12/30/96 ① When will add'l offsite MWs be installed
② What about risk assessment. after add'l well install
③ has neighborhood been evaluated for basements
also collect add'l soil data

used to approve location of MW proposed - any basements?

BP OIL

BP Oil Company
Environmental Resources Management
Building 13, Suite N
295 SW 41st Street
Renton, Washington 98055-4931
(206) 251-0667
Fax No: (206) 251-0736

December 18, 1996

Ms. Eva Chu
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94542-6577

RE: BP OIL FACILITY #11133
2220 98th Avenue
Oakland CA

ENVIRONMENTAL PROTECTION
96 DEC 27 PM 12:53

Dear Ms Chu:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT, Dated DECEMBER 2, 1996** for the above referenced facility. Plans for the following quarter include additional groundwater monitoring and continued operation and maintenance of the remediation system.

If you should have any questions regarding this site, I may be reached at (206) 251-0689.

Respectfully,

Scott T. Hooton
Environmental Resources Management
Corrective Action Manager

STH:sb mswordERM11133

cc: Mr. Brady Nagle, Alisto Engineering Group, 1575 Treat Blvd., Ste 201, Walnut Creek, CA 94598

TOSCO Northwest Co., 601 Union Street, Suite 2500, Seattle, WA 98101

Mr. Richard Hiett, CRWQCB,San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland CA 94612

Site File

6/17/96
Wait for results of field insp to verify no sub/basements of concern before approving MP

GROUNDWATER MONITORING AND SAMPLING REPORT

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

5 1996

Project No. 10-025-13-001

Prepared for:

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

Prepared by:

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

December 2, 1996

Ken Simas
Project Manager

Al Sevilla, P.E.
Principal

REGISTERED PROFESSIONAL ENGINEER
ALBERTO SANCHEZ SEVILLA
26302
Exp. Date 3/31/00
CIVIL
STATE OF CALIFORNIA

GROUNDWATER MONITORING AND SAMPLING REPORT

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

Project No. 10-025-13-001

December 2, 1996

INTRODUCTION

This report presents the results and findings of the October 11, 1996 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 (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-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	---	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-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	---	---	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	---	---	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

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 (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-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	---	---	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	---	---	PACE
MW-3	07/15/93	36.53	16.82	---	19.71	1400	1.2	ND<0.5	2.0	3.5	---	---	PACE
MW-3	10/21/93	36.53	18.84	---	17.69	370	2.1	2.3	2.3	6.0	---	---	PACE
MW-3	01/27/94	36.53	18.00	---	18.53	1300	6.3	ND<0.5	ND<0.5	ND<0.5	---	---	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	---	1.4	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	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
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 (c)	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 (c)	01/14/93	---	---	---	---	4100	1700	28	130	230	---	---	PACE
AW-1	04/22/93	38.11		---	38.11	39000	14000	530	1800	6100	---	---	PACE
AW-1	07/15/93	38.11	22.50	---	15.61	6200	2200	28	210	540	---	---	PACE
AW-1	10/21/93	38.11	24.32	---	13.79	2400	820	13	55	120	---	---	PACE
AW-1	01/27/94	38.11	23.72	---	14.39	3500	1400	26	130	220	---	---	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 (c)	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 (c)	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 (c)	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

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2220 98TH AVENUE, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
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 (c)	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-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	—	---	PACE
AW-3	10/21/93	39.13	21.88	---	17.25	160	4.8	1.7	1.6	3.6	—	---	PACE
QC-1 (c)	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 (c)	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 (d)	12/21/94	39.13	---	---	---	---	---	---	---	---	---	---	---
AW-3 (d)	01/30/95	39.13	---	---	---	—	---	---	---	---	---	---	---
AW-3 (d)	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 (c)	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 (c)	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 (c)	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 (c)	10/11/96	---	---	---	---	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	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 (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
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 (e)	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	---	---	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	---	---	PACE
AW-4	10/21/93	39.08	25.08	---	14.00	11000	570	83	630	2300	---	---	PACE
AW-4	01/27/94	39.08	24.61	---	14.47	12000	420	460	600	2200	---	---	PACE
AW-4	04/21/94	39.08	22.96	---	16.12	12000	110	250	150	1900	---	1.5	PACE
QC-1 (c)	04/21/94	---	---	---	---	14000	71	160	29	1200	---	---	PACE
AW-4	09/09/94	39.08	23.85	---	15.23	9700	75	64	280	2000	---	2.1	PACE
AW-4 (d)	12/21/94	---	---	---	---	---	---	---	---	---	---	---	---
AW-4 (d)	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 (d)	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 (f)	6.2	SPL
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 (c)	04/22/93	38.51	---	---	---	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 (c)	07/15/93	38.51	---	---	---	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	---	---	PACE
AW-5	10/21/93	38.51	26.05	---	12.46	510	9.6	1.5	17	45	---	---	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	---	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 (c)	12/21/94	38.51	---	---	---	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	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

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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 (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
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 (c)	01/30/95	38.51	---	---	---	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-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	37.60	20.47	---	17.13	ND<50	ND<0.5	ND<1.0	ND<1.0	ND<1.0	ND<10	6.3	SPL

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ALISTO PROJECT NO. 10-025

WELL ID	DATE OF MONITORING/ SAMPLING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
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
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 (g)	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 (g)	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 (f)	7.4	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 (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
QC-2 (h)	10/07/92	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
QC-2 (h)	01/14/93	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (h)	04/22/93	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (h)	07/15/93	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (h)	10/21/93	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (h)	01/27/94	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (h)	04/21/94	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (h)	09/09/94	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (h)	12/21/94	---	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (h)	01/30/95	---	---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
QC-2 (h)	04/10/95	---	---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
QC-2 (h)	06/27/95	---	---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
QC-2 (h)	09/19/95	---	---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	ATI
QC-2 (h)	12/07/95	---	---	---	---	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	ATI
QC-2 (h)	03/28/96	---	---	---	---	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	SPL
QC-2 (h)	06/20/96	---	---	---	---	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	---	SPL

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) Blind duplicate.

(d) Well inaccessible.

(e) Duplicate.

(f) EPA Methods 8020/8260 used.

(g) Well not monitored and/or sampled due to vapor extraction system.

(h) Travel blank.

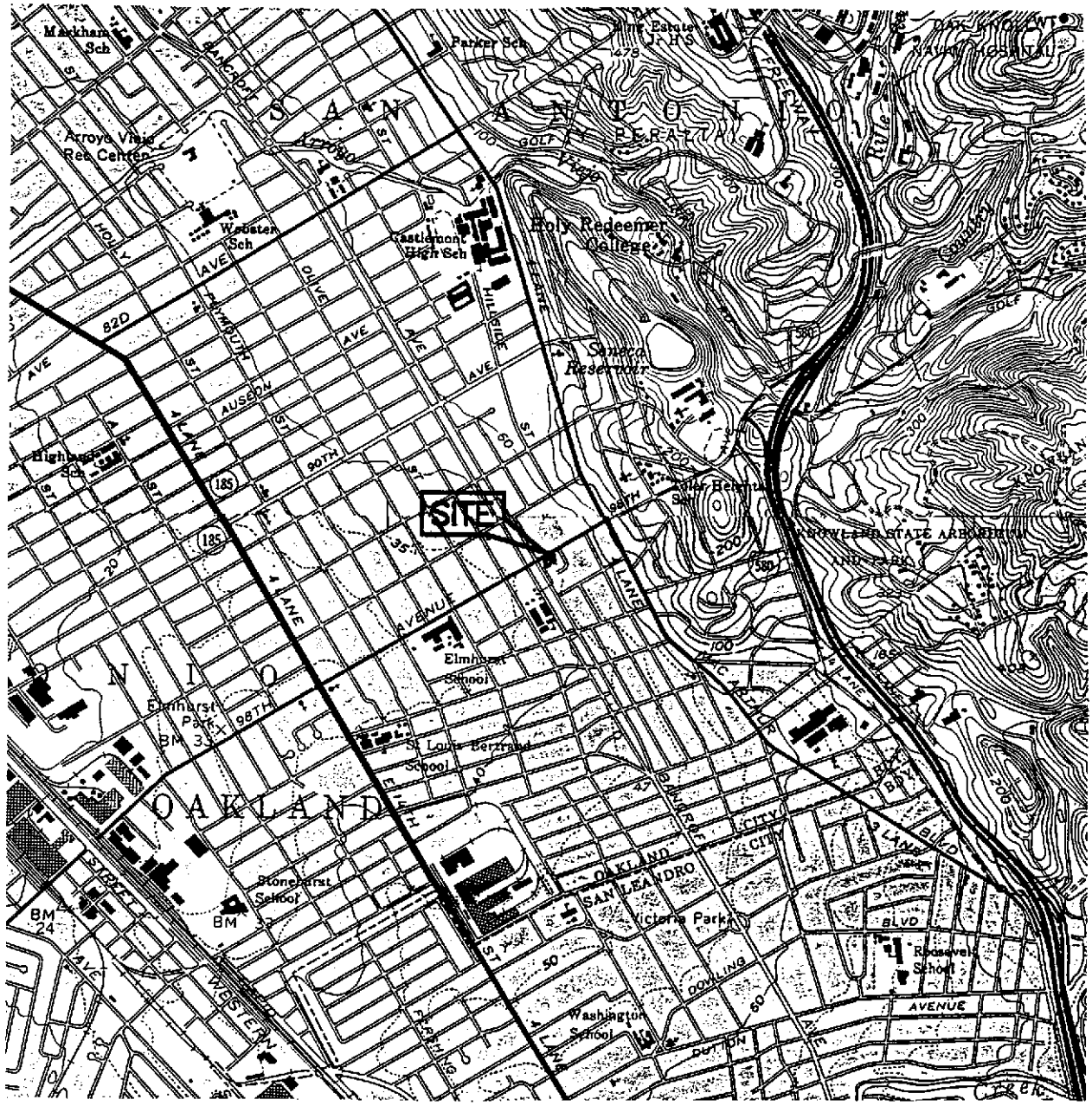
F:\0\10-025\025-13-1.WQ2

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
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

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



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

N

FIGURE 1

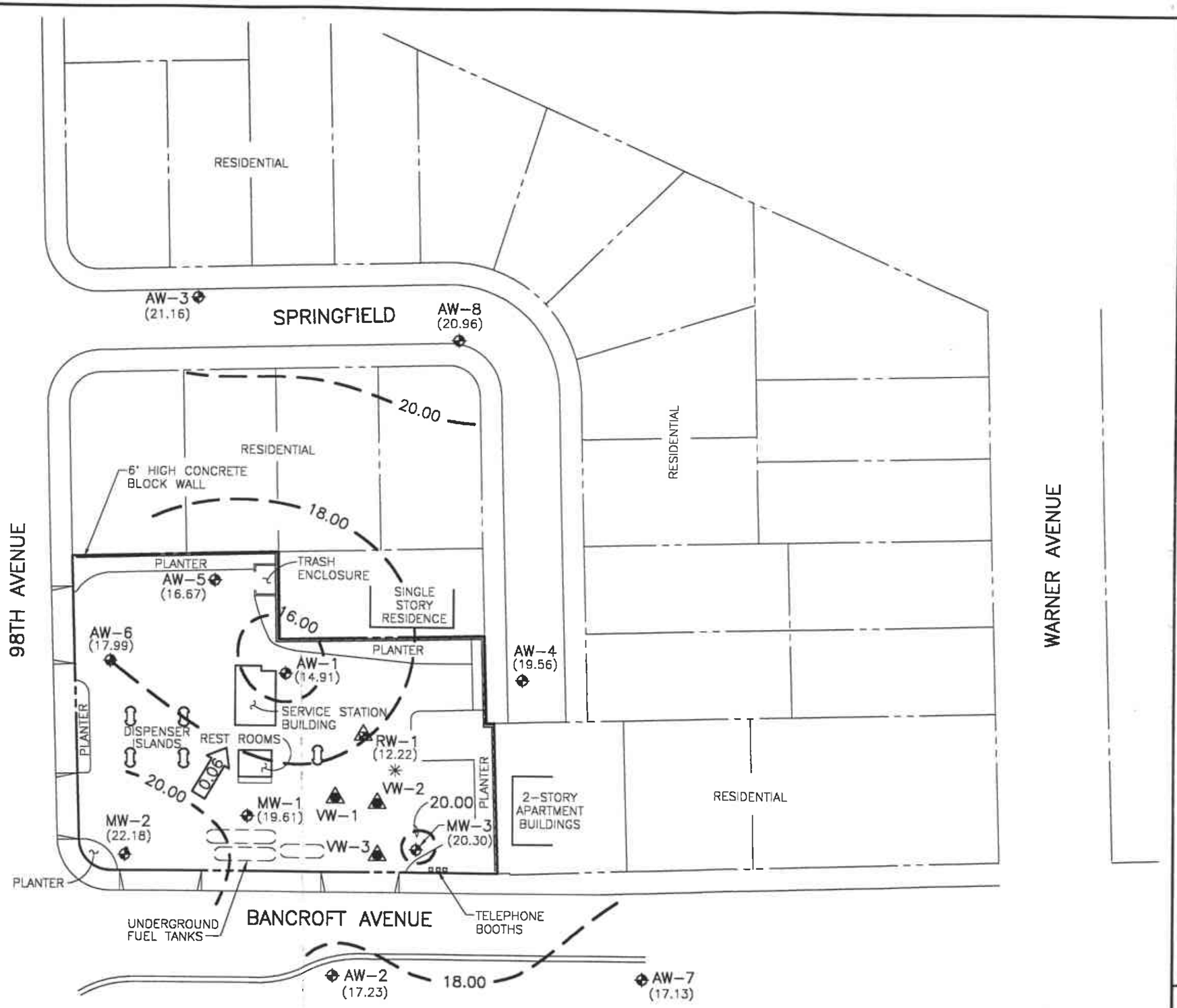
SITE VICINITY MAP

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

PROJECT NO. 10-025

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

100258---.DWG 3-22-94 RKW 1=1



LEGEND

- GROUNDWATER MONITORING WELL
- VAPOR EXTRACTION WELL
- COMBINED GROUNDWATER RECOVERY/VAPOR EXTRACTION WELL
- (17.23) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 18.00 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–2.00 FEET)
- 0.06 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT
- * GROUNDWATER ELEVATION NOT USED IN PREPARING CONTOURS

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

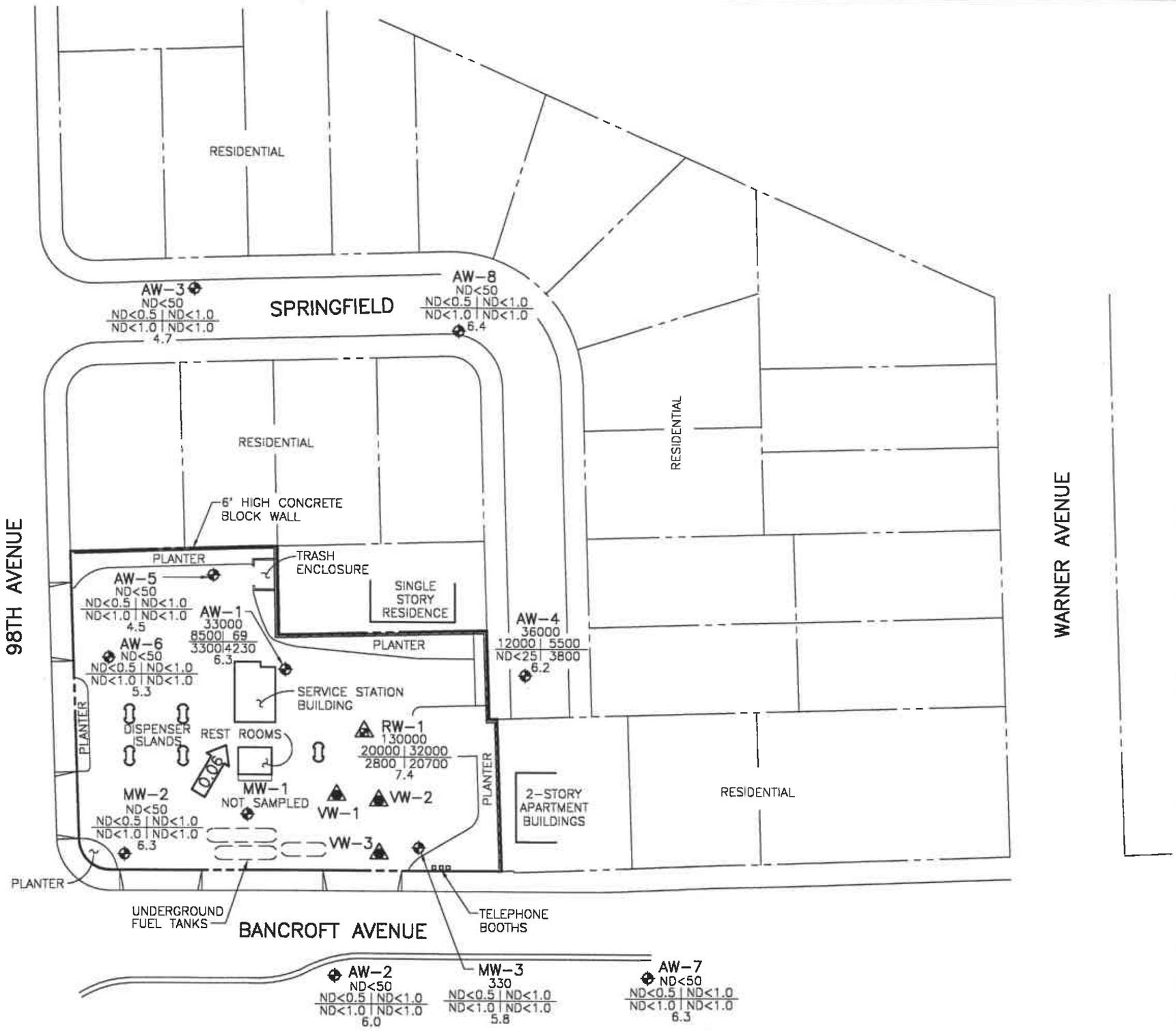
OCTOBER 11, 1996

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

PROJECT NO. 10-025

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

100250-7.DWG 12-3-96 DDM 1=30



N

0 50 100

SCALE IN FEET

LEGEND

◆	GROUNDWATER MONITORING WELL
▲	VAPOR EXTRACTION WELL
◆▲	COMBINED GROUNDWATER RECOVERY/VAPOR EXTRACTION WELL
TPH-G / B | T / E | X / DO	CONCENTRATION OF CONSTITUENTS IN MICROGRAMS PER LITER, EXCEPT DISSOLVED OXYGEN, WHICH IS IN PARTS PER MILLION
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
DO	DISSOLVED OXYGEN
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
0.06	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

OCTOBER 11, 1996

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

PROJECT NO. 10-025

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201

Project No. 10-025-013-001. Date: 10/11/96
Address 2220 98TH Ave. Day: M T W TH F
Contract No. G797553 City: Oakland
Station No. BP 11133 Sampler: LB

DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS:
MW-1	N/S	2"	34'	14.86	.01	0908	PPRS Serviced PPRS Removed 3gal TF <.001 gal gas
MW-2	S-1	2"	34.10'	13.32	Ø	0820	
MW-3	S-9	2"	21.83'	16.23		0853	S-9
AW-1	S-10	2"	38.60'	23.20		0857	
AW-2	S-2	2"	35.20'	19.60		0826	
AW-3	S-3	2"	45'	17.97		0830	Dup must be from this well (Dup S-11)
AW-4	S-8	2"	35'	19.52		0850	Extra MTBE Analysis
AW-5	S-4	4"	42.90'	21.84		0833	
AW-6	S-5	4"	34.20'	19.09		0836	
AW-7	S-6	2"	32.30'	20.47		0840	
AW-8	S-7	2"	39.20'	19.90		0844	
RW-1	S-12	4"	N/M	25.51	irredescence	0900	Operating Sample through dip tube Extra MTBE Analysis

FIELD INSTRUMENT CALIBRATION DATA

pH METER Ion 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED (N) TIME 0802

D.O. METER D ZERO d.O. SOLUTION D BAROMETRIC PRESSURE 760 TEMP 65 WEATHER Clear

CONDUCTIVITY METER _____ 10,000 _____ TURBIDITY METER _____ 5.0 NTU _____ OTHER _____

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-2	13.32	2"	OK	Ø	Y (N)	3	0920	67.7	7.14	287 µS	5.2
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			7		66.8	7.06	263 µS	
34.10-13.32 = 20.78X.16 = 3.32X3=			9.96			10	0929	66.3	7.00	255 µS	6.3
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601_____
X TPH-G/BTEX ACL
O TPH Diesel_____
O TOG 5520 ___
TIME/SAMPLE ID
0933

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
AW-2	19.60	2"	OK	Ø	Y (N)	3	0940	68.2	7.11	266µS	5.4
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			5		67.3	7.03	239µS	
35.20-19.60 = 15.60X.16 = 2.50X3=7.50						7.5	0945	66.4	6.94	233µS	6.0
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601_____
X TPH-G/BTEX ACL
O TPH Diesel_____
O TOG 5520 ___
TIME/SAMPLE ID
0950

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. 10-025-013-001 Date: 10/11/96
Address 2220 98TH Ave. Day: M T W TH F
Contract No. G797553 City: Oakland
Station No. BP 11133 Sampler: CB

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
AW-3	17.97	2"	OIC	Ø	Y (N)	4	0954	68.7	7.29	1020 µS	4.3
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			9		67.3	7.14	1002 µS	
45 - 17.97 = 27.03	x .16 = 4.32	x 3 =	12.96			13	1000	66.6	7.06	992 µS	4.7
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments: BC-1(5-11) From this well											

O EPA 601_____
X TPH-G/BTEX HCL
O TPH Diesel____
O TOG 5520 ___
TIME/SAMPLE ID: 1003

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
AW-5	21.84	4"	OIC	Ø	Y (N)	14	1010	67.6	7.11	455 µS	3.6
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			28		67.2	7.03	437 µS	
42.90 - 21.84 = 21.06	x .65 = 13.69	x 3 =	41.07			42	1028	66.4	6.92	420 µS	4.5
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601_____
X TPH-G/BTEX HCL
O TPH Diesel____
O TOG 5520 ___
TIME/SAMPLE ID: 1030

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
AW-6	19.09	4"	OIC	Ø	Y (N)	10	1036	68.0	7.49	340 µS	4.0
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			20		67.2	7.32	311 µS	
34.20 - 19.09 = 15.11	x .65 = 9.82	x 3 =	29.46			30	1050	66.0	7.26	303 µS	5.3
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

X EPA 601_____
X TPH-G/BTEX HCL
O TPH Diesel____
O TOG 5520 ___
TIME/SAMPLE ID: 1053

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
AW-7	20.47	2"	OIC	Ø	Y (N)	2	1103	68.0	7.36	352 µS	5.4
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			4		67.2	7.14	321 µS	
32.30 - 20.47 = 11.83	x .16 = 1.89	x 3 =	5.67			6	1109	66.5	7.06	316 µS	6.3
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

X EPA 601_____
X TPH-G/BTEX HCL
O TPH Diesel____
O TOG 5520 ___
TIME/SAMPLE ID: 1111

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
AW-8	19.90	2"	OIC	Ø	Y (N)	3	1115	68.2	7.72	1042 µS	6.0
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			6		67.0	7.42	1010 µS	
39.20 - 19.90 = 19.30	x .16 = 3.09	x 3 =	9.27			9.5	1122	66.3	7.33	1003 µS	6.4
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

X EPA 601_____
X TPH-G/BTEX HCL
O TPH Diesel____
O TOG 5520 ___
TIME/SAMPLE ID: 1130

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. 10-025-013-001 Date: 10/11/96
Address 2220 98TH Ave. Day: M T W TH F
Contract No. G797553 City: Oakland
Station No. BP 11133 Sampler: LVB

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
AW-4	19.52	2"	O/L	Ø	Y (N)	3	1144	68.4	7.43	517 µS	4.9
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						5		67.3	7.30	536 µS	
35.00 - 19.52 = 15.48 X .16 = 2.48 X 3 = 7.44						8	1156	66.5	7.21	541 µS	6.2
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601_____
Ø TPH-G/BTEX HCl
Ø ~~TPH Diesel~~ MTBE HCl
O TOG 5520 ___
TIME/SAMPLE ID: 1200

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-3	16.23	2"	O/L	Ø	Y (N)	1	1210	68.2	7.03	492 µS	4.9
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						2		67.0	6.92	470 µS	
21.83 - 16.23 = 5.60 X .16 = .90 X 3 = 2.70						3	1217	66.4	6.81	452 µS	5.8
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601_____
Ø TPH-G/BTEX HCl
O TPH Diesel____
O TOG 5520 ___
TIME/SAMPLE ID: 1220

* AW-1

Time	Temp	Cond	pH	D.O
1226	68.4	687 µS	7.12	5.8
	67.0	652 µS	7.03	
1232	64.3	648 µS	6.95	6.3

* RW-1

Time	Temp	Cond	pH	DO
1240	67.2	793 µS	7.20	7.4

Extra MTBE Sample From

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD

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

Southern Petroleum Laboratories, Inc.

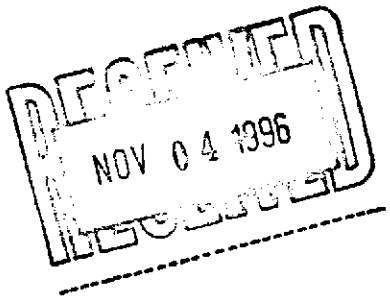
Certificate of Analysis Number: 96-10-919

Approved for Release by:

Ed Fry, Project Manager — Date: 10/30/96

Greg Grandits
Laboratory Director

Idelis Williams
Quality Assurance Officer



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

CASE NARRATIVE
WORK ORDER NO(S).: 9610919

Southern Petroleum Laboratories is pleased to present the results of this project to BP Oil and their consultant Alisto Engineering. The samples were received intact at our Houston facility with a temperature of 3 degrees Celsius on October 15, 1996. Twelve water samples were analyzed for tests and methods as specified on the Chain of Custody documents. The following is a description of analytical exceptions which are associated with this sample delivery group.

- The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) recoveries for MTBE could not be calculated due to elevated levels of this compound in the sample selected for spiking. This is flagged with an "NC" qualifier in the QA section of this report. The Laboratory Control Sample (LCS) recoveries were within acceptable limits for all parameters.

- The surrogate 1,4-Difluorobenzene was recovered outside QC limits for sample S-8 (SPL ID# 9610919-08). This was due to matrix interference.

The LCS is a method specific QA sample, analyzed to verify adequate instrument and method performance. Samples exhibiting MS and MSD recovery failures with acceptable LCS recoveries are indicative of matrix interferences.

Edward Fry
SPL Project Manager

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

Certificate of Analysis No. H9-9610919-01

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

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	83		
4-Bromofluorobenzene	90		
METHOD 8020***			
Analyzed by: WK			
Date: 10/24/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	97		
4-Bromofluorobenzene	80		
CA LUFT - Gasoline			
Analyzed by: YN			
Date: 10/24/96 01:06:00			

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

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

Certificate of Analysis No. H9-9610919-02

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

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	83		
4-Bromofluorobenzene	90		
METHOD 8020***			
Analyzed by: WK			
Date: 10/24/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	90		
4-Bromofluorobenzene	73		
CA LUFT - Gasoline			
Analyzed by: YN			
Date: 10/24/96 01:35:00			

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

Certificate of Analysis No. H9-9610919-03

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

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	90		
4-Bromofluorobenzene	90		
METHOD 8020***			
Analyzed by: WK			
Date: 10/24/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	97		
4-Bromofluorobenzene	80		
CA LUFT - Gasoline			
Analyzed by: YN			
Date: 10/24/96 02:03:00			

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

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

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

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

Certificate of Analysis No. H9-9610919-04

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

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	87		
4-Bromofluorobenzene	103		
METHOD 8020***			
Analyzed by: RL			
Date: 10/24/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	87		
4-Bromofluorobenzene	77		
CA LUFT - Gasoline			
Analyzed by: YN			
Date: 10/24/96 02:32:00			

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. H9-9610919-05

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

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	87		
4-Bromofluorobenzene	100		
METHOD 8020***			
Analyzed by: RL			
Date: 10/24/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	90		
4-Bromofluorobenzene	77		
CA LUFT - Gasoline			
Analyzed by: YN			
Date: 10/24/96 03:00:00			

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

Certificate of Analysis No. H9-9610919-06

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

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	87		
4-Bromofluorobenzene	90		
METHOD 8020***			
Analyzed by: WK			
Date: 10/24/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	90		
4-Bromofluorobenzene	77		
CA LUFT - Gasoline			
Analyzed by: YN			
Date: 10/24/96 03:29:00			

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

Certificate of Analysis No. H9-9610919-07

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

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	83		
4-Bromofluorobenzene	100		
METHOD 8020***			
Analyzed by: RL			
Date: 10/24/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	90		
4-Bromofluorobenzene	77		
CA LUFT - Gasoline			
Analyzed by: YN			
Date: 10/24/96 03:57:00			

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. H9-9610919-08

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	880	250 P	µg/L
Benzene	12000	12 P	µg/L
Toluene	5500	25 P	µg/L
Ethylbenzene	ND	25 P	µg/L
Total Xylene	3800	25 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	133 «		
4-Bromofluorobenzene	100		
METHOD 8020***			
Analyzed by: WK			
Date: 10/24/96			
Total Petroleum Hydrocarbons-Gasoline	36	1.2 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	107		
4-Bromofluorobenzene	75		
CA LUFT - Gasoline			
Analyzed by: YN			
Date: 10/24/96 04:25:00			

(P) - Practical Quantitation Limit ND - Not detected.
« - Recovery beyond control limits.

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

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9610919-08

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

P.O.# G797553,COC#082719
10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	15000	500	ug/L
Bromobenzene	ND	250	ug/L
Bromochloromethane	ND	250	ug/L
Bromodichloromethane	ND	250	ug/L
Bromoform	ND	250	ug/L
Bromomethane	ND	500	ug/L
n-Butylbenzene	ND	250	ug/L
sec-Butylbenzene	ND	250	ug/L
tert-Butylbenzene	ND	250	ug/L
Carbon tetrachloride	ND	250	ug/L
Chlorobenzene	ND	250	ug/L
Chlorodibromomethane	ND	250	ug/L
Chloroethane	ND	500	ug/L
Chloroform	ND	250	ug/L
Chloromethane	ND	500	ug/L
2-Chlorotoluene	ND	250	ug/L
4-Chlorotoluene	ND	250	ug/L
1,2-Dibromo-3-chloropropane	ND	250	ug/L
1,2-Dibromoethane	ND	250	ug/L
Dibromomethane	ND	250	ug/L
1,2-Dichlorobenzene	ND	250	ug/L
1,3-Dichlorobenzene	ND	250	ug/L
1,4-Dichlorobenzene	ND	250	ug/L
Dichlorodifluoromethane	ND	500	ug/L
1,1-Dichloroethane	ND	250	ug/L
1,2-Dichloroethane	ND	250	ug/L
1,1-Dichloroethene	ND	250	ug/L
cis-1,2-Dichloroethene	ND	250	ug/L
trans-1,2-Dichloroethene	ND	250	ug/L
1,2-Dichloropropane	ND	250	ug/L
1,3-Dichloropropane	ND	250	ug/L
2,2-Dichloropropane	ND	250	ug/L
1,1-Dichloropropene	ND	250	ug/L
Ethylbenzene	630	250	ug/L
Hexachlorobutadiene	ND	250	ug/L
Isopropylbenzene	ND	250	ug/L
p-Isopropyltoluene	ND	250	ug/L
Methylene chloride	ND	250	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

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

Certificate of Analysis No. H9-9610919-08

BP Oil Company

SAMPLE ID: S-8

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	2100	250	ug/L
n-Propylbenzene	320	250	ug/L
Styrene	ND	250	ug/L
1,1,1,2-Tetrachloroethane	ND	250	ug/L
1,1,2,2-Tetrachloroethane	ND	250	ug/L
Tetrachloroethene	ND	250	ug/L
Toluene	7000	250	ug/L
1,2,3-Trichlorobenzene	ND	250	ug/L
1,2,4-Trichlorobenzene	ND	250	ug/L
1,1,1-Trichloroethane	ND	250	ug/L
1,1,2-Trichloroethane	ND	250	ug/L
Trichloroethene	ND	250	ug/L
Trichlorofluoromethane	ND	250	ug/L
1,2,3-Trichloropropane	ND	250	ug/L
1,2,4-Trimethylbenzene	1100	250	ug/L
1,3,5-Trimethylbenzene	250	250	ug/L
Vinyl chloride	ND	500	ug/L
Xylenes (total)	4900	250	ug/L
1,2-Dichloroethene (total)	ND	250	ug/L
cis-1,3-Dichloropropene	ND	250	ug/L
trans-1,3-Dichloropropene	ND	250	ug/L
Methyl t-Butyl Ether	1000	500	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	100	76	114
Toluene-d8	50 ug/L	97	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: JC DATE/TIME: 10/18/96 05:42:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

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

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

Certificate of Analysis No. H9-9610919-09

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	440	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	97		
4-Bromofluorobenzene	97		
METHOD 8020***			
Analyzed by: YN/			
Date: 10/23/96			
Total Petroleum Hydrocarbons-Gasoline	0.33	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	87		
4-Bromofluorobenzene	70		
CA LUFT - Gasoline			
Analyzed by: YN/			
Date: 10/23/96 07:54:00			

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

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

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

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

Certificate of Analysis No. H9-9610919-10

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	580	250 P	µg/L
Benzene	8500	12 P	µg/L
Toluene	69	25 P	µg/L
Ethylbenzene	3300	25 P	µg/L
Total Xylene	4230	25 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	120		
4-Bromofluorobenzene	97		
METHOD 8020***			
Analyzed by: YN/			
Date: 10/23/96			
Total Petroleum Hydrocarbons-Gasoline	33	1.2 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	93		
4-Bromofluorobenzene	72		
CA LUFT - Gasoline			
Analyzed by: YN/			
Date: 10/23/96 07:26:00			

(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. H9-9610919-11

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

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	97		
4-Bromofluorobenzene	97		
METHOD 8020***			
Analyzed by: YN/			
Date: 10/23/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	87		
4-Bromofluorobenzene	73		
CA LUFT - Gasoline			
Analyzed by: YN/			
Date: 10/23/96 08:22:00			

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

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

QUALITY ASSURANCE: These analyses are performed in accordance with EPA guidelines for quality assurance.
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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901

Certificate of Analysis No. H9-9610919-12

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

P.O.# G797553,COC#082719
DATE: 10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	1400	1000 P	µg/L
Benzene	20000	50 P	µg/L
Toluene	32000	100 P	µg/L
Ethylbenzene	2800	100 P	µg/L
Total Xylene	20700	100 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	110		
4-Bromofluorobenzene	97		
METHOD 8020***			
Analyzed by: YN/			
Date: 10/23/96			
Total Petroleum Hydrocarbons-Gasoline	130	5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	90		
4-Bromofluorobenzene	70		
CA LUFT - Gasoline			
Analyzed by: YN/			
Date: 10/23/96 06:58:00			

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

Certificate of Analysis No. H9-9610919-12

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

P.O.# G797553,COC#082719
10/25/96

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

PROJECT NO: 10-025-131001
MATRIX: WATER
DATE SAMPLED: 10/11/96
DATE RECEIVED: 10/15/96

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Benzene	22000	1000	ug/L
Bromobenzene	ND	250	ug/L
Bromochloromethane	ND	250	ug/L
Bromodichloromethane	ND	250	ug/L
Bromoform	ND	250	ug/L
Bromomethane	ND	500	ug/L
n-Butylbenzene	ND	250	ug/L
sec-Butylbenzene	ND	250	ug/L
tert-Butylbenzene	ND	250	ug/L
Carbon tetrachloride	ND	250	ug/L
Chlorobenzene	ND	250	ug/L
Chlorodibromomethane	ND	250	ug/L
Chloroethane	ND	500	ug/L
Chloroform	ND	250	ug/L
Chloromethane	ND	500	ug/L
2-Chlorotoluene	ND	250	ug/L
4-Chlorotoluene	ND	250	ug/L
1,2-Dibromo-3-chloropropane	ND	250	ug/L
1,2-Dibromoethane	ND	250	ug/L
Dibromomethane	ND	250	ug/L
1,2-Dichlorobenzene	ND	250	ug/L
1,3-Dichlorobenzene	ND	250	ug/L
1,4-Dichlorobenzene	ND	250	ug/L
Dichlorodifluoromethane	ND	500	ug/L
1,1-Dichloroethane	ND	250	ug/L
1,2-Dichloroethane	ND	250	ug/L
1,1-Dichloroethene	ND	250	ug/L
cis-1,2-Dichloroethene	ND	250	ug/L
trans-1,2-Dichloroethene	ND	250	ug/L
1,2-Dichloropropane	ND	250	ug/L
1,3-Dichloropropane	ND	250	ug/L
2,2-Dichloropropane	ND	250	ug/L
1,1-Dichloropropene	ND	250	ug/L
Ethylbenzene	3200	250	ug/L
Hexachlorobutadiene	ND	250	ug/L
Isopropylbenzene	ND	250	ug/L
p-Isopropyltoluene	ND	250	ug/L
Methylene chloride	ND	250	ug/L

METHOD: 8260 Water, Volatile Organics

(continued on next page)

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

Certificate of Analysis No. H9-9610919-12

BP Oil Company

SAMPLE ID: S-12

ANALYTICAL DATA (continued)

PARAMETER	RESULTS	PQL*	UNITS
Naphthalene	1500	250	ug/L
n-Propylbenzene	1100	250	ug/L
Styrene	ND	250	ug/L
1,1,1,2-Tetrachloroethane	ND	250	ug/L
1,1,2,2-Tetrachloroethane	ND	250	ug/L
Tetrachloroethene	ND	250	ug/L
Toluene	35000	1000	ug/L
1,2,3-Trichlorobenzene	ND	250	ug/L
1,2,4-Trichlorobenzene	ND	250	ug/L
1,1,1-Trichloroethane	ND	250	ug/L
1,1,2-Trichloroethane	ND	250	ug/L
Trichloroethene	ND	250	ug/L
Trichlorofluoromethane	ND	250	ug/L
1,2,3-Trichloropropane	ND	250	ug/L
1,2,4-Trimethylbenzene	5000	250	ug/L
1,3,5-Trimethylbenzene	1300	250	ug/L
Vinyl chloride	ND	500	ug/L
Xylenes (total)	22000	250	ug/L
1,2-Dichloroethene (total)	ND	250	ug/L
cis-1,3-Dichloropropene	ND	250	ug/L
trans-1,3-Dichloropropene	ND	250	ug/L
Methyl t-Butyl Ether	1200	500	ug/L

SURROGATES	AMOUNT SPIKED	% RECOVERY	LOWER LIMIT	UPPER LIMIT
1,2-Dichloroethane-d4	50 ug/L	102	76	114
Toluene-d8	50 ug/L	97	88	110
4-Bromofluorobenzene	50 ug/L	92	86	115

ANALYZED BY: JC DATE/TIME: 10/18/96 06:08:00
METHOD: 8260 Water, Volatile Organics
NOTES: * - Practical Quantitation Limit ND - Not Detected
NA - Not Analyzed

COMMENTS:

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

QUALITY CONTROL

DOCUMENTATION

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL Contract:

Lab Code: Case No.: 96 10262 SAS No.: SDG No.:

Matrix Spike - EPA Sample No.: uno-mw-8 10/96 Level(low/med) low

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	50	0	48	96	59-172
Trichloroethene	50	0	48	96	62-137
Benzene	50	0	48	96	66-142
Toluene	50	0	46	92	59-139
Chlorobenzene	50	0	46	92	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	47	94	2	22	59-172
Trichloroethene	50	48	96	0	24	62-137
Benzene	50	48	96	0	21	66-142
Toluene	50	45	90	2	21	59-139
Chlorobenzene	50	46	92	0	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

SPL Labs

RECOVERY REPORT

Client Name:
Client SDG: l961011
Sample Matrix: LIQUID
Fraction: VOA
Lab Smp Id: LCS
Level: LOW
Operator: JC
Data Type: MS DATA
SampleType: METHSPIKE
SpikeList File: 8240water.spk
Quant Type: ISTD
Method File: /chem/l.i/l961011.b/l8240bwq.m
Misc Info: L285W1//L285IW3

	SPIKE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
7	1,1-Dichloroethene	50	50	99.57	61-145
25	Trichloroethene	50	49	98.73	71-120
21	Benzene	50	49	98.51	76-127
32	Toluene	50	46	91.25	76-125
38	Chlorobenzene	50	46	91.16	75-130

	SURROGATE COMPOUND	CONC ADDED ug/L	CONC RECOVERED ug/L	% RECOVERED	LIMITS
$ 18	1,2-Dichloroethane	50	52	103.23	76-114
$ 30	Toluene-d8	50	48	96.02	88-110
$ 46	Bromofluorobenzene	50	48	95.02	86-115

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

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: L961017104646

Reported on: 10/22/96 12:15
Analyzed on: 10/17/96 20:56
Analyst: JC

METHOD 8240/8260 L291B04

Compound	Result	Detection Limit	Units
Chloromethane	ND	10	ug/L
Vinyl Chloride	ND	10	ug/L
Bromomethane	ND	10	ug/L
Chloroethane	ND	10	ug/L
Trichlorofluoromethane	ND	5	ug/L
1,1-Dichloroethene	ND	5	ug/L
Methylene Chloride	ND	5	ug/L
trans-1,2-Dichloroethene	ND	5	ug/L
1,1-Dichloroethane	ND	5	ug/L
cis-1,2-Dichloroethene	ND	5	ug/L
1,2-Dichloroethene (total)	ND	5	ug/L
Chloroform	ND	5	ug/L
1,1,1-Trichloroethane	ND	5	ug/L
1,2-Dichloroethane	ND	5	ug/L
Benzene	ND	5	ug/L
Carbon Tetrachloride	ND	5	ug/L
1,2-Dichloropropane	ND	5	ug/L
Trichloroethene	ND	5	ug/L
Bromodichloromethane	ND	5	ug/L
cis-1,3-Dichloropropene	ND	5	ug/L
trans-1,3-Dichloropropene	ND	5	ug/L
Toluene	ND	5	ug/L
1,1,2-Trichloroethane	ND	5	ug/L
Dibromochloromethane	ND	5	ug/L
Tetrachloroethene	ND	5	ug/L
Chlorobenzene	ND	5	ug/L
Ethylbenzene	ND	5	ug/L
Bromoform	ND	5	ug/L
Styrene	ND	5	ug/L
Xylene (Total)	ND	5	ug/L
1,1,2,2-Tetrachloroethane	ND	5	ug/L
Dichlorodifluoromethane	ND	10	ug/L
2,2-Dichloropropane	ND	5	ug/L
1,2,3-Trichloropropane	ND	5	ug/L

Notes
ND - Not detected.

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

SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: L961017104646

Reported on: 10/22/96 12:15
Analyzed on: 10/17/96 20:56
Analyst: JC

METHOD 8240/8260 L291B04

Compound	Result	Detection Limit	Units
Methyl t-Butyl Ether	ND	10	ug/L
1,1,1,2-Tetrachloroethane	ND	5	ug/L
2-Chlorotoluene	ND	5	ug/L
4-Chlorotoluene	ND	5	ug/L
Isopropylbenzene	ND	5	ug/L
N-Propylbenzene	ND	5	ug/L
1,3,5-Trimethylbenzene	ND	5	ug/L
1,2,4-Trimethylbenzene	ND	5	ug/L
tert-Butylbenzene	ND	5	ug/L
sec-Butylbenzene	ND	5	ug/L
p-Isopropyltoluene	ND	5	ug/L
n-Butylbenzene	ND	5	ug/L
1,3-Dichlorobenzene	ND	5	ug/L
1,4-Dichlorobenzene	ND	5	ug/L
1,2-Dichlorobenzene	ND	5	ug/L
1,2,4-Trichlorobenzene	ND	5	ug/L
1,3-Dichloropropane	ND	5	ug/L
1,2-Dibromo-3-Chloropropan	ND	5	ug/L
Dibromomethane	ND	5	ug/L
Bromobenzene	ND	5	ug/L
1,1-Dichloropropene	ND	5	ug/L
Hexachlorobutadiene	ND	5	ug/L
Naphthalene	ND	5	ug/L
1,2,3-Trichlorobenzene	ND	5	ug/L
1,2-Dibromoethane	ND	5	ug/L

Surrogate	Result	QC Criteria	Units
1,2-Dichloroethane-d4	100	76-114	% Recovery
Toluene-d8	96	88-110	% Recovery
Bromofluorobenzene	96	86-115	% Recovery

Notes
ND - Not detected.

HOUSTON LABORATORY
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SPL Blank QC Report

Matrix: Aqueous
Sample ID: VLBLK
Batch: L961017104646

Reported on: 10/22/96 12:15
Analyzed on: 10/17/96 20:56
Analyst: JC

METHOD 8240/8260 L291B04

Samples in Batch 9610919-08 9610919-12

Notes
ND - Not detected.

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020/602

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

Matrix: Aqueous
Units: µg/L

Batch Id: VARE961024013700

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	63 - 120
Benzene	ND	50	49	98.0	62 - 121
Toluene	ND	50	47	94.0	66 - 136
EthylBenzene	ND	50	52	104	70 - 136
O Xylene	ND	50	54	108	74 - 134
M & P Xylene	ND	100	110	110	77 - 140

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	530	20	510	NC	520	NC	NC	20	39 - 150
BENZENE	ND	20	17	85.0	17	85.0	0	25	39 - 150
TOLUENE	ND	20	16	80.0	16	80.0	0	26	56 - 134
ETHYLBENZENE	ND	20	16	80.0	16	80.0	0	38	61 - 128
O XYLENE	ND	20	18	90.0	17	85.0	5.71	29	40 - 130
M & P XYLENE	ND	40	37	92.5	36	90.0	2.74	20	43 - 152

Analyst: WK
Sequence Date: 10/24/96
SPL ID of sample spiked: 9610C29-01A
Sample File ID: E_J6579.TX0
Method Blank File ID:
Blank Spike File ID: E_J6572.TX0
Matrix Spike File ID: E_J6575.TX0
Matrix Spike Duplicate File ID: E_J6576.TX0

* = Values Outside QC Range
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 (3rd Q '95)
(***) = Source: SPL-Houston Historical Data (2nd Q '95)

SAMPLES IN BATCH(SPL ID):

9610C29-02A 9610C48-03A 9610C29-03A 9610919-01A
9610919-08A 9610919-02A 9610919-03A 9610919-06A
9610B71-04A 9610B73-02A 9610C29-01A 9610C48-04A
9610C48-02A 9610B73-03A 9610C48-01A

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PHONE (713) 660-0901

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 8020/602

Matrix: Aqueous
Units: µg/L

Batch Id: HP_J961024032200

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	58	116	63 - 120
Benzene	ND	50	51	102	62 - 121
Toluene	ND	50	50	100	66 - 136
EthylBenzene	ND	50	50	100	70 - 136
O Xylene	ND	50	50	100	74 - 134
M & P Xylene	ND	100	100	100	77 - 140

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	ND	20	22	110	21	105	4.65	20	39 - 150
BENZENE	ND	20	20	100	20	100	0	25	39 - 150
TOLUENE	ND	20	20	100	20	100	0	26	56 - 134
ETHYLBENZENE	ND	20	20	100	20	100	0	38	61 - 128
O XYLENE	ND	20	20	100	20	100	0	29	40 - 130
M & P XYLENE	ND	40	42	105	41	102	2.90	20	43 - 152

Analyst: RL
Sequence Date: 10/24/96
SPL ID of sample spiked: 9610A20-01A
Sample File ID: J_J6848.TX0
Method Blank File ID:
Blank Spike File ID: J_J6841.TX0
Matrix Spike File ID: J_J6862.TX0
Matrix Spike Duplicate File ID: J_J6863.TX0

* = Values Outside QC Range
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 (3rd Q '95)
(***) = Source: SPL-Houston Historical Data (3rd Q '96)

SAMPLES IN BATCH(SPL ID):

9610A20-02A 9610A20-03A 9610A20-04A 9610A20-05A
9610A20-06A 9610A20-07A 9610A20-08A 9610919-04A
9610919-05A 9610919-07A 9610A61-03A 9610A61-04A
9610A61-01A 9610A61-02A 9610A61-06A 9610A20-09A
9610B53-01A 9610890-01A 9610A20-01A

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

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

Matrix: Aqueous
Units: µg/L

Batch Id: HP_N961022071700

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	45	90.0	20 - 110
Benzene	ND	50	49	98.0	62 - 121
Toluene	ND	50	51	102	66 - 136
EthylBenzene	ND	50	46	92.0	70 - 136
O Xylene	ND	50	48	96.0	74 - 134
M & P Xylene	ND	100	97	97.0	77 - 140

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike Result <1>	Matrix Spike Recovery <4>	Matrix Spike Duplicate Result <1>	Matrix Spike Duplicate Recovery <5>	MS/MSD Relative % Difference	QC Limits(***) (Advisory) RPD Max.	QC Limits(***) (Advisory) Recovery Range
MTBE	ND	20	20	100	20	100	0	20	39 - 150
BENZENE	ND	20	20	100	20	100	0	25	39 - 150
TOLUENE	ND	20	19	95.0	18	90.0	5.41	26	56 - 134
ETHYLBENZENE	ND	20	19	95.0	19	95.0	0	38	61 - 128
O XYLENE	ND	20	20	100	20	100	0	29	40 - 130
M & P XYLENE	ND	40	40	100	39	97.5	2.53	20	43 - 152

Analyst: YN/
Sequence Date: 10/22/96
SPL ID of sample spiked: 9610911-01A
Sample File ID: N_J6903.TX0
Method Blank File ID:
Blank Spike File ID: N_J6892.TX0
Matrix Spike File ID: N_J6898.TX0
Matrix Spike Duplicate File ID: N_J6899.TX0

* = Values Outside QC Range
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): 9610911-01A 9610911-02A 9610911-03A 9610911-04A 9610911-05A 9610911-07A 9610911-08A 9610660-02A 9610660-03A 9610919-12A 9610919-10A 9610919-09A 9610919-11A 9610A19-01A

HOUSTON LABORATORY
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HOUSTON, TEXAS 77054
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** SPL BATCH QUALITY CONTROL REPORT **
CA LUFT

Matrix: Aqueous
Units: mg/L

Batch Id: HP_N961023101600

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Petroleum Hydrocarbons-Gas	ND	1.00	0.96	96.0	50 - 150

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
PETROLEUM HYDROCARBONS-GAS	ND	0.9	0.90	100	0.93	103	2.96	50	50 - 150

Analyst: YN
Sequence Date: 10/23/96
SPL ID of sample spiked: 9610919-02A
Sample File ID: NNJ6946.TX0
Method Blank File ID:
Blank Spike File ID: NNJ6937.TX0
Matrix Spike File ID: NNJ6942.TX0
Matrix Spike Duplicate File ID: NNJ6943.TX0

* = Values Outside QC Range
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: Temporary Limits
(***) = Source: Temporary Limits

SAMPLES IN BATCH(SPL ID):

9610919-02A 9610919-03A 9610919-04A 9610919-05A
9610919-06A 9610919-07A 9610919-08A 9610A19-03A
9610A19-07A 9610A19-06A 9610A19-05A 9610A19-04A
9610A19-01A 9610A19-02A 9610A19-08A 9610A19-09A
9610919-01A

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

** SPL BATCH QUALITY CONTROL REPORT **
CA LUFT

Matrix: Aqueous
Units: mg/L

Batch Id: HP_N961022084200

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Petroleum Hydrocarbons-Gas	ND	1.00	0.94	94.0	50 - 150

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
PETROLEUM HYDROCARBONS-GAS	0.26	0.9	1.24	109	1.22	107	1.85	50	50 - 150

Analyst: YN/
Sequence Date: 10/22/96
SPL ID of sample spiked: 9610911-02A
Sample File ID: NNJ6904.TX0
Method Blank File ID:
Blank Spike File ID: NNJ6895.TX0
Matrix Spike File ID: NNJ6900.TX0
Matrix Spike Duplicate File ID: NNJ6901.TX0

* = Values Outside QC Range
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: Temporary Limits
(***) = Source: Temporary Limits

SAMPLES IN BATCH(SPL ID):

9610911-04A 9610911-05A 9610911-06A 9610911-07A
9610911-08A 9610660-02A 9610660-03A 9610919-12A
9610919-10A 9610919-09A 9610919-11A 9610A19-01A
9610911-01A 9610911-02A 9610911-03A

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

9610919

CHAIN OF CUSTODY

No. 082719 Page 1 of 1

CONSULTANT'S NAME: Alisto Engineering	ADDRESS: 1575 Treat Blvd #201	CITY: W.C.	STATE: Ca	ZIP CODE: 94598
BP SITE NUMBER: 11133	BP CORNER ADDRESS/CITY: Oakland, Ca			CONSULTANT PROJECT NUMBER: 10-025-13/001
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): Jay Buenaventa	SAMPLED BY (Signature):	SHIPMENT DATE: 10-14-96		SHIPMENT METHOD: Fed EX
TAT: ☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☒ Standard 2 Weeks		ANALYSIS REQUIRED		AIRBILL NUMBER: 940477891 3

SAMPLE DESCRIPTION	COLLECTION DATE / TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH-D	BTXE	TPH-G	MTBE 8260	COMMENTS
S-1	10/11/96	W	3	HCl		X	X			
S-2										
S-3										
S-4										
S-5										
S-6										
S-7			6							
S-8			6						X	
S-9			3							
S-10										
S-11			6							
S-12			6						X	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	10/14/96	0805	Patricia Lyeton	10/14/96	0805
Patricia Lyeton	10/14/96	1400	S West	10/15/96	0830

ADDITIONAL COMMENTS: 2°C

CLV-16722
PKG/50

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

SPL Houston Environmental Laboratory

Sample Login Checklist

Date:	Time:
10-15-96	1635

SPL Sample ID:
9610919

			Yes	No
1	Chain-of-Custody (COC) form is present.		✓	
2	COC is properly completed.		✓	
3	If no, Non-Conformance Worksheet has been completed.			
4	Custody seals are present on the shipping container.		✓	
5	If yes, custody seals are intact.		✓	
6	All samples are tagged or labeled.			✓
7	If no, Non-Conformance Worksheet has been completed.		✓	
8	Sample containers arrived intact		✓	
9	Temperature of samples upon arrival:		2° C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	940477 8913	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
Don Carter	10-15-96

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

BP Site Number: 11133
ERM Contact: 797553
Sampling Date: 10/11/96
Matrix Desription: groundwater
Date Final Report Received: 11/4/96
Laboratory & Location: GPL - TX

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

Notes/Comments: (1) exceeded for 5-8
(2) NOT calculated for MTBE due to elevated concentration in sample. (See Lab letter).

Data Validation Completed by (print): Barr Hagerll
(signature): Barr Hagerll
Date: 11/26/96