0.05	465,600	0.3	266.6
05/26/98	(b)	138,967	595	138,967	259	0.36	294,400	1.5	268.1
06/25/98		143,256	4,289	143,256	1,865	2.59	287,300	10.3	278.4
07/07/98	(d)	149,459	6,203	149,459	2,697	3.75	287,300	14.9	293.2
09/26/98	(b)	150,311	852	150,311	370	0.51	230,200	1.6	294.9
09/30/98		151,021	710	151,021	309	0.43	230,200	1.4	296.2

TABLE 1 - FLOW DATA FOR GROUNDWATER REMEDIATION SYSTEM
BP OIL COMPANY SERVICE STATION NO. 11133
2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

Date	Flow Meter Reading (gallons)	Effluent Discharged (gallons)	Total Effluent Discharged (gallons)	Average Flow Rate (gpd)	Average Flow Rate (gpm)	Influent TPH-G Concentration (ug/l)	Period Hydrocarbons Removed (lb)	Cumulative Hydrocarbons Removed (lb)

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline	ug/l	Micrograms per liter
gpd	Gallons per day	lb	Pounds
gpm	Gallons per minute	NC	Not calculated

NOTES:

*	Hydrocarbon removal is calculated by: Effluent discharged (gallons) x TPH-G concentration (ug/l) x 3.785 (liters/gallon) x 1 (lb) / 453.6E6 (ug).
(a)	System shut down due to equipment failure.
(b)	Operation of system resumed.
(c)	System shut down pending approval from East Bay Municipal Utility District to resume operation.
(d)	System shut down for carbon changeout.

TABLE 2 - SUMMARY OF RESULTS OF GROUNDWATER REMEDIATION SYSTEM SAMPLE ANALYSIS
BP OIL COMPANY SERVICE STATION NO. 11133
2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

Sample ID	Date	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DCA (ug/l)	Lead (mg/l)	Lab
I-1	03/21/95	180,000	32,000	55,000	5,100	27,000	---	---	---	ATI
I-1	04/03/95	210,000	31,000	68,000	6,600	35,000	---	---	---	ATI
I-1	05/23/95	160,000	17,000	38,000	4,400	26,000	---	---	0.006	ATI
I-1	06/20/95	330,000	27,000	55,000	7,600	41,000	---	---	---	ATI
QC-1	06/20/95	200,000	21,000	45,000	5,300	30,000	---	---	---	ATI
I-1	08/29/95	160,000	34,000	54,000	4,700	24,000	7,600	ND<500	---	ATI
I-1	09/19/95	230,000	28,000	40,000	3,800	21,000	---	440	---	ATI
I-1	10/18/95	280,000	38,000	51,000	4,200	23,000	3,000	580	---	ATI
I-1	11/14/95	150,000	32,000	33,000	4,100	19,000	---	560	---	ATI
I-1	12/11/95	99,000	24,000	26,000	2,100	14,000	1,000	420	---	ATI
I-1	01/09/96	150,000	28,000	37,000	3,400	18,000	2,000	720	---	ATI
I-1	02/21/96	230,000	22,000	57,000	10,000	61,000	---	ND<5	---	SPL
I-1	03/13/96	180,000	29,000	35,000	3,300	19,000	---	ND<5	---	SPL
I-1	04/18/96	95,000	37,000	34,000	4,000	19,000	---	ND<5	---	SPL
I-1	05/14/96	170,000	28,000	43,000	5,200	30,000	---	ND<5	---	SPL
I-1	06/13/96	96,000	16,000	23,000	2,200	13,800	ND<10,000	---	---	SPL
I-1	08/08/96	75,000	23,000	13,000	2,500	11,000	2,300	---	---	SPL
I-1	09/17/96	210,000	23,000	33,000	5,100	35,000	ND<10,000	---	---	SPL
I-1	10/24/96	1,600	140	190	ND<1.0	ND<1.0	160	---	---	SPL
I-1	11/14/96	100,000	23,000	20,000	2,600	8,900	ND<2,500	---	---	SPL
I-1	12/11/96	39,000	6,800	8,300	740	4,900	ND<2,500	---	---	SPL
I-1	02/24/97	220,000	27,000	34,000	4,400	22,900	ND<10,000	---	---	SPL
I-1	03/12/97	230,000	24,000	48,000	5,400	33,000	ND<10,000	---	---	SPL
I-1	04/08/97	150,000	26,000	61,000	6,500	35,000	ND<25,000	---	---	SPL
I-1	05/15/97	330,000	24,000	54,000	7,600	50,000	ND<10,000	---	---	SPL
I-1	06/22/98	210,000	20,000	36,000	3,800	24,800	ND<2,500	---	---	SPL
I-1	06/17/98	230,000	6,000	26,000	2,300	23,000	ND<250	---	---	SPL
I-1	09/26/98	150,000	20,000	35,000	3,900	21,300	1,200	---	---	SPL
PS-1	03/21/95	47,000	690	4,200	1,400	8,400	---	---	---	ATI
PS-1	04/03/95	150,000	26,000	42,000	3,500	18,000	---	---	---	ATI
PS-1	05/23/95	35,000	1,400	4,900	1,100	6,800	---	---	---	ATI
PS-1	06/20/95	60,000	5,200	11,000	1,400	9,000	---	---	---	ATI
PS-1	08/29/95	25,000	150	1,000	500	3,300	ND<250	---	---	ATI
PS-1	09/19/95	55,000	---	---	---	---	---	---	---	ATI
PS-1	10/18/95	12,000	86	660	190	1,400	---	ND<10		ATI
PS-1	11/14/95	630	9	11	3	20	---	ND<1	---	ATI
PS-1	12/11/95	470	34	52	8	81	---	ND<1	---	ATI
PS-1	01/09/96	110	ND<1	ND<2	ND<1	1	---	ND<1	---	ATI

TABLE 2 - SUMMARY OF RESULTS OF GROUNDWATER REMEDIATION SYSTEM SAMPLE ANALYSIS
BP OIL COMPANY SERVICE STATION NO. 11133
2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

Sample ID	Date	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DCA (ug/l)	Lead (mg/l)	Lab
PS-1	02/21/96	75,000	4,100	12,000	3,000	20,000	---	ND<5	---	SPL
PS-1	03/13/96	71,000	1,200	5,700	2,300	14,000	---	ND<5	---	SPL
PS-1	04/18/96	190	ND<5	ND<5	ND<5	5	---	ND<5	---	SPL
PS-1	05/14/96	15,000	11	360	600	3,700	---	ND<5	---	SPL
PS-1	06/13/96	18,000	2,000	3,300	460	3,060	ND<1,000	---	---	SPL
PS-1	08/08/96	180	3.2	6.6	1.6	21.2	37	---	---	SPL
PS-1	09/17/96	600	5.8	7.7	1.9	18.7	39	---	---	SPL
PS-1	10/24/96	35,000	3,900	4,700	ND<50	ND<50	570	---	---	SPL
PS-1	11/14/96	12,000	2,300	2,200	270	1,100	420	---	---	SPL
PS-1	12/11/96	17,000	2,900	3,200	330	1,400	640	---	---	SPL
PS-1	02/24/97	280,000	12,000	29,000	6,000	37,000	ND<10,000	---	---	SPL
PS-1	03/12/97	93,000	4,900	11,000	1,600	16,000	ND<5,000	---	---	SPL
PS-1	04/08/97	130,000	10,000	31,000	5,900	30,800	ND<25,000	---	---	SPL
PS-1	05/15/97	230,000	11,000	35,000	6,900	46,000	ND<5,000	---	---	SPL
PS-1	06/22/98	58,000	5,400	11,000	1,200	7,200	ND<500	---	---	SPL
PS-1	08/17/98	98,000	4,200	14,000	2,200	13,800	330	---	---	SPL
PS-1	09/28/98	79,000	11,000	19,000	1,900	11,800	ND<1000	---	---	SPL
A-1	03/21/95	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	ATI
A-1	04/03/95	ND<50	ND<0.50	0.50	ND<0.50	ND<1.0	---	---	---	ATI
A-1	05/23/95	1,200	ND<1.0	2.2	3.4	22	---	---	---	ATI
A-1	06/20/95	88	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	ATI
A-1	08/29/95	340	7.1	68	5.3	92	5.2	---	---	ATI
A-1	09/19/95	ND<500	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
A-1	10/18/95	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
A-1	11/14/95	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
A-1	12/11/95	1,200	4	5	3	82	---	ND<1	---	ATI
A-1	01/09/96	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
A-1	02/21/96	4,100	20	90	87	580	---	ND<5	---	SPL
A-1	03/13/96	11,000	50	860	650	4,100	---	ND<5	---	SPL
A-1	04/18/96	60	ND<5	ND<5	ND<5	ND<5	---	ND<5	---	SPL
A-1	05/14/96	60	ND<5	ND<5	ND<5	10	---	ND<5	---	SPL
A-1	06/13/96	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	---	---	SPL
A-1	08/08/96	60	16	12	1.8	10.9	61	---	---	SPL
A-1	09/17/96	140	1.4	1.6	ND<1.0	7.5	ND<10	---	---	SPL
A-1	10/24/96	80	24	15	1.0	8.1	37	---	---	SPL
A-1	11/14/96	370	83	51	5.3	21	92	---	---	SPL
A-1	12/11/96	2,400	490	410	39	249	320	---	---	SPL
A-1	02/24/97	350	1.4	8.4	5.7	55	ND<10	---	---	SPL

TABLE 2 - SUMMARY OF RESULTS OF GROUNDWATER REMEDIATION SYSTEM SAMPLE ANALYSIS
BP OIL COMPANY SERVICE STATION NO. 11133
2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

Sample ID	Date	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DCA (ug/l)	Lead (mg/l)	Lab
A-1	03/12/97	90	0.53	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
A-1	04/08/97	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
A-1	05/15/97	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
A-1	05/22/98	120	ND<0.5	ND<1.0	ND<1.0	1.8	ND<10	---	---	SPL
A-1	06/17/98	1,400	ND<0.5	7.7	24	132	ND<10	---	---	SPL
A-1	09/26/98	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
B-1	03/21/95	88	ND<0.50	2	ND<0.50	2	---	---	---	ATI
B-1	04/03/95	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	ATI
B-1	05/23/95	240	ND<0.50	0.68	0.93	7.2	---	---	---	ATI
B-1	06/20/95	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	ATI
B-1	08/29/95	37,000	54	420	600	3500	260	---	---	ATI
B-1	09/19/95	550	ND<1	ND<2	ND<1	9	---	ND<1	---	ATI
B-1	10/18/95	---	---	---	---	---	---	---	---	ATI
B-1	11/14/95	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
B-1	12/11/95	270	ND<1	ND<2	ND<1	1	---	ND<1	---	ATI
B-1	01/09/96	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
B-1	02/21/96	ND<50	ND<5	ND<5	ND<5	ND<5	---	ND<5	---	SPL
B-1	03/13/96	ND<50	ND<5	ND<5	ND<5	14	---	ND<5	---	SPL
B-1	04/18/96	ND<50	ND<5	ND<5	ND<5	ND<5	---	ND<5	---	SPL
B-1	05/14/96	ND<50	ND<5	8	ND<5	11	---	ND<5	---	SPL
B-1	06/13/96	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	---	---	SPL
B-1	08/08/96	ND<50	2.3	1.2	ND<1.0	1.3	48	---	---	SPL
B-1	09/17/96	52	0.78	1.6	ND<1.0	ND<1.0	14	---	---	SPL
B-1	10/24/96	70	1.4	ND<1.0	ND<1.0	ND<1.0	13	---	---	SPL
B-1	11/14/96	100	19	9.3	1.1	3.9	24	---	---	SPL
B-1	12/11/96	80	26	7.1	ND<1.0	2.6	110	---	---	SPL
B-1	02/24/97	600	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
B-1	03/12/97	730	5.3	8.1	2.5	51	17	---	---	SPL
B-1	04/08/97	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
B-1	05/15/97	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
B-1	05/22/98	230	2.4	2.7	2.2	15.8	ND<10	---	---	SPL
B-1	06/17/98	1,000	0.85	10	15	90	ND<10	---	---	SPL
B-1	09/26/98	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	ND<10	---	---	SPL
E-1	03/21/95	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ND<0.002	ATI
E-1	04/03/95	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	0.007	ATI
E-1	05/23/95	140	ND<0.50	ND<0.50	ND<0.50	2.3	---	---	---	ATI
QC-1	05/23/95	250	ND<0.50	ND<0.50	1.0	7.5	---	---	---	ATI

TABLE 2 - SUMMARY OF RESULTS OF GROUNDWATER REMEDIATION SYSTEM SAMPLE ANALYSIS
BP OIL COMPANY SERVICE STATION NO. 11133
2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

Sample ID	Date	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DCA (ug/l)	Lead (mg/l)	Lab
E-1	06/20/95	ND<50	ND<0.50	ND<0.50	ND<0.50	1.1	---	---	---	ATI
E-1	08/29/95	200	ND<1	ND<2	ND<1	ND<1	ND<5	---	---	ATI
E-1	09/19/95	ND<500	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
QC-1	09/19/95	ND<500	---	---	---	---	---	---	---	ATI
E-1	10/18/95	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
QC-1	10/18/95	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
E-1	11/14/95	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
QC-1	11/14/95	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
E-1	12/11/95	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
E-1	01/09/96	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
QC-1	01/09/96	ND<50	ND<1	ND<2	ND<1	ND<1	---	ND<1	---	ATI
E-1	02/21/96	ND<50	ND<5	ND<5	ND<5	ND<5	---	ND<5	---	SPL
E-1	03/13/96	2,600	ND<5	19	49	320	---	ND<5	---	SPL
E-1	04/18/96	ND<50	ND<5	ND<5	ND<5	ND<5	---	ND<5	---	SPL
E-1	05/14/96	ND<50	ND<5	ND<5	ND<5	ND<5	---	ND<5	---	SPL
E-1	06/13/96	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<10	---	---	SPL
E-1	08/08/96	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	55	---	---	SPL
E-1	09/17/96	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
E-1	10/24/96	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
E-1	11/14/96	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
E-1	12/11/96	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
E-1	02/24/97	ND<50	0.76	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
E-1	03/12/97	1,800	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	---	---	SPL
E-1	04/08/97	ND<50	ND<1.0	ND<1.0	ND<1.0	1.3	ND<1.0	---	---	SPL
E-1	05/15/97	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
E-1	05/22/98	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
E-1	08/17/98	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL
E-1	09/26/98	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	---	---	SPL

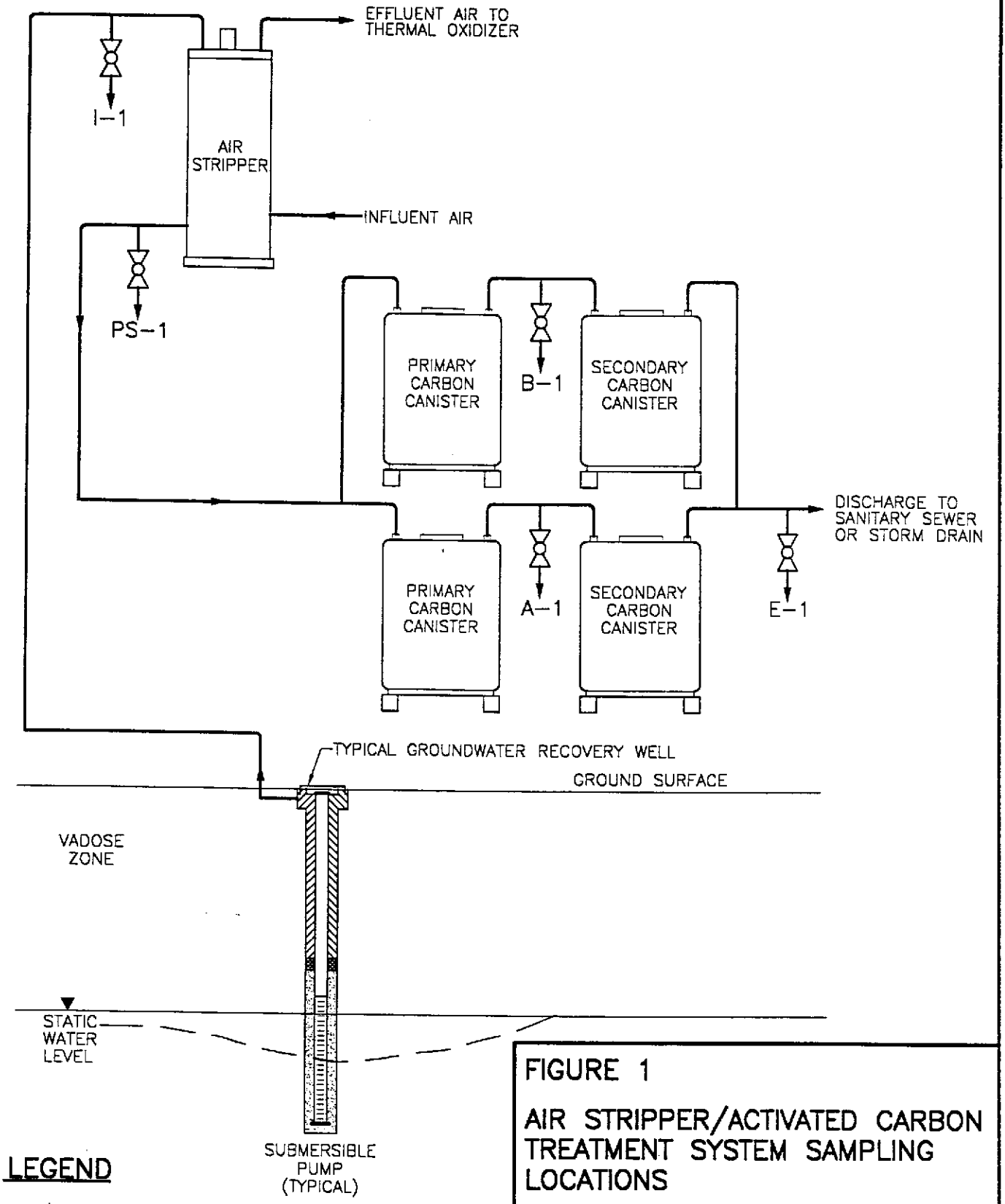
TABLE 2 - SUMMARY OF RESULTS OF GROUNDWATER REMEDIATION SYSTEM SAMPLE ANALYSIS
BP OIL COMPANY SERVICE STATION NO. 11133
2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

Sample ID	Date	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DCA (ug/l)	Lead (mg/l)	Lab

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
MTBE	Methyl tert butyl ether
DCA	1,2-Dichloroethane
ug/l	Micrograms per liter
mg/l	Milligrams per liter
I-1	Sample collected from influent sampling port
PS-1	Sample collected from post air stripper sampling port
A-1	Sample collected from intermediate sampling port
B-1	Sample collected from intermediate sampling port
E-1	Sample collected from effluent sampling port
QC-1	Blind duplicate sample
ND	Not detected above reported detection limit
---	Not analyzed
ATI	Analytical Technologies, Inc.
SPL	Southern Petroleum Laboratories



LEGEND

I = INFLUENT
A&B = INTERMEDIATE
E = EFFLUENT

SAMPLE PORT

FIGURE 1

AIR STRIPPER/ACTIVATED CARBON TREATMENT SYSTEM SAMPLING LOCATIONS

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

PROJECT NO. 10–025

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10025IL.DWG 4-9-07 HKW 1-1

ATTACHMENT A

LABORATORY REPORTS AND CHAIN OF CUSTODY RECORDS

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

June 5, 1998

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

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on May 27, 1998. The sample(s) was assigned to Certificate of Analysis No.(s) 9805B76 and analyzed for all parameters as listed on the chain of custody.

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

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

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

Southern Petroleum Laboratories

Joel Grice
Project Manager

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

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-05-B76

Approved for Release by:

Joel Grice, Project Manager Date: 6/5/98

Greg Grandits
Laboratory Director

Cynthia Schreiner
Quality Assurance Officer

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

Certificate of Analysis No. H9-9805B76-01

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

P.O.# N/A, COC#095361
DATE: 06/04/98

PROJECT: #11133, 2220 98th Ave
SITE: Oakland
SAMPLED BY: Alisto Engineering
SAMPLE ID: Sta#-11133-Inf

PROJECT NO: 10-025-16-001
MATRIX: WATER
DATE SAMPLED: 05/22/98 16:55:00
DATE RECEIVED: 05/27/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	2500 P	ug/L
Benzene	20000	120 P	ug/L
Toluene	36000	250 P	ug/L
Ethylbenzene	3600	250 P	ug/L
Total Xylene	24600	250 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	113		
4-Bromofluorobenzene	101		
Method 8020A***			
Analyzed by: LJ			
Date: 06/03/98			
Gasoline Range Organics	210	25 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	127		
4-Bromofluorobenzene	93		
California LUFT Manual for Gasoline			
Analyzed by: LJ			
Date: 06/02/98 05:42:00			

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

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

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

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

Certificate of Analysis No. H9-9805B76-02

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

P.O.# N/A, COC#095361
DATE: 06/04/98

PROJECT: #11133, 2220 98th Ave
SITE: Oakland
SAMPLED BY: Alisto Engineering
SAMPLE ID: Sta#-11133-PS

PROJECT NO: 10-025-16-001
MATRIX: WATER
DATE SAMPLED: 05/22/98 16:59:00
DATE RECEIVED: 05/27/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	500 P	ug/L
Benzene	5400	25 P	ug/L
Toluene	11000	50 P	ug/L
Ethylbenzene	1200	50 P	ug/L
Total Xylene	7200	50 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	117		
4-Bromofluorobenzene	107		
Method 8020A***			
Analyzed by: LJ			
Date: 06/03/98			
Gasoline Range Organics	56	2.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	107		
4-Bromofluorobenzene	100		
California LUFT Manual for Gasoline			
Analyzed by: LJ			
Date: 06/02/98 06:21:00			

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

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

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

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

Certificate of Analysis No. H9-9805B76-03

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

P.O.# N/A, COC#095361
DATE: 06/04/98

PROJECT: #11133, 2220 98th Ave
SITE: Oakland
SAMPLED BY: Alisto Engineering
SAMPLE ID: Sta#-11133-A

PROJECT NO: 10-025-16-001
MATRIX: WATER
DATE SAMPLED: 05/22/98 17:02:00
DATE RECEIVED: 05/27/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	ug/L
Benzene	ND	0.5 P	ug/L
Toluene	ND	1.0 P	ug/L
Ethylbenzene	ND	1.0 P	ug/L
Total Xylene	1.6	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	90		
4-Bromofluorobenzene	87		
Method 8020A***			
Analyzed by: LJ			
Date: 06/01/98			
Gasoline Range Organics	0.12	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	97		
4-Bromofluorobenzene	83		
California LUFT Manual for Gasoline			
Analyzed by: LJ			
Date: 06/01/98 08:20:00			

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

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

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

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

Certificate of Analysis No. H9-9805B76-04

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

P.O.# N/A, COC#095361
DATE: 06/04/98

PROJECT: #11133, 2220 98th Ave
SITE: Oakland
SAMPLED BY: Alisto Engineering
SAMPLE ID: Sta#-11133-B

PROJECT NO: 10-025-16-001
MATRIX: WATER
DATE SAMPLED: 05/22/98 17:04:00
DATE RECEIVED: 05/27/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	ug/L
Benzene	2.4	0.5 P	ug/L
Toluene	2.7	1.0 P	ug/L
Ethylbenzene	2.2	1.0 P	ug/L
Total Xylene	15.8	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	103		
4-Bromofluorobenzene	103		
Method 8020A***			
Analyzed by: LJ			
Date: 06/03/98			
Gasoline Range Organics	0.23	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	90		
California LUFT Manual for Gasoline			
Analyzed by: LJ			
Date: 06/02/98 06:58:00			

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

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

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

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

Certificate of Analysis No. H9-9805B76-05

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

P.O.# N/A, COC#095361
DATE: 06/04/98

PROJECT: #11133, 2220 98th Ave
SITE: Oakland
SAMPLED BY: Alisto Engineering
SAMPLE ID: Sta#-11133-Eff

PROJECT NO: 10-025-16-001
MATRIX: WATER
DATE SAMPLED: 05/22/98 17:08:00
DATE RECEIVED: 05/27/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	ug/L
Benzene	ND	0.5 P	ug/L
Toluene	ND	1.0 P	ug/L
Ethylbenzene	ND	1.0 P	ug/L
Total Xylene	ND	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	110		
4-Bromofluorobenzene	97		
Method 8020A***			
Analyzed by: LJ			
Date: 06/03/98			
Gasoline Range Organics	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	83		
California LUFT Manual for Gasoline			
Analyzed by: LJ			
Date: 06/02/98 07:36:00			

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.
SPL California License # 1903

QUALITY CONTROL

DOCUMENTATION

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

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020

Matrix: Aqueous
Units: ug/L

Batch Id: VARD980602193400

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	50	100	72 - 128
Benzene	ND	50	56	112	61 - 119
Toluene	ND	50	57	114	65 - 125
EthylBenzene	ND	50	53	106	70 - 118
O Xylene	ND	50	54	108	72 - 117
M & P Xylene	ND	100	110	110	72 - 116

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	ND	20	24	120	21	105	13.3	20	39 - 150
BENZENE	2.4	20	20	88.0	20	88.0	0	21	32 - 164
TOLUENE	2.7	20	20	86.5	20	86.5	0	20	38 - 159
ETHYLBENZENE	2.2	20	20	89.0	19	84.0	5.78	19	52 - 142
O XYLENE	4.8	20	23	91.0	23	91.0	0	18	53 - 143
M & P XYLENE	11	40	45	85.0	43	80.0	6.06	17	53 - 144

Analyst: LJ
Sequence Date: 06/02/98
SPL ID of sample spiked: 9805B76-04A
Sample File ID: D_F1061.TXO
Method Blank File ID:
Blank Spike File ID: D_F1052.TXO
Matrix Spike File ID: D_F1056.TXO
Matrix Spike Duplicate File ID: D_F1057.TXO

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

SAMPLES IN BATCH(SPL ID): 9805B76-01A 9805B76-02A 9805B74-04A 9805B74-05A 9805B74-06A 9805B74-07A 9805B76-04A 9805B76-05A 9805A49-01A 9805A49-02A

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

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020

Matrix: Aqueous
Units: ug/L

Batch Id: VARD980601105900

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	47	94.0	72 - 128
Benzene	ND	50	49	98.0	61 - 119
Toluene	ND	50	49	98.0	65 - 125
EthylBenzene	ND	50	49	98.0	70 - 118
O Xylene	ND	50	49	98.0	72 - 117
M & P Xylene	ND	100	98	98.0	72 - 116

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	ND	20	22	110	21	105	4.65	20	39 - 150
BENZENE	ND	20	20	100	20	100	0	21	32 - 164
TOLUENE	ND	20	21	105	19	95.0	10.0	20	38 - 159
ETHYLBENZENE	ND	20	20	100	20	100	0	19	52 - 142
O XYLENE	ND	20	20	100	20	100	0	18	53 - 143
M & P XYLENE	ND	40	41	102	40	100	1.98	17	53 - 144

Analyst: LJ
Sequence Date: 06/01/98
SPL ID of sample spiked: 9805C23-09A
Sample File ID: D_F1013.TX0
Method Blank File ID:
Blank Spike File ID: D_F1005.TX0
Matrix Spike File ID: D_F1008.TX0
Matrix Spike Duplicate File ID: D_F1009.TX0

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

SAMPLES IN BATCH(SPL ID): 9805C23-02A 9805B80-02A 9805B80-03A 9805B81-01A 9805B81-02A 9805B81-03A 9805C23-01A 9805B74-01A 9805B74-02A 9805B74-03A 9805C23-09A 9805B76-03A 9805B80-04A 9805C23-03A

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

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

Matrix: Aqueous
Units: mg/L

Batch Id: VARD980601113700

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Gasoline Range Organics	ND	1.0	0.82	82.0	64 - 131

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
GASOLINE RANGE ORGANICS	0.12	0.90	0.79	74.4	0.75	70.0	6.09	36	36 - 160

Analyst: LJ
Sequence Date: 06/01/98
SPL ID of sample spiked: 9805B76-03A
Sample File ID: DDF1014.TX0
Method Blank File ID:
Blank Spike File ID: DDF1006.TX0
Matrix Spike File ID: DDF1010.TX0
Matrix Spike Duplicate File ID: DDF1011.TX0

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

SAMPLES IN BATCH(SPL ID): 9805B76-04A 9805B76-05A 9805B76-03A 9805B76-01A 9805B76-02A

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

980SB76

CHAIN OF CUSTODY

No. 095361

Page 1 of 1

CONSULTANT'S NAME: Alisto	CONSULTANT'S ADDRESS: 1575 Treat Blvd #201 WC CA		
BP SITE NUMBER: 11133	BP SITE / FACILITY ADDRESS: 2220 98th Ave OAKLAND		CONSULTANT PROJECT NUMBER: 10-025-16-001
CONSULTANT PROJECT MANGER: Peter BEAVER	PHONE NUMBER: 925-295-1650	FAX NUMBER: 295-1823	CONSULTANT CONTRACT NUMBER:
BP CONTACT: Scott Hooten	BP ADDRESS: Renton WA	PHONE NUMBER:	FAX NO.
LAB CONTACT:	LABORATORY ADDRESS:	PHONE NUMBER:	FAX NO.
BP CONTACT REQUESTING RUSH TAT (Print BP Contact Name)	RUSH REQUESTED OF (Print Consultant Contact Name)	DATE/TIME	SHIPMENT DATE: 5/26/98 / SHIPMENT METHOD: Fed Ex

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

ANALYSIS REQUIRED

AIRBILL NUMBER: 384847264 4

SAMPLE DESCRIPTION	COLLECTION DATE	COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH GAS	BTEX MTBE							COMMENTS
	5/22/98														
Sta # - 11133 - INF		1655	GW	3	VOA		X	X	X						
Sta # - 11133 - PS		1659					X	X	X						
Sta # - 11133 - A		1702					X	X	X						
Sta # - 11133 - B		1704					X	X	X						
Sta # - 11133 - EFF	✓	1708	✓	✓	✓		X	X	X						

SAMPLED BY (Please Print Name): Scott Polston

SAMPLED BY (Signature):

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION (Print Name / Signature)	DATE	TIME	ACCEPTED BY /AFFILIATION (Print Name / Signature)	DATE	TIME
	5/26/98		R. Yeeton	5/26/98	0900
P. Yelton	5/26/98	1530		5/27/98	1000

4c

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

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

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
5-27-98	1000

SPL Sample ID:
9805B76

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		4 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	384847264 4	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
[signature]	5-27-98

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

June 29, 1998

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

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on June 19, 1998. The sample(s) was assigned to Certificate of Analysis No.(s) 9806927 and analyzed for all parameters as listed on the chain of custody.

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

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

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

Southern Petroleum Laboratories

for Joel Gice
Senior Organic Project Manager

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

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-06-927

Approved for Release by:

for Joel Grice, Senior Organic Project Manager

6/29/98
Date:

Greg Grandits
Laboratory Director

Cynthia Schreiner
Quality Assurance Officer

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

Certificate of Analysis No. H9-9806927-01

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

P.O.# H157730, COC#098071
DATE: 06/26/98

PROJECT: #11133, 2220 98th Ave
SITE: Oakland
SAMPLED BY: Alisto Engineering
SAMPLE ID: STA 11133-Inf

PROJECT NO: 10-025-16-001
MATRIX: WATER
DATE SAMPLED: 06/17/98 17:47:00
DATE RECEIVED: 06/19/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	250 P	ug/L
Benzene	6000	12 P	ug/L
Toluene	26000	100 P	ug/L
Ethylbenzene	2300	25 P	ug/L
Total Xylene	23000	25 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	149MI		
4-Bromofluorobenzene	104		
Method 8020A***			
Analyzed by: LJ			
Date: 06/26/98			
Gasoline Range Organics	230	5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	127		
4-Bromofluorobenzene	110		
California LUFT Manual for Gasoline			
Analyzed by: LJ			
Date: 06/26/98 12:34:00			

ND - Not detected.
MI - Matrix interference.
(P) - Practical Quantitation Limit

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

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

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

Certificate of Analysis No. H9-9806927-02

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

P.O.# H157730, COC#098071
DATE: 06/26/98

PROJECT: #11133, 2220 98th Ave
SITE: Oakland
SAMPLED BY: Alisto Engineering
SAMPLE ID: STA 11133-PS

PROJECT NO: 10-025-16-001
MATRIX: WATER
DATE SAMPLED: 06/17/98 18:01:00
DATE RECEIVED: 06/19/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	330	50 P	ug/L
Benzene	4200	50 P	ug/L
Toluene	14000	100 P	ug/L
Ethylbenzene	2200	100 P	ug/L
Total Xylene	13900	100 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	103		
4-Bromofluorobenzene	103		
Method 8020A***			
Analyzed by: LJ			
Date: 06/26/98			
Gasoline Range Organics	96	5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	107		
California LUFT Manual for Gasoline			
Analyzed by: LJ			
Date: 06/26/98 01:00:00			

(P) - Practical Quantitation Limit

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

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SPL California License # 1903

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

Certificate of Analysis No. H9-9806927-03

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

P.O.# H157730, COC#098071
DATE: 06/26/98

PROJECT: #11133, 2220 98th Ave
SITE: Oakland
SAMPLED BY: Alisto Engineering
SAMPLE ID: STA 11133-A

PROJECT NO: 10-025-16-001
MATRIX: WATER
DATE SAMPLED: 06/17/98 18:03:00
DATE RECEIVED: 06/19/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	ug/L
Benzene	ND	0.5 P	ug/L
Toluene	7.7	1.0 P	ug/L
Ethylbenzene	24	1.0 P	ug/L
Total Xylene	132	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	120		
4-Bromofluorobenzene	103		
Method 8020A***			
Analyzed by: LJ			
Date: 06/26/98			
Gasoline Range Organics	1.4	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	137		
4-Bromofluorobenzene	103		
California LUFT Manual for Gasoline			
Analyzed by: LJ			
Date: 06/26/98 12:08:00			

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

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

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

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

Certificate of Analysis No. H9-9806927-04

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

P.O.# H157730, COC#098071
DATE: 06/26/98

PROJECT: #11133, 2220 98th Ave
SITE: Oakland
SAMPLED BY: Alisto Engineering
SAMPLE ID: STA 11133-B

PROJECT NO: 10-025-16-001
MATRIX: WATER
DATE SAMPLED: 06/17/98 18:05:00
DATE RECEIVED: 06/19/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	ug/L
Benzene	0.85	0.5 P	ug/L
Toluene	10	1.0 P	ug/L
Ethylbenzene	15	1.0 P	ug/L
Total Xylene	90	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	103		
4-Bromofluorobenzene	103		
Method 8020A***			
Analyzed by: LJ			
Date: 06/25/98			
Gasoline Range Organics	1.0	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	117		
4-Bromofluorobenzene	113		
California LUFT Manual for Gasoline			
Analyzed by: LJ			
Date: 06/25/98 07:08:00			

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

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

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

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

Certificate of Analysis No. H9-9806927-05

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

P.O.# H157730, COC#098071
DATE: 06/26/98

PROJECT: #11133, 2220 98th Ave
SITE: Oakland
SAMPLED BY: Alisto Engineering
SAMPLE ID: STA 11133-Eff

PROJECT NO: 10-025-16-001
MATRIX: WATER
DATE SAMPLED: 06/17/98 18:07:00
DATE RECEIVED: 06/19/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	ug/L
Benzene	ND	0.5 P	ug/L
Toluene	ND	1.0 P	ug/L
Ethylbenzene	ND	1.0 P	ug/L
Total Xylene	ND	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	100		
4-Bromofluorobenzene	100		
Method 8020A***			
Analyzed by: LJ			
Date: 06/25/98			
Gasoline Range Organics	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	97		
4-Bromofluorobenzene	107		
California LUFT Manual for Gasoline			
Analyzed by: LJ			
Date: 06/25/98 07:34:00			

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

QUALITY CONTROL

DOCUMENTATION

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

** SPL BATCH QUALITY CONTROL REPORT **

METHOD 8020

Batch Id: VARE980625190000

Matrix: Aqueous

Units: ug/L

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	49	98.0	72 - 128
Benzene	ND	50	51	102	61 - 119
Toluene	ND	50	51	102	65 - 125
EthylBenzene	ND	50	52	104	70 - 118
O Xylene	ND	50	52	104	72 - 117
M & P Xylene	ND	100	100	100	72 - 116

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	410	20	460	NC	420	NC	NC	20	39 - 150
BENZENE	ND	20	17	85.0	18	90.0	5.71	21	32 - 164
TOLUENE	ND	20	18	90.0	18	90.0	0	20	38 - 159
ETHYLBENZENE	ND	20	19	95.0	19	95.0	0	19	52 - 142
O XYLENE	ND	20	19	95.0	19	95.0	0	18	53 - 143
M & P XYLENE	ND	40	37	92.5	37	92.5	0	17	53 - 144

Analyst: LJ

Sequence Date: 06/25/98

SPL ID of sample spiked: 9806A59-13A

Sample File ID: E_F4155.TX0

Method Blank File ID:

Blank Spike File ID: E_F4148.TX0

Matrix Spike File ID: E_F4150.TX0

Matrix Spike Duplicate File ID: E_F4151.TX0

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

« = Data outside Method Specification limits.

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

ND = Not Detected/Below Detection Limit

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

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

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

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

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

SAMPLES IN BATCH(SPL ID): 9806A59-02A 9806A59-10A 9806A62-02A 9806A62-03A 9806A64-01A 9806A59-13A 9806927-03A 9806927-01A 9806927-02A

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

** SPL BATCH QUALITY CONTROL REPORT **

METHOD 8020

Matrix: Aqueous

Units: ug/L

Batch Id: VARE980625025200

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	50	42	84.0	72 - 128
Benzene	ND	50	50	100	61 - 119
Toluene	ND	50	49	98.0	65 - 125
EthylBenzene	ND	50	44	88.0	70 - 118
O Xylene	ND	50	51	102	72 - 117
M & P Xylene	ND	100	100	100	72 - 116

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	ND	20	17	85.0	17	85.0	0	20	39 - 150
BENZENE	ND	20	17	85.0	18	90.0	5.71	21	32 - 164
TOLUENE	10	20	27	85.0	28	90.0	5.71	20	38 - 159
ETHYLBENZENE	15	20	31	80.0	33	90.0	11.8	19	52 - 142
O XYLENE	23	20	43	100	45	110	9.52	18	53 - 143
M & P XYLENE	67	40	100	82.5	110	108	26.8 *	17	53 - 144

Analyst: LJ
Sequence Date: 06/25/98
SPL ID of sample spiked: 9806927-04A
Sample File ID: E_F4121.TX0
Method Blank File ID:
Blank Spike File ID: E_F4114.TX0
Matrix Spike File ID: E_F4116.TX0
Matrix Spike Duplicate File ID: E_F4117.TX0

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

SAMPLES IN BATCH(SPL ID):

9806918-01A 9806613-05A 9806697-02A 9806613-11A
9806868-01A 9806941-02A 9806941-04A 9806941-05A
9806941-06A 9806942-01A 9806942-03A 9806941-02A
9806942-02A 9806942-01A 9806927-04A 9806927-05A
9806915-03A 9806915-04A

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

** SPL BATCH QUALITY CONTROL REPORT **

California LUFT Manual for Gasoline

Batch Id: VARE980625192510

Units: mg/L

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Gasoline Range Organics	ND	1.0	1.11	111	64 - 131

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
GASOLINE RANGE ORGANICS	ND	0.90	0.77	85.6	0.87	96.7	12.2	36	36 - 160

Analyst: LJ

Sequence Date: 06/25/98

SPL ID of sample spiked: 9806827-01B

Sample File ID: EEF4156.TX0

Method Blank File ID:

Blank Spike File ID: EEF4149.TX0

Matrix Spike File ID: EEF4152.TX0

Matrix Spike Duplicate File ID: EEF4153.TX0

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

« = Data outside Method Specification limits.

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

ND = Not Detected/Below Detection Limit

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

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

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

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

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

SAMPLES IN BATCH(SPL ID): 9806927-03A 9806927-01A 9806927-02A

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

** SPL BATCH QUALITY CONTROL REPORT **

California LUFT Manual for Gasoline

Matrix: Aqueous

Batch Id: VARE980625031700

Units: mg/L

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Gasoline Range Organics	ND	1.0	1.06	106	64 - 131

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
GASOLINE RANGE ORGANICS	ND	0.90	0.65	72.2	0.59	65.6	9.58	36	36 - 160

Analyst: LJ

Sequence Date: 06/25/98

SPL ID of sample spiked: 9806927-05A

Sample File ID: EEF4122.TX0

Method Blank File ID:

Blank Spike File ID: EEF4115.TX0

Matrix Spike File ID: EEF4118.TX0

Matrix Spike Duplicate File ID: EEF4119.TX0

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

« = Data outside Method Specification limits.

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

ND = Not Detected/Below Detection Limit

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

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

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

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

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

SAMPLES IN BATCH(SPL ID): 9806927-04A 9806927-05A

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

9806927

CHAIN OF CUSTODY

No. 098071

Page 1 of 1

CONSULTANT'S NAME: Alisto Engineering	CONSULTANT'S ADDRESS: 1575 Treat Blvd #201 WC CA 94598		
BP SITE NUMBER: 11133	BP SITE / FACILITY ADDRESS: 2220 98th Ave Oakland		CONSULTANT PROJECT NUMBER: 10-025-16-001
CONSULTANT PROJECT MANGER: Peter Beaver	PHONE NUMBER: 926-295-1650	FAX NUMBER: 295-1823	CONSULTANT CONTRACT NUMBER: H157730
BP CONTACT: Scott Hooton	BP ADDRESS: Renton WA	PHONE NUMBER: -	FAX NO.: -
LAB CONTACT: EDFRT	LABORATORY ADDRESS: Houston Tx	PHONE NUMBER: -	FAX NO.: -
BP CONTACT REQUESTING RUSH TAT (Print BP Contact Name)	RUSH REQUESTED OF (Print Consultant Contact Name) DATE/TIME	SHIPMENT DATE: 6/18/98	SHIPMENT METHOD: Fed Ex

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

ANALYSIS REQUIRED

AIRBILL NUMBER: 805188475493

SAMPLE DESCRIPTION	COLLECTION DATE	COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	HCl TPH GAS	HCl BTEX	COMMENTS
Sta 11133 - INF	6/17/98	1747	GW	3	VOA		X	X	
Sta 11133 - PS		1801							
Sta 11133 - A		1803							
Sta 11133 - B		1805							
Sta 11133 - Eff		1807							

4

SAMPLED BY (Please Print Name)

SAMPLED BY (Signature)

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION (Print Name / Signature)	DATE	TIME	ACCEPTED BY /AFFILIATION (Print Name / Signature)	DATE	TIME
Scott Preston			P. Yelton	6/18/98	1200
P. Yelton	6/18/98	1400			
			Cindy Turrell	6-19-98	1000

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

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

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
6-19-98	1000

SPL Sample ID:
9806927

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		4 C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	805188475493	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
[signature]	6-19-98

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

October 7, 1998

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

The following report contains analytical results for the sample(s) received at Southern Petroleum Laboratories (SPL) on October 1, 1998. The sample(s) was assigned to Certificate of Analysis No.(s) 9810017 and analyzed for all parameters as listed on the chain of custody.

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

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

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

Southern Petroleum Laboratories

Sonia West

Sonia West
Senior Project Manager

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

Southern Petroleum Laboratories, Inc.

Certificate of Analysis Number: 98-10-017

Approved for Release by:

Sonia West
Sonia West, Senior Project Manager

10-8-98
Date

Greg Grandits
Laboratory Director

Cynthia Schreiner
Quality Assurance Officer

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

Certificate of Analysis No. H9-9810017-01

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

P.O.# H157730, COC#096027
DATE: 10/07/98

PROJECT: #11133, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: I-1

PROJECT NO: 10-025-16/001
MATRIX: WATER
DATE SAMPLED: 09/26/98 13:00:00
DATE RECEIVED: 10/01/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	1200	1000 P	ug/L
Benzene	20000	50 P	ug/L
Toluene	35000	100 P	ug/L
Ethylbenzene	3900	100 P	ug/L
Total Xylene	21300	100 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	117		
4-Bromofluorobenzene	97		
Method 8020A***			
Analyzed by: AA			
Date: 10/06/98			
Gasoline Range Organics	150	5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	107		
California LUFT Manual for Gasoline			
Analyzed by: AA			
Date: 10/06/98 13:31:00			

(P) - Practical Quantitation Limit

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

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

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

Certificate of Analysis No. H9-9810017-02

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

P.O.# H157730, COC#096027
DATE: 10/07/98

PROJECT: #11133, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: PS-1

PROJECT NO: 10-025-16/001
MATRIX: WATER
DATE SAMPLED: 09/26/98 13:07:00
DATE RECEIVED: 10/01/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	1000 P	ug/L
Benzene	11000	50 P	ug/L
Toluene	19000	100 P	ug/L
Ethylbenzene	1900	100 P	ug/L
Total Xylene	11800	100 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	110		
4-Bromofluorobenzene	100		
Method 8020A***			
Analyzed by: AA			
Date: 10/06/98			
Gasoline Range Organics	79	5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	90		
4-Bromofluorobenzene	103		
California LUFT Manual for Gasoline			
Analyzed by: AA			
Date: 10/06/98 13:05:00			

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

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

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

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

Certificate of Analysis No. H9-9810017-03

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

P.O.# H157730, COC#096027
DATE: 10/07/98

PROJECT: #11133, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: A-1

PROJECT NO: 10-025-16/001
MATRIX: WATER
DATE SAMPLED: 09/26/98 13:10:00
DATE RECEIVED: 10/01/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	ug/L
Benzene	ND	0.5 P	ug/L
Toluene	ND	1.0 P	ug/L
Ethylbenzene	ND	1.0 P	ug/L
Total Xylene	ND	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	97		
4-Bromofluorobenzene	100		
Method 8020A***			
Analyzed by: AA			
Date: 10/06/98			
Gasoline Range Organics	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	80		
4-Bromofluorobenzene	93		
California LUFT Manual for Gasoline			
Analyzed by: AA			
Date: 10/06/98 12:40:00			

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

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

Certificate of Analysis No. H9-9810017-04

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

P.O.# H157730, COC#096027
DATE: 10/07/98

PROJECT: #11133, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: B-1

PROJECT NO: 10-025-16/001
MATRIX: WATER
DATE SAMPLED: 09/26/98 13:17:00
DATE RECEIVED: 10/01/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	ug/L
Benzene	ND	0.5 P	ug/L
Toluene	ND	1.0 P	ug/L
Ethylbenzene	ND	1.0 P	ug/L
Total Xylene	ND	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	100		
Method 8020A***			
Analyzed by: AA			
Date: 10/06/98			
Gasoline Range Organics	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	80		
4-Bromofluorobenzene	93		
California LUFT Manual for Gasoline			
Analyzed by: AA			
Date: 10/06/98 12:14:00			

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

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

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

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

Certificate of Analysis No. H9-9810017-05

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

P.O.# H157730, COC#096027
DATE: 10/07/98

PROJECT: #11133, N/A
SITE: Oakland, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: E

PROJECT NO: 10-025-16/001
MATRIX: WATER
DATE SAMPLED: 09/26/98 13:19:00
DATE RECEIVED: 10/01/98

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	ug/L
Benzene	ND	0.5 P	ug/L
Toluene	ND	1.0 P	ug/L
Ethylbenzene	ND	1.0 P	ug/L
Total Xylene	ND	1.0 P	ug/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	97		
4-Bromofluorobenzene	100		
Method 8020A***			
Analyzed by: AA			
Date: 10/06/98			
Gasoline Range Organics	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	83		
4-Bromofluorobenzene	97		
California LUFT Manual for Gasoline			
Analyzed by: AA			
Date: 10/06/98 11:49:00			

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.

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SPL California License # 1903

QUALITY CONTROL

DOCUMENTATION

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

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020

Matrix: Aqueous
Units: ug/L

Batch Id: VARE981006044400

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
MTBE	ND	100	110	110	72 - 128
Benzene	ND	100	110	110	61 - 119
Toluene	ND	100	110	110	65 - 125
EthylBenzene	ND	100	110	110	70 - 118
O Xylene	ND	100	110	110	72 - 117
M & P Xylene	ND	200	230	115	72 - 116

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	ND	100	100	100	120	120	18.2	20	39 - 150
BENZENE	ND	100	99	99.0	110	110	10.5	21	32 - 164
TOLUENE	ND	100	99	99.0	110	110	10.5	20	38 - 159
ETHYLBENZENE	ND	100	97	97.0	110	110	12.6	19	52 - 142
O XYLENE	ND	100	90	90.0	110	110	20.0 *	18	53 - 143
M & P XYLENE	ND	200	190	95.0	220	110	14.6	17	53 - 144

Analyst: AA
Sequence Date: 10/06/98
SPL ID of sample spiked: 9810032-20A
Sample File ID: E_J1037.TXO
Method Blank File ID:
Blank Spike File ID: E_J1035.TXO
Matrix Spike File ID: E_J1053.TXO
Matrix Spike Duplicate File ID: E_J1054.TXO

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

SAMPLES IN BATCH(SPL ID):

9810017-03A 9810017-02A 9810017-01A 9810032-22A
9810032-02A 9810032-16A 9810032-19A 9810032-25A
9810032-26A 9810032-27A 9810032-28A 9810032-29A
9810032-30A 9810032-20A 9810032-21A 9810032-23A
9810032-24A 9810017-05A 9810017-04A

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

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

Matrix: Aqueous
Units: mg/L

Batch Id: VARE981006075200

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Gasoline Range Organics	ND	1.0	1.0	100	64 - 131

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
GASOLINE RANGE ORGANICS	ND	0.90	0.87	96.7	0.83	92.2	4.76	36	36 - 160

Analyst: AA
Sequence Date: 10/06/98
SPL ID of sample spiked: 9810032-21A
Sample File ID: EEJ1038.TXO
Method Blank File ID:
Blank Spike File ID: EEJ1042.TXO
Matrix Spike File ID: EEJ1056.TXO
Matrix Spike Duplicate File ID: EEJ1057.TXO

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

SAMPLES IN BATCH(SPL ID): 9810032-21A 9810017-05A 9810017-04A 9810017-03A 9810017-02A 9810017-01A

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

9810017

CHAIN OF CUSTODY

No. 096027

Page ____ of ____

CONSULTANT'S NAME: Alisto Engineering	CONSULTANT'S ADDRESS: 1575 Tice Blvd #201 W.C. Ca 94598		
BP SITE NUMBER: 11133	BP SITE / FACILITY ADDRESS: Oakland, Ca		CONSULTANT PROJECT NUMBER: 10-025-16/001
CONSULTANT PROJECT MANGER: Kin Leung	PHONE NUMBER: (925) 295-1650	FAX NUMBER: 295-1823	CONSULTANT CONTRACT NUMBER: #157730
BP CONTACT: Scott Hooton	BP ADDRESS: Renton, WA	PHONE NUMBER:	FAX NO.:
LAB CONTACT: SPL	LABORATORY ADDRESS: Texas	PHONE NUMBER:	FAX NO.:
BP CONTACT REQUESTING RUSH TAT (Print BP Contact Name)	RUSH REQUESTED OF (Print Consultant Contact Name)	DATE/TIME	SHIPMENT DATE: SHIPMENT METHOD: Fed Ex

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

ANALYSIS REQUIRED

AIRBILL NUMBER: 384847215 4

SAMPLE DESCRIPTION	COLLECTION DATE	COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE	LAB SAMPLE #	TPH-D EPA 8015	BTEX EPA 8020	COMMENTS
I - 1	9/26/98	1300	H2O	3	HCL VOAs			X	X	O+M
PS - 1	↓	1307	↓	↓	↓			X	X	↓
A - 1	↓	1310	↓	↓	↓			X	X	↓
B - 1	↓	1317	↓	↓	↓			X	X	↓
E	9/26/98	1319	H2O	3	HCL VOAs			X	X	↓

RUSH intact MTY

SAMPLED BY (Please Print Name)

SAMPLED BY (Signature)

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION (Print Name / Signature)	DATE	TIME	ACCEPTED BY / AFFILIATION (Print Name / Signature)	DATE	TIME
	9/28/98				
			Luther Ott	10/1/98	1000

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

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

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
10/1/98	1000

SPL Sample ID:
9810017

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.		✓	
7	If no, Non-Conformance Worksheet has been completed.			
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		4 C	
10	Method of sample delivery to SPL:	**SPL Delivery**		
		Client Delivery		
		FedEx Delivery (airbill #)	384847215	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
Ruben Stahl	10/1/98