



BP OIL

BP Oil Company
Environmental Resources Management
Building 13, Suite N
295 SW 41st Street
Renton, Washington 98055-4931
(206) 251-0667
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July 11, 1996

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

**RE: BP OIL FACILITY #11266
1541 Park Street
Alameda, CA**

Dear Ms Chu:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED May 28, 1996** for the above referenced facility. Plans for the following quarter include additional groundwater monitoring. Please confirm that the extent of the release in groundwater has been adequately characterized. *Yes*

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 msword\ERM11266

cc: Mr. Eddy So, CRWQCB, San Francisco Bay Region, 2101 Webster St. Suite 500,
Oakland CA 94612

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

Mr. Larry Silva, TOSCO Northwest, 601 Union Street, Suite 2500, Seattle, WA 98101

Site File

GROUNDWATER MONITORING AND SAMPLING REPORT

**BP Oil Company Service Station No. 11266
1541 Park Street
Alameda, California**

Project No. 10-050-06-003

MAY 31

Prepared for:

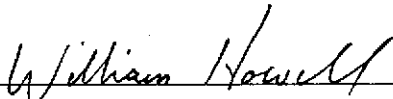
**BP Oil Company
Environmental Resources Management
295 S.W. 41st Street
Building 13, Suite N
Renton, Washington**

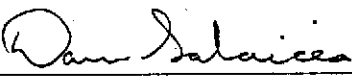
*decrease sampling freq &
wait for guidance from P&CC
as done w/ Alameda T&M
(will perceptors cause probs?)*

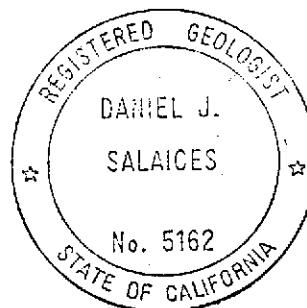
Prepared by:

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

May 28, 1996


**William Howell
Project Manager**


**Dan Salaces
Registered Geologist**



GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11266
1541 Park Street
Alameda, California

Project No. 10-050-06-003

May 28, 1996

INTRODUCTION

This report presents the results and findings of the April 18, 1996 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11266, 1541 Park Street, Alameda, California. A site vicinity map is shown on Figure 1.

FIELD PROCEDURES

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

Before purging and sampling, the groundwater level in each well was measured from a permanent mark on top of the casing to the nearest 0.01 foot using an electronic sounder. The depth to groundwater and top of casing elevation data were used to calculate the groundwater elevation in each well in reference to mean sea level. The survey data and groundwater elevation measurements collected to date are presented in Table 1.

Before sample collection, each well was purged of 3 casing volumes, while recording field readings of pH, temperature, electrical conductivity, and dissolved oxygen. Groundwater samples were collected for laboratory analysis by lowering a bottom-fill, disposable bailer to just below the water level in the well. The samples were transferred from the bailer into laboratory-supplied containers. The water sampling field survey forms are presented in Appendix A.

SAMPLING AND ANALYTICAL RESULTS

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



TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11266
 1541 PARK STREET, ALAMEDA, CALIFORNIA

ALJSTO PROJECT NO. 10-050

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-1	03/04/88	19.19	---	---	95000	2000	5900	1100	10000	---	---	---
MW-1	03/29/89	19.19	---	---	25000	930	2600	24	3100	---	---	---
MW-1	11/28/89	19.19	---	---	15000	280	880	340	1200	---	---	---
MW-1	02/13/91	19.19	---	---	25000	680	2700	1100	3200	---	---	---
MW-1	01/08/92	19.19	---	---	10000	260	1100	570	2000	---	---	---
MW-1	03/30/92	19.19	8.15	11.04	5800	290	570	500	1100	---	---	PACE
MW-1	07/02/92	19.19	9.38	9.81	2500	170	60	310	300	---	---	ANA
MW-1	07/22/92	19.19	9.62	9.57	---	---	---	---	---	---	---	---
MW-1	10/02/92	19.19	9.98	9.21	4000	86	190	270	350	---	---	ANA
QC-1 (c)	10/02/92	---	---	---	3600	89	180	270	340	---	---	ANA
MW-1	12/14/92	19.19	9.90	9.29	6800	75	540	200	670	---	---	ANA
QC-1 (c)	12/14/92	---	---	---	5900	68	480	190	600	---	---	ANA
MW-1	03/24/93	19.19	8.52	10.67	6400	150	310	370	710	---	---	PACE
MW-1	06/17/93	19.19	9.37	9.82	3800	110	160	310	480	---	---	PACE
MW-1	09/29/93	19.19	10.80	8.39	1100	22	16	54	110	---	---	PACE
MW-1	12/28/93	19.19	9.27	9.82	1600	26	110	77	300	---	---	PACE
MW-1	03/29/94	19.19	8.77	10.42	22000	990	560	970	2000	---	3.1	PACE
MW-1	07/07/94	19.19	9.18	10.01	18000	87	32	250	140	---	---	PACE
MW-1	10/18/94	19.19	9.85	9.34	270	1.9	0.6	ND<0.5	3.2	---	---	PACE
MW-1	02/01/95	19.19	7.04	12.15	5400	260	350	1100	980	---	6.5	ATI
MW-1	04/12/95	19.19	7.74	11.45	13000	280	620	960	2600	---	5.0	ATI
MW-1	09/13/95	19.19	9.58	9.61	5800	110	110	510	830	4300	5.2	ATI
QC-1 (c)	09/13/95	---	---	---	5800	110	100	490	800	4500	---	ATI
MW-1	01/11/96	19.19	8.95	10.24	5400	91	130	510	1000	1700	5.2	ATI
QC-1 (c)	01/11/96	---	---	---	5100	89	120	490	950	2000	---	ATI
MW-1	04/18/96	19.19	8.40	10.79	12000	190	420	1100	1560	2100	4.5	SPL
QC-1 (c)	04/18/96	---	---	---	12000	190	390	1100	1440	2000	---	SPL
MW-2	03/04/88	19.32	---	---	ND	ND	ND	ND	ND	---	---	---
MW-2	03/29/89	19.32	---	---	ND	1.1	0.78	ND	1.7	---	---	---
MW-2	11/28/89	19.32	---	---	170	ND	ND	ND	ND	---	---	---
MW-2	02/13/91	19.32	---	---	150	1.4	ND	ND	0.9	---	---	---
MW-2	01/08/92	19.32	---	---	ND	1.4	ND	ND	1.1	---	---	---
MW-2	03/30/92	19.32	9.03	10.29	91	0.7	ND	ND	ND	---	---	PACE
MW-2	07/02/92	19.32	9.96	9.36	150	3.1	0.6	0.6	1.1	---	---	ANA
MW-2	07/22/92	19.32	10.12	9.20	---	---	---	---	---	---	---	---
MW-2	10/02/92	19.32	10.42	8.90	56	ND<0.5	0.8	0.8	1.2	---	---	ANA
MW-2	12/14/92	19.32	10.77	8.55	210	1.5	ND<0.5	0.9	2.7	---	---	ANA
MW-2	03/24/93	19.32	9.33	9.99	94	0.8	ND<0.5	ND<0.5	0.9	---	---	PACE
QC-1 (c)	03/24/93	---	---	---	150	1.8	0.6	1.3	1.3	---	---	PACE
MW-2	06/17/93	19.32	9.91	9.41	ND<50	ND<0.5	ND<0.5	ND<0.5	0.7	---	---	PACE
MW-2	09/29/93	19.32	11.39	7.93	68	ND<0.5	0.9	0.7	1.9	---	---	PACE
MW-2	12/28/93	19.32	9.75	9.57	260	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-1 (c)	12/28/93	---	---	---	240	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-2	03/29/94	19.32	9.39	9.93	150	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	4.9	PACE
QC-1 (c)	03/29/94	---	---	---	140	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-2	07/07/94	19.32	9.68	9.64	1100	0.6	1.7	0.6	3.2	---	---	PACE
MW-2	10/18/94	19.32	10.22	9.10	290	3.1	0.8	ND<0.5	5.1	---	3.3	PACE
MW-2	02/01/95	19.32	8.03	11.29	100	ND<0.5	ND<0.5	ND<0.5	ND<1	---	6.0	ATI
MW-2	04/12/95	19.32	8.71	10.81	1200	ND<1.0	ND<1.0	ND<1.0	ND<2.0	---	8.3	ATI
MW-2	09/13/95	19.32	10.19	9.13	480	ND<2.5	ND<2.5	ND<2.5	ND<5.0	2300	7.8	ATI
MW-2	01/11/96	19.32	9.59	9.73	3400	ND<25	ND<25	ND<25	ND<50	11000	5.4	ATI
MW-2	04/18/96	19.32	9.04	10.28	130	ND<0.5	ND<1	ND<1	ND<1	170	5.5	SPL

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 1541 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-050

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-3	03/04/88	19.99	---	---	ND	ND	ND	ND	ND	---	---	---
MW-3	03/29/89	19.99	---	---	ND	ND	ND	ND	ND	---	---	---
MW-3	11/28/89	19.99	---	---	ND	ND	ND	ND	ND	---	---	---
MW-3	02/13/91	19.99	---	---	ND	ND	ND	ND	ND	---	---	---
MW-3	01/08/92	19.99	---	---	ND	ND	ND	ND	ND	---	---	---
MW-3	03/30/92	19.99	9.71	10.28	ND	ND	ND	ND	ND	---	---	PACE
MW-3	07/02/92	19.99	10.52	9.47	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-3	07/22/92	19.99	10.62	9.37	---	---	---	---	---	---	---	---
MW-3	10/02/92	19.99	10.86	9.13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-3	12/14/92	19.99	10.53	9.46	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-3	03/24/93	19.99	9.06	10.93	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-3	06/17/93	19.99	10.44	9.55	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-3	09/29/93	19.99	11.06	8.93	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-3	12/28/93	19.99	9.43	10.56	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-3	03/29/94	19.99	10.01	9.98	---	---	---	---	ND<0.5	---	---	---
MW-3	07/07/94	19.99	10.14	9.85	ND<0.5	ND<0.5	0.7	ND<0.5	ND<0.5	---	---	PACE
QC-1 (c)	07/07/94	---	---	---	ND<0.5	ND<0.5	0.7	ND<0.5	ND<0.5	---	---	PACE
MW-3	10/18/94	19.99	10.56	9.43	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	3.2	PACE
MW-3	02/01/95	19.99	8.98	11.01	ND<0.5	ND<0.5	1.0	0.5	1.9	---	5.9	ATI
MW-3	04/12/95	19.99	9.70	10.29	---	---	---	---	---	---	---	---
MW-3	09/13/95	19.99	10.70	9.29	ND<0.5	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	5.7	ATI
MW-3	01/11/96	19.99	10.18	9.81	ND<0.5	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	5.5	ATI
MW-3	04/18/96	19.99	9.53	10.46	---	---	---	---	---	---	---	---
MW-4	03/04/88	20.17	---	---	ND	ND	ND	ND	ND	---	---	---
MW-4	03/29/89	20.17	---	---	ND	ND	ND	ND	ND	---	---	---
MW-4	11/28/89	20.17	---	---	430	6.2	0.6	12	3.3	---	---	---
MW-4	02/13/91	20.17	---	---	ND	ND	ND	ND	ND	---	---	---
MW-4	01/08/92	20.17	---	---	ND	ND	ND	ND	ND	---	---	---
MW-4	03/30/92	20.17	8.73	11.44	ND	ND	ND	ND	ND	---	---	PACE
MW-4	07/02/92	20.17	10.04	10.13	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-4	07/22/92	20.17	10.26	9.91	---	---	---	---	---	---	---	---
MW-4	10/02/92	20.17	10.63	9.54	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-4	12/14/92	20.17	10.02	10.15	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-4	03/24/93	20.17	9.08	11.09	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-4	06/17/93	20.17	10.03	10.14	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-4	09/29/93	20.17	10.96	9.21	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-4	12/28/93	20.17	9.33	10.84	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-4	03/29/94	20.17	9.42	10.75	---	---	---	---	---	---	---	---
MW-4	07/07/94	20.17	9.82	10.35	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-4	10/18/94	20.17	10.36	9.81	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	3.1	PACE
MW-4	02/01/95	20.17	7.50	12.67	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<1	---	9.3	ATI
MW-4	04/12/95	20.17	8.21	11.96	---	---	---	---	---	---	---	---
MW-4	09/13/95	20.17	10.20	9.97	ND<0.5	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	4.3	ATI
MW-4	01/11/96	20.17	9.57	10.80	ND<0.5	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	5.1	ATI
MW-4	04/18/96	20.17	9.03	11.14	---	---	---	---	---	---	---	---

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ALISTO PROJECT NO. 10-050

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
MW-5	03/04/88	19.41	---	---	ND	ND	ND	ND	ND	---	---	---
MW-5	03/29/89	19.41	---	---	ND	ND	ND	ND	ND	---	---	---
MW-5	11/28/89	19.41	---	---	ND	ND	ND	ND	ND	---	---	---
MW-5	02/13/91	19.41	---	---	ND	ND	ND	ND	ND	---	---	---
MW-5	01/08/92	19.41	---	---	ND	ND	ND	ND	ND	---	---	---
MW-5	03/30/92	19.41	7.85	11.56	ND	ND	ND	ND	ND	---	---	PACE
MW-5	07/02/92	19.41	9.27	10.14	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-5	07/22/92	19.41	9.55	9.86	---	---	---	---	---	---	---	---
MW-5	10/02/92	19.41	9.97	9.44	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-5	12/14/92	19.41	9.14	10.27	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-5	03/24/93	19.41	8.17	11.24	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-5	06/17/93	19.41	8.29	11.12	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-1 (c)	06/17/93	---	---	---	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-5	09/29/93	19.41	10.31	9.10	ND<50	ND<0.5	ND<0.5	ND<0.5	0.6	---	---	PACE
MW-5	12/28/93	19.41	8.91	10.50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-5	03/29/94	19.41	8.50	10.91	---	---	---	---	---	---	---	---
MW-5	07/07/94	19.41	8.99	10.42	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-5	10/18/94	19.41	9.61	9.80	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	3.5	PACE
MW-5	02/01/95	19.41	6.55	12.86	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	---	7.6	ATI
MW-5	04/12/95	19.41	7.27	12.14	---	---	---	---	---	---	---	---
MW-5	09/13/95	19.41	9.49	9.92	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	4.9	ATI
MW-5	01/11/96	19.41	8.82	10.59	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	4.9	ATI
MW-5	04/18/96	19.41	8.30	11.11	---	---	---	---	---	---	---	---
MW-6	03/04/88	19.40	---	---	ND	ND	ND	ND	ND	---	---	---
MW-6	03/29/89	19.40	---	---	ND	ND	ND	ND	ND	---	---	---
MW-6	11/28/89	19.40	---	---	ND	ND	ND	ND	ND	---	---	---
MW-6	02/13/91	19.40	---	---	ND	ND	ND	ND	ND	---	---	---
MW-6	01/08/92	19.40	---	---	ND	ND	ND	ND	ND	---	---	---
MW-6	03/30/92	19.40	8.86	10.54	ND	ND	ND	ND	ND	---	---	PACE
MW-6	07/02/92	19.40	9.94	9.46	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-6	07/22/92	19.40	10.10	9.30	---	---	---	---	---	---	---	---
MW-6	10/02/92	19.40	10.48	8.92	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-6	12/14/92	19.40	10.76	8.64	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-6	03/24/93	19.40	9.19	10.21	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	06/17/93	19.40	9.91	9.49	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	09/29/93	19.40	11.49	7.91	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	12/28/93	19.40	9.88	9.52	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	03/29/94	19.40	9.36	10.04	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	5.0	PACE
MW-6	07/07/94	19.40	9.75	9.65	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	10/18/94	19.40	10.30	9.10	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	3.3	PACE
MW-6	02/01/95	19.40	7.92	11.48	ND<50	ND<0.5	0.9	ND<0.5	1.1	---	5.4	ATI
MW-6	04/12/95	19.40	8.41	10.99	220	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	4.7	ATI
MW-6	09/13/95	19.40	10.05	9.35	180	ND<1.0	ND<1.0	ND<1.0	ND<2.0	770	4.9	ATI
MW-6	01/11/96	19.40	9.52	9.88	670	ND<2.5	ND<2.5	ND<2.5	ND<5.0	2400	4.6	ATI
MW-6	04/18/96	19.40	9.03	10.37	560	ND<0.5	ND<1	ND<1	ND<1	860	5.1	SPL

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11266
 1541 PARK STREET, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-050

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	DO (ppm)	LAB
RW-1	07/22/92	--	9.66	--	13000	1000	3400	380	2800	--	--	ANA
RW-1	10/02/92	--	10.28	--	--	--	--	--	--	--	--	--
RW-1	12/14/92	--	23.28	--	--	--	--	--	--	--	--	--
RW-1	03/24/93	--	8.93	--	660	21	25	8.3	100	--	--	PACE
RW-1	06/17/93	--	9.66	--	850	13	1.0	15	100	--	--	PACE
RW-1	09/29/93	19.27	23.40	-4.13	1200	26	27	11	150	--	--	PACE
QC-1 (c)	09/29/93	--	--	--	1200	26	28	11	160	--	--	PACE
RW-1	12/28/93	19.27	9.76	9.51	3500	300	220	180	480	--	--	PACE
RW-1	03/29/94	19.27	8.93	10.94	12000	640	1700	450	2200	--	6.3	PACE
RW-1	07/07/94	19.27	9.45	9.82	7600	530	1100	380	1800	--	--	PACE
RW-1	10/18/94	19.27	10.11	9.16	5300	47	100	150	280	--	3.4	PACE
QC-1 (c)	10/18/94	--	--	--	430	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	PACE
RW-1	02/01/95	19.27	8.54	10.73	27000	2400	6100	1800	5300	--	4.5	ATI
QC-1 (c)	02/01/95	--	--	--	15000	1300	3300	970	2900	--	--	ATI
RW-1	04/12/95	19.27	8.21	11.06	6200	330	910	350	1500	--	5.2	ATI
QC-1 (c)	04/12/95	--	--	--	7600	400	1100	440	1900	--	--	ATI
RW-1	09/13/95	19.27	9.84	9.43	920	140	60	34	110	1200	5.1	ATI
RW-1	01/11/96	19.27	9.25	10.02	ND<50	0.95	0.61	ND<0.50	2.1	43	5.4	ATI
RW-1	04/18/96	19.27	8.73	10.54	ND<50	ND<0.5	ND<1	ND<1	ND<1	ND<10	4.7	SPL
QC-2 (d)	10/02/92	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	ANA
QC-2 (d)	12/14/92	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	ANA
QC-2 (d)	03/24/93	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	PACE
QC-2 (d)	06/17/93	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	PACE
QC-2 (d)	09/29/93	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	PACE
QC-2 (d)	12/28/93	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	PACE
QC-2 (d)	03/29/94	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	PACE
QC-2 (d)	07/07/94	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	PACE
QC-2 (d)	10/18/94	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	PACE
QC-2 (d)	02/01/95	--	--	--	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<1	--	--	ATI
QC-2 (d)	04/12/95	--	--	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	--	--	ATI
QC-2 (d)	09/13/95	--	--	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	--	ATI
QC-2 (d)	01/11/96	--	--	--	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	--	ATI
QC-2 (d)	04/18/96	--	--	--	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 measured/applicable/analyzed
ND	Not detected above reported detection limit
PACE	Pace, Inc.
ANA	Anamatrix, Inc.
ATI	Analytical Technologies, Inc.
SPL	SPL, Inc.

NOTES:

- (a) Casing elevations surveyed to nearest 0.01 foot above mean sea level, with an assigned elevation of 22.82 feet (City datum).
- (b) Groundwater elevations in feet above mean sea level.
- (c) Blind duplicate.
- (d) Travel blank.

FX010-050050-6-3.WQ2



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



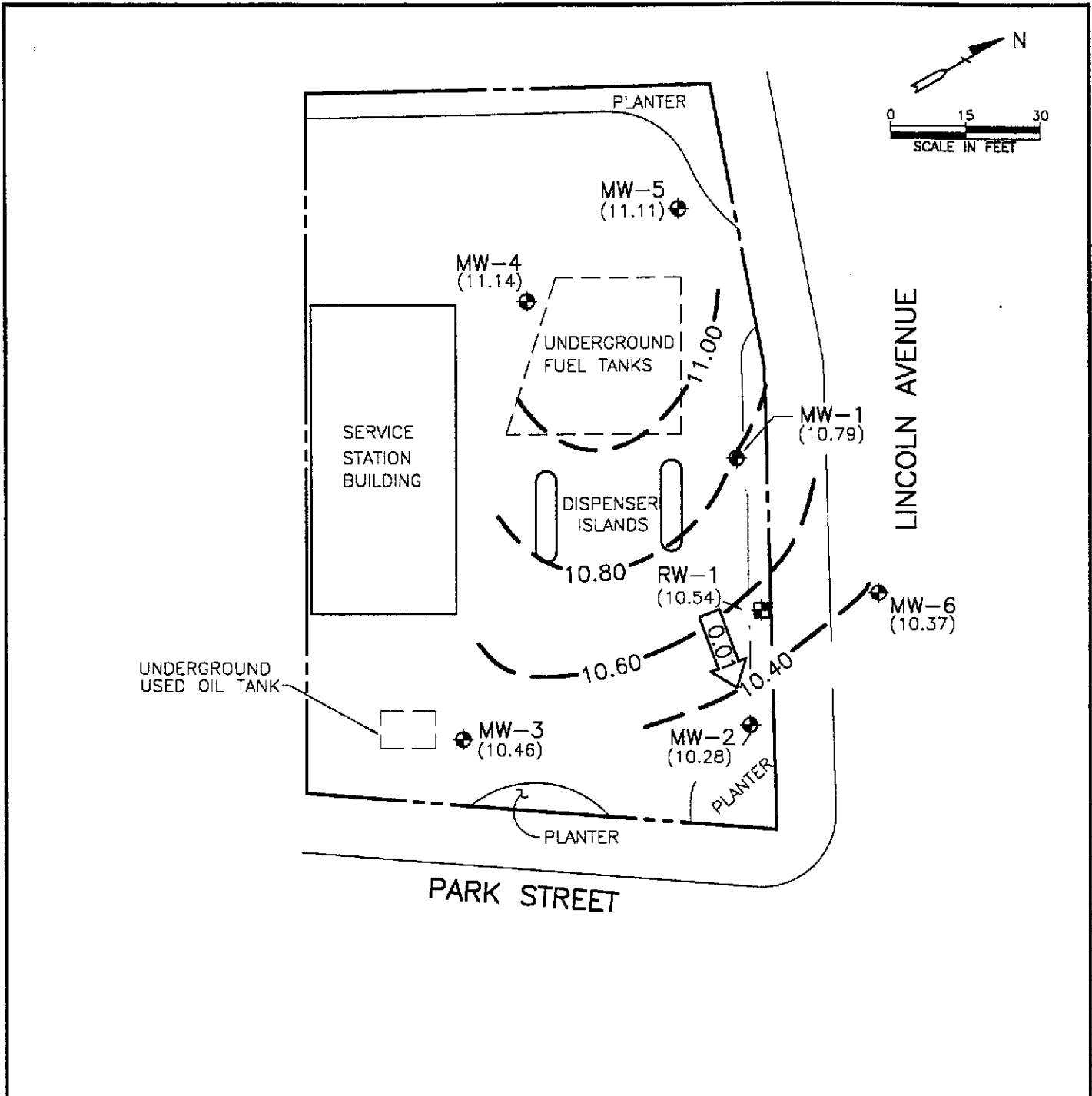
FIGURE 1

SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11266
1541 PARK STREET
ALAMEDA, CALIFORNIA
PROJECT NO. 10-050



ALISTO ENGINEERING GROUP
 WALNUT CREEK, CALIFORNIA



LEGEND

⊕ GROUNDWATER MONITORING WELL

⊞ GROUNDWATER RECOVERY WELL

(10.28) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL

— 10.40 — GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL—0.20 FOOT)

← 0.01 → CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

APRIL 18, 1996

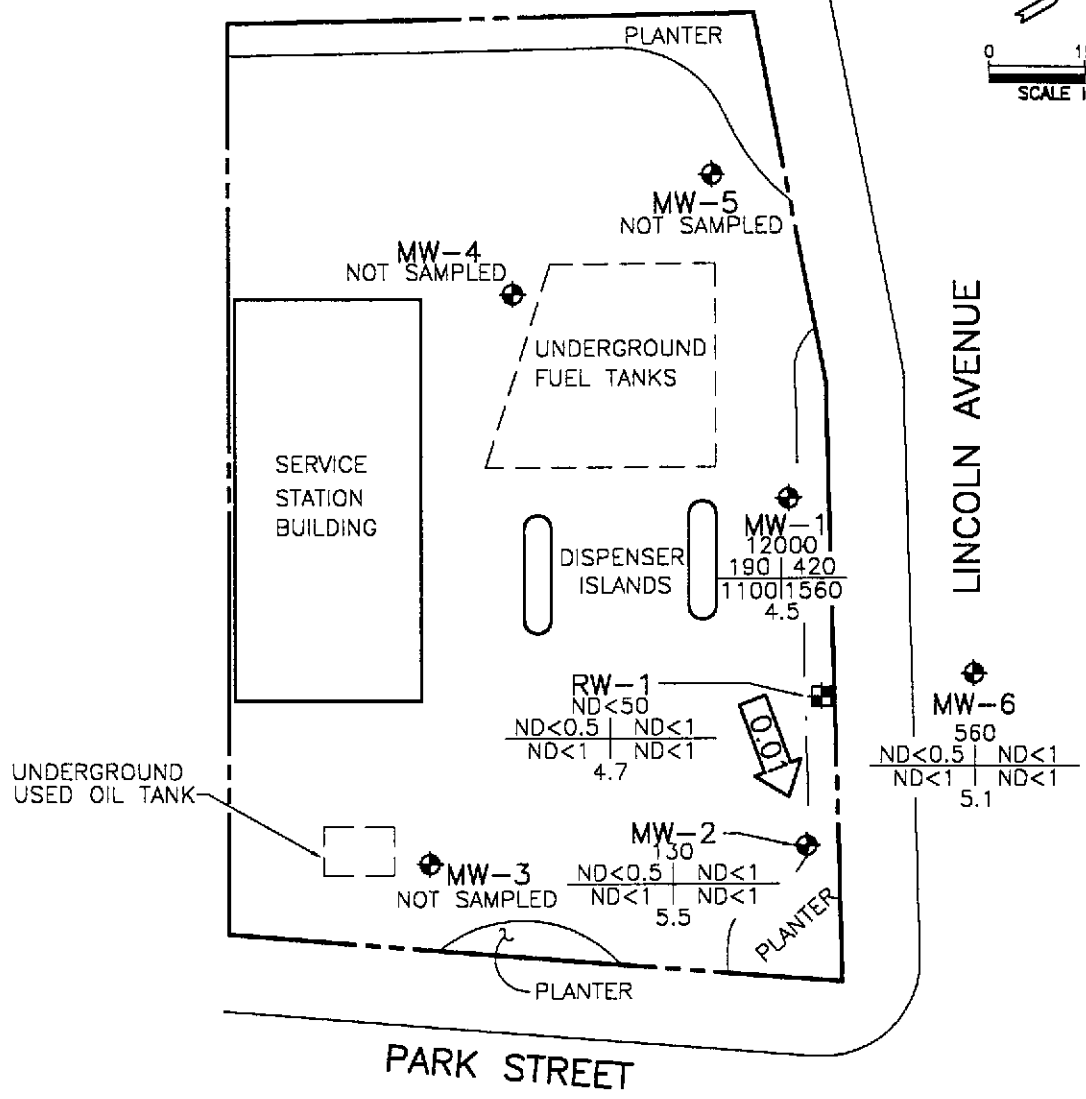
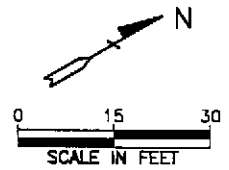
BP OIL SERVICE STATION NO. 11266

1541 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-050

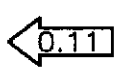


ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA



LEGEND

- ⊕ GROUNDWATER MONITORING WELL
- ⊕ GROUNDWATER RECOVERY WELL
- TPH-G CONCENTRATION OF CONSTITUENTS IN MICROGRAMS PER LITER, EXCEPT DISSOLVED OXYGEN, WHICH IS IN PARTS PER MILLION
- B | T
- E | X
- DO
- 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



CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

APRIL 18, 1996

BP OIL SERVICE STATION NO. 11266
1541 PARK STREET
ALAMEDA, CALIFORNIA

PROJECT NO. 10-050



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. 10-050-06-003
Address 1541 Park St.
Contract No. G620640
Station No. BP 11266

Date: 4/18/96
Day: M T W ~~TH~~ F
City: Alameda
Sampler: WB

DEPTH TO GROUNDWATER SUMMARY

QC = 2(TB) = S-6

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS:
MW-1	S-3	2"	21.88	8.40	Ø	1117	INSTALL ORC $QC-1 (S-5)$ from this well
MW-2	S-4	↓	21.88	18.90 9.04	↓	1119	DTW = 9.04
MW-3	NIS	↓	N/M	9.53	↓	1123	SEMI/JUNE-DEC
MW-4	↓	↓	↓	9.03	↓	1125	SEMI/JUNE-DEC
MW-5	↓	↓	↓	8.30	↓	1128	SEMI/JUNE-DEC
MW-6	S-2	↓	24.24	9.03	↓	1115	INSTALL ORC
RW-1	S-1	6"	29.54	8.73	↓	1110	

FIELD INSTRUMENT CALIBRATION DATA

pH METER Ism 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED Ⓢ N TIME 0900
D.O. METER Ism ZERO d.O. SOLUTION 0 BAROMETRIC PRESSURE 760 TEMP 0915 WEATHER Clear
CONDUCTIVITY METER Ism 10,000 TURBIDITY METER 5.0 NTU OTHER

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
RW-1	8.73	6"	OK	Ø	Y <u>Ⓢ</u>	30	1230	67.9	7.12	832µs	4.8	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX <u>ALL</u> <input type="checkbox"/> TPH Diesel <input type="checkbox"/> TOG 5520 TIME/SAMPLE ID
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						60		66.4	7.03	811µs		
$29.54 - 8.73 = 20.81 \times 1.47 = 30.59 \times 3 = 91.77$						92	1252	66.1	6.98	808µs	4.7	
Purge Method: <input checked="" type="checkbox"/> Surface Pump ODisp.Tube OWinch ODisp. Baller(s) OSys Port												
Comments:												300
MW-6	9.03	2"	OIL	Ø	Y <u>Ⓢ</u>	2	1315	68.7	7.37	772µs	5.1	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX <u>ALL</u> <input type="checkbox"/> TPH Diesel <input type="checkbox"/> TOG 5520 TIME/SAMPLE ID
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						5		67.4	7.19	741µs		
$24.24 - 9.03 = 15.21 \times .16 = 2.43 \times 3 = 7.29$						7.5	1324	67.0	7.14	736µs	5.1	
Purge Method: <input checked="" type="checkbox"/> Surface Pump ODisp.Tube OWinch ODisp. Baller(s) OSys Port												
Comments:												1326

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. 10-050-06-003

Address 1541 Park St.

Contract No. G620640

Station No. BP 11266

Date: 4/18/96

Day: M T W T F

City: Alameda

Sampler: WS

Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-1	8.40	2"	OK	Ø	Y (N)	2	1350	68.3	7.29	642 µs	4.2	<input type="checkbox"/> EPA 601 _____
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						4		67.6	7.17	588 µs		<input checked="" type="checkbox"/> TPH-G/BTEX HCL
21.88 - 8.40 = 13.48 x .16 = 2.16 x 3 = 6.48						6.5	1402	67.1	7.11	583 µs	4.5	<input type="checkbox"/> TPH Diesel _____
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Bailer(s) <input type="checkbox"/> Sys Port												<input type="checkbox"/> TOG 5520 _____
Comments: OC-1 (S-5) from this well												TIME/SAMPLE ID
												1410
Well ID	Depth to Water	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-2	9.04	2"	OK	Ø	Y (N)	2	1430	68.7	7.84	622 µs	5.2	<input type="checkbox"/> EPA 601 _____
Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.						4		67.7	7.70	583 µs		<input checked="" type="checkbox"/> TPH-G/BTEX HCL
21.88 - 9.04 = 12.84 x .16 = 2.05 x 3 = 6.15						6.5	1442	66.9	7.63	587 µs	5.5	<input type="checkbox"/> TPH Diesel _____
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Bailer(s) <input type="checkbox"/> Sys Port												<input type="checkbox"/> TOG 5520 _____
Comments:												TIME/SAMPLE ID
												1450

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD



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

SPL, INC.

REPORT APPROVAL SHEET

WORK ORDER NUMBER: 96 - 04 - A85

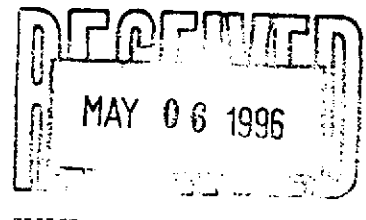
Approved for release by:

M. Scott Sample
M. Scott Sample, Laboratory Director

Date: 4/30/96

Ed Fry
Ed Fry, Project Manager

Date: 4/30/96



**HOUSTON LABORATORY**8880 INTERCHANGE DRIVE
HOUSTON, TEXAS 77054
PHONE (713) 660-0901**Certificate of Analysis No. H9-9604A85-01**Alisto Engineering
1575 Treat Blvd.
Walnut Creek, CA 94598
ATTN: Brady NagleP.O.#
G620640 , COC#070720
DATE: 04/29/96**PROJECT:** BP Oil #11266
SITE: Alameda, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-1**PROJECT NO:** 10-050-06
MATRIX: WATER
DATE SAMPLED: 04/18/96
DATE RECEIVED: 04/20/96**ANALYTICAL DATA**

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1 P	µg/L
Ethylbenzene	ND	1 P	µg/L
Total Xylene	ND	1 P	µg/L

Surrogate	% Recovery
1,4-Difluorobenzene	93
4-Bromofluorobenzene	105

METHOD 8020***

Analyzed by: DAO

Date: 04/27/96

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

Surrogate	% Recovery
1,4-Difluorobenzene	90
4-Bromofluorobenzene	78

CA LUFT - Gasoline

Analyzed by: DAO

Date: 04/27/96 07:52:00

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. H9-9604A85-02

Alisto Engineering
 1575 Treat Blvd.
 Walnut Creek, CA 94598
 ATTN: Brady Nagle

P.O.#
 G620640 , COC#070720
 DATE: 04/29/96

PROJECT: BP Oil #11266
 SITE: Alameda, CA
 SAMPLED BY: Alisto Engineering
 SAMPLE ID: S-2

PROJECT NO: 10-050-06
 MATRIX: WATER
 DATE SAMPLED: 04/18/96
 DATE RECEIVED: 04/20/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	860	500 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1 P	µg/L
Ethylbenzene	ND	1 P	µg/L
Total Xylene	ND	1 P	µg/L

Surrogate

% Recovery

1,4-Difluorobenzene
 4-Bromofluorobenzene

93
 106

METHOD 8020***

Analyzed by: VHZ

Date: 04/27/96

Total Petroleum Hydrocarbons-Gasoline 0.56 0.05 P mg/L

Surrogate

% Recovery

1,4-Difluorobenzene
 4-Bromofluorobenzene

89
 78

CA LUFT - Gasoline

Analyzed by: DAO

Date: 04/27/96 08:21:00

(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. H9-9604A85-03

Alisto Engineering
 1575 Treat Blvd.
 Walnut Creek, CA 94598
 ATTN: Brady Nagle

P.O.#
 G620640 , COC#070720
 DATE: 04/29/96

PROJECT: BP Oil #11266
 SITE: Alameda, CA
 SAMPLED BY: Alisto Engineering
 SAMPLE ID: S-3

PROJECT NO: 10-050-06
 MATRIX: WATER
 DATE SAMPLED: 04/18/96
 DATE RECEIVED: 04/20/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	2100	500 P	µg/L
Benzene	190	25 P	µg/L
Toluene	420	50 P	µg/L
Ethylbenzene	1100	50 P	µg/L
Total Xylene	1560	50 P	µg/L

Surrogate

% Recovery

1,4-Difluorobenzene
 4-Bromofluorobenzene

95
 105

METHOD 8020***

Analyzed by: DAO

Date: 04/27/96

Total Petroleum Hydrocarbons-Gasoline 12 2.5 P mg/L

Surrogate

% Recovery

1,4-Difluorobenzene
 4-Bromofluorobenzene

89
 77

CA LUFT - Gasoline

Analyzed by: DAO

Date: 04/27/96 09:17:00

(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. H9-9604A85-04

Alisto Engineering
 1575 Treat Blvd.
 Walnut Creek, CA 94598
 ATTN: Brady Nagle

P.O.#
 G620640 , COC#070720
 DATE: 04/29/96

PROJECT: BP Oil #11266
 SITE: Alameda, CA
 SAMPLED BY: Alisto Engineering
 SAMPLE ID: S-4

PROJECT NO: 10-050-06
 MATRIX: WATER
 DATE SAMPLED: 04/18/96
 DATE RECEIVED: 04/20/96

PARAMETER	ANALYTICAL DATA		DETECTION LIMIT	UNITS
	RESULTS			
MTBE	170		10 P	µg/L
Benzene	ND		0.5 P	µg/L
Toluene	ND		1 P	µg/L
Ethylbenzene	ND		1 P	µg/L
Total Xylene	ND		1 P	µg/L
Surrogate		% Recovery		
1,4-Difluorobenzene		95		
4-Bromofluorobenzene		106		
METHOD 8020***				
Analyzed by: VHZ				
Date: 04/28/96				
Total Petroleum Hydrocarbons-Gasoline	0.13		0.05 P	mg/L
Surrogate		% Recovery		
1,4-Difluorobenzene		89		
4-Bromofluorobenzene		79		
CA LUFT - Gasoline				
Analyzed by: DAO				
Date: 04/27/96 08:49:00				

(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. H9-9604A85-05

Alisto Engineering
 1575 Treat Blvd.
 Walnut Creek, CA 94598
 ATTN: Brady Nagle

P.O.#
 G620640 , COC#070720
 DATE: 04/29/96

PROJECT: BP Oil #11266
 SITE: Alameda, CA
 SAMPLED BY: Alisto Engineering
 SAMPLE ID: S-5

PROJECT NO: 10-050-06
 MATRIX: WATER
 DATE SAMPLED: 04/18/96
 DATE RECEIVED: 04/20/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	2000	500 P	µg/L
Benzene	190	25 P	µg/L
Toluene	390	50 P	µg/L
Ethylbenzene	1100	50 P	µg/L
Total Xylene	1440	50 P	µg/L

Surrogate	% Recovery
1,4-Difluorobenzene	94
4-Bromofluorobenzene	103

METHOD 8020***

Analyzed by: DAO
 Date: 04/27/96

Total Petroleum Hydrocarbons-Gasoline	12	2.5 P	mg/L
---------------------------------------	----	-------	------

Surrogate	% Recovery
1,4-Difluorobenzene	87
4-Bromofluorobenzene	77

CA LUFT - Gasoline
 Analyzed by: DAO
 Date: 04/27/96 09:46:00

(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. H9-9604A85-06

Alisto Engineering
 1575 Treat Blvd.
 Walnut Creek, CA 94598
 ATTN: Brady Nagle

P.O.#
 G620640 , COC#070720
 DATE: 04/29/96

PROJECT: BP Oil #11266
 SITE: Alameda, CA
 SAMPLED BY: Alisto Engineering
 SAMPLE ID: S-6

PROJECT NO: 10-050-06
 MATRIX: WATER
 DATE SAMPLED: 04/18/96
 DATE RECEIVED: 04/20/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	10 P	µg/L
Benzene	ND	0.5 P	µg/L
Toluene	ND	1 P	µg/L
Ethylbenzene	ND	1 P	µg/L
Total Xylene	ND	1 P	µg/L

Surrogate

% Recovery

1,4-Difluorobenzene
 4-Bromofluorobenzene

92
 107

METHOD 8020***

Analyzed by: VHZ

Date: 04/27/96

Total Petroleum Hydrocarbons-Gasoline ND 0.05 P mg/L

Surrogate

% Recovery

1,4-Difluorobenzene
 4-Bromofluorobenzene

89
 79

CA LUFT - Gasoline

Analyzed by: VHZ

Date: 04/27/96 09:48:00

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



Matrix: Aqueous
Units: µg/L

Batch Id: HP_N960426185900

LABORATORY CONTROL SAMPLE

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
MTBE	ND	50	52	104	20 - 110
Benzene	ND	50	50	100	62 - 121
Toluene	ND	50	52	104	66 - 136
EthylBenzene	ND	50	50	100	70 - 136
O Xylene	ND	50	49	98.0	74 - 134
M & P Xylene	ND	100	97	97.0	77 - 140

M A T R I X S P I K E S

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
			MTBE	4	20	22	90.0	23	95.0
BENZENE	ND	20	19	95.0	19	95.0	0	25	39 - 150
TOLUENE	ND	20	21	105	22	110	4.65	26	56 - 134
ETHYLBENZENE	ND	20	19	95.0	18	90.0	5.41	38	61 - 128
O XYLENE	ND	20	18	90.0	18	90.0	0	29	40 - 130
M & P XYLENE	ND	40	35	87.5	35	87.5	0	20	43 - 152

Analyst: DAO

Sequence Date: 04/26/96

SPL ID of sample spiked: 9604A85-01A

Sample File ID: N__597.TX0

Method Blank File ID:

Blank Spike File ID: N__571.TX0

Matrix Spike File ID: N__573.TX0

Matrix Spike Duplicate File ID: N__574.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

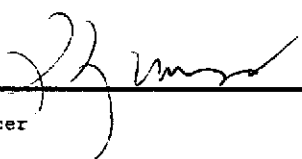
Relative Percent Difference = |(<4> - <5> | / [(<4> + <5>) x 0.5] x 100

(**) = Source: SPL-Houston Historical Data (3rd Q '95)

(***) = Source: SPL-Houston Historical Data (2nd Q '95)

SAMPLES IN BATCH(SPL ID):

9604A22-11B	9604D15-02A	9604D15-01A	9604A22-13A
9604A22-14A	9604A22-15A	9604A22-16A	9604A22-20A
9604A22-18A	9604A22-19A	9604A85-01A	9604A85-02A
9604A85-04A	9604A85-03A	9604A85-05A	9604D15-01A
9604D15-02A	9604D15-04A	9604841-12A	


 QC Officer



Matrix: Aqueous
Units: µg/L

Batch Id: HP_N960427122900

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
MTBE	ND	50	47	94.0	20 - 110
Benzene	ND	50	44	88.0	62 - 121
Toluene	ND	50	43	86.0	66 - 136
EthylBenzene	ND	50	44	88.0	70 - 136
O Xylene	ND	50	44	88.0	74 - 134
M & P Xylene	ND	100	86	86.0	77 - 140

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
MTBE	ND	20	16	80.0	17	85.0	6.06	20	39 - 150
BENZENE	ND	20	15	75.0	16	80.0	6.45	25	39 - 150
TOLUENE	ND	20	19	95.0	18	90.0	5.41	26	56 - 134
ETHYLBENZENE	ND	20	16	80.0	16	80.0	0	38	61 - 128
O XYLENE	ND	20	15	75.0	15	75.0	0	29	40 - 130
M & P XYLENE	ND	40	28	70.0	29	72.5	3.51	20	43 - 152

Analyst: VHZ

Sequence Date: 04/27/96

SPL ID of sample spiked: 9604A86-03A

Sample File ID: N_621.TX0

Method Blank File ID:

Blank Spike File ID: N_605.TX0

Matrix Spike File ID: N_641.TX0

Matrix Spike Duplicate File ID: N_642.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):

9604A86-01A 9604A86-02A 9604A22-17A 9604A22-12B
 9604A85-02A 9604A85-06A 9604A86-03A 9604A86-04A
 9604A86-05A 9604D40-01A 9604A86-06A 9604A86-07A
 9604A86-08A 9604A86-09A 9604A86-10A 9604A86-11A
 9604A86-12A 9604962-01A 9604A85-04A

QC Officer



Matrix: Aqueous
Units: mg/L

Batch Id: HP_N960426163600

LABORATORY CONTROL SAMPLE

S P I K E C O M P O U N D S	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) ‡ Recovery Range
			Result <1>	Recovery ‡	
Gasoline Petr. Hydrocarbon	ND	1.0	1.05	105	56 - 130

MATRIX SPIKES

S P I K E C O M P O U N D S	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative ‡ Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
			GASOLINE PETR. HYDROCARBON	0.56	0.9	1.22			

Analyst: DAO

Sequence Date: 04/26/96

SPL ID of sample spiked: 9604A85-02A

Sample File ID: NN_598.TX0

Method Blank File ID:

Blank Spike File ID: NN_570.TX0

Matrix Spike File ID: NN_575.TX0

Matrix Spike Duplicate File ID: NN_576.TX0

* = Values Outside QC Range

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

ND = Not Detected/Below Detection Limit

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

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

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

(**) = Source: SPL-Houston Historical data (3rd Q '95)

(***) = Source: SPL-Houston Historical Data (3rd Q '95)

SAMPLES IN BATCH(SPL ID):

9604A85-01A 9604A85-02A 9604A85-04A 9604A85-03A
9604A85-05A 9604841-12A

QC Officer



Matrix: Aqueous
Units: mg/L

Batch Id: HP_N960427135400

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike		QC Limits(**) (Mandatory) % Recovery Range
			Result <1>	Recovery %	
Petroleum Hydrocarbons-Gas	ND	1.0	0.84	84.0	50 - 150

MATRIX SPIKES

SPIKE COMPOUNDS	Sample Results <2>	Spike Added <3>	Matrix Spike		Matrix Spike Duplicate		MS/MSD Relative % Difference	QC Limits(***) (Advisory)	
			Result <1>	Recovery <4>	Result <1>	Recovery <5>		RPD Max.	Recovery Range
			PETROLEUM HYDROCARBONS-GAS	ND	0.9	0.76			

Analyst: VHZ

Sequence Date: 04/27/96

SPL ID of sample spiked: 9604A86-04A

Sample File ID: NN_622.TX0

Method Blank File ID:

Blank Spike File ID: NN_607.TX0

Matrix Spike File ID: NN_643.TX0

Matrix Spike Duplicate File ID: NN_644.TX0

* = Values Outside QC Range

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

ND = Not Detected/Below Detection Limit

% Recovery = $(\langle 1 \rangle - \langle 2 \rangle) / \langle 3 \rangle \times 100$

LCS % Recovery = $(\langle 1 \rangle / \langle 3 \rangle) \times 100$

Relative Percent Difference = $|\langle 4 \rangle - \langle 5 \rangle| / [(\langle 4 \rangle + \langle 5 \rangle) \times 0.5] \times 100$

(**) = Source: Temporary Limits

(***) = Source: Temporary Limits

SAMPLES IN BATCH(SPL ID):

9604A85-06A 9604A86-03A 9604A86-04A 9604A86-05A
 9604D40-01A 9604A86-06A 9604A86-07A 9604A86-08A
 9604A86-09A 9604A86-10A 9604A86-11A 9604A86-12A
 9604A86-01A 9604A86-02A

QC Officer

CHAIN OF CUSTODY
AND
SAMPLE RECEIPT CHECKLIST



OK 4/20/96

960485

CHAIN OF CUSTODY

No. 070720

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 11266	BP CORNER ADDRESS/CITY Alameda Ca			CONSULTANT PROJECT NUMBER 10-050-06		
CONSULTANT PROJECT MANAGER Brady Nyle		PHONE NUMBER (510) 295-1650	FAX NUMBER 295-1823		CONSULTANT CONTRACT NUMBER 6620640	
BP CONTACT Scott Houston	BP ADDRESS Kenton, WA		PHONE NUMBER -	FAX NO. -		
LAB CONTACT SPL	LABORATORY ADDRESS Texas		PHONE NUMBER -	FAX NO. -		
SAMPLED BY (Please Print Name) Larry Buenavista		SAMPLED BY (Signature) <i>[Signature]</i>		SHIPMENT DATE 4-19-96		SHIPMENT METHOD FedEx

TAT: 24 Hours 48 Hours 1 Week Standard 2 Weeks

ANALYSIS REQUIRED

AIRBILL NUMBER **9360716853**

SAMPLE DESCRIPTION	COLLECTION DATE	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE	LAB SAMPLE #	TPA-61 BTX-E	MTSE	PH P40	COMMENTS
	COLLECTION TIME		NO.	TYPE (VOL.)	LAB					
S-1	4/17/96	W	3	HCL						
S-2	↓	↓	↓	↓						
S-3	↓	↓	↓	↓						
S-4	↓	↓	↓	↓						
S-5	↓	↓	↓	↓						
S-6	↓	↓	2	↓						

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
<i>[Signature]</i>	4/19/96	1530	Patricia Lydon	4/19/96	1535	
Patricia Lydon	4/19/96	1600	S. West	4/20/96	1000	2°C In tact

SPL Houston Environmental Laboratory

Sample Login Checklist

Date: 4/20/96	Time: 1000
--	---

SPL Sample ID:

9604A85

		<u>Yes</u>	<u>No</u>
1	Chain-of-Custody (COC) form is present.	✓	
2	COC is properly completed.	✓	
3	If no, Non-Conformance Worksheet has been completed.		
4	Custody seals are present on the shipping container.	✓	
5	If yes, custody seals are intact.	✓	
6	All samples are tagged or labeled.	✓	
7	If no, Non-Conformance Worksheet has been completed.		
8	Sample containers arrived intact	✓	
9	Temperature of samples upon arrival:		2° C
10	Method of sample delivery to SPL:	SPL Delivery	
		Client Delivery	
		FedEx Delivery (airbill #)	9360716853
		Other:	
11	Method of sample disposal:	SPL Disposal	✓
		HOLD	
		Return to Client	

Name: S. Wood	Date: 4/20/96
--	--