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

Mr. Ed So
California Regional Water Quality Control Board
San Francisco Bay Region
2101 Webster Street, Suite 500
Oakland CA 94612

RE: BP OIL FACILITY #11126
1700 Powell Street
Emeryville, California

Dear Mr. So:

Attached please find our **GROUNDWATER MONITORING AND SAMPLING REPORT DATED May 30, 1996** for the above referenced facility. Plans for the following quarter include additional groundwater monitoring.

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\ERM11126

cc: Ms. Susan Hugo, Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Room 250, Oakland, CA 94502-6577

Mr. Brady Nagle, Alisto Engineering Group, 1777 Oakland Blvd., Suite 200, Walnut Creek, CA 94596

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. 11126
1700 Powell Street
Emeryville, California

Project No. 10-061-06-004

Prepared for:

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

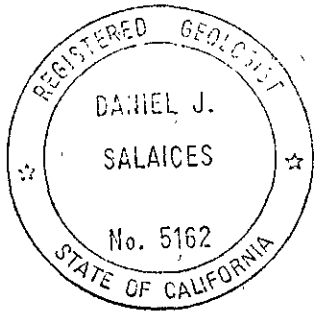
Prepared by:

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

May 30, 1996

William Howell
Project Manager

Dan Salaices
Registered Geologist



GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11126
1700 Powell Street
Emeryville, California

Project No. 10-061-06-004

May 30, 1996

INTRODUCTION

This report presents the results and findings of the April 24, 1996 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11126, 1700 Powell Street, Emeryville, 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 passive product recovery canister has been installed in Monitoring Well MW-9 to recover liquid-phase product. Product thicknesses for this and previous monitoring events are presented in Table 1. The volume of free product recovered from the well 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 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

WELL ID		DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	TOG (ug/l)	HVOC (ug/l) (c)	DO (ppm)	LAB
MW-1		11/04/92	7.76	4.96	—	2.80	5300	—	1100	480	ND<0.5	1500	—	—	—	—	PACE
MW-1		10/12/93	7.76	5.26	—	2.50	3600	—	970	71	100	550	—	—	—	—	PACE
MW-1		02/15/94	7.76	4.98	—	2.78	17000	—	4200	510	360	1600	—	—	—	3.9	PACE
MW-1		05/11/94	7.76	4.55	—	3.21	5500	—	2900	37	56	64	—	—	—	8.0	PACE
MW-1		08/01/94	7.76	5.51	—	2.25	15000	—	3600	740	510	2800	—	—	—	2.9	PACE
QC-1	(d)	08/01/94	8.56	—	—	—	16000	—	3600	750	510	2800	—	—	—	—	PACE
MW-1		10/18/94	7.76	5.11	—	2.65	16000	—	1800	61	160	890	—	—	—	2.9	PACE
QC-1	(d)	10/18/94	—	—	—	—	16000	—	1900	64	170	950	—	—	—	—	PACE
MW-1		01/13/95	7.76	3.05	—	4.71	220	—	7	ND<0.5	1	23	—	—	—	6.6	ATI
QC-1	(d)	01/13/95	—	—	—	—	590	—	88	0.7	ND<0.5	55	—	—	—	—	ATI
MW-1		04/13/95	7.76	3.84	—	3.92	9300	—	4000	300	200	950	—	—	—	7.7	ATI
MW-1		07/11/95	7.76	3.60	—	4.16	15000	—	2200	84	ND<25	2500	—	—	—	8.8	ATI
MW-1		11/02/95	7.76	4.58	—	3.18	19000	—	920	ND<100	ND<100	430	52000	—	—	7.3	ATI
MW-1		02/05/96	7.76	4.43	—	3.33	4600	—	1400	330	54	247	8700	—	—	3.2	SPL
MW-1		04/24/96	7.76	4.00	—	3.76	2000	—	510	33	61	228	4500	—	—	7.5	SPL
MW-2		11/04/92	8.56	5.88	—	2.68	12000	—	3900	1300	ND<0.5	2300	—	—	—	—	PACE
QC-1	(d)	11/04/92	8.56	5.88	—	2.68	12000	—	3200	980	ND<0.5	1900	—	—	—	—	PACE
MW-2		10/12/93	8.56	6.29	—	2.27	4500	—	3400	180	230	940	—	—	—	—	PACE
MW-2		02/15/94	8.56	5.56	—	3.00	2000	—	430	270	28	390	—	—	—	4.0	PACE
QC-1	(d)	02/15/94	8.56	5.56	—	3.00	1800	—	290	160	14	250	—	—	—	—	PACE
MW-2		05/11/94	8.56	5.17	—	3.39	14000	—	3900	1200	440	1900	—	—	—	8.9	PACE
QC-1	(d)	05/11/94	8.56	—	—	—	15000	—	5600	1500	470	2000	—	—	—	—	PACE
MW-2		08/01/94	8.56	5.43	—	3.13	8200	—	3000	420	230	680	—	—	—	2.6	PACE
MW-2		10/18/94	8.56	5.71	—	2.85	9000	—	2000	140	150	420	—	—	—	7.2	PACE
MW-2		01/13/95	8.56	4.67	—	3.89	7900	—	2200	42	ND<5	770	—	—	—	6.8	ATI
MW-2		04/13/95	8.56	4.37	—	4.19	33000	—	8000	2500	1100	6600	—	—	—	7.5	ATI
QC-1	(d)	04/13/95	8.56	—	—	—	25000	—	6500	1500	110	5300	—	—	—	—	ATI
MW-2		07/11/95	8.56	4.51	—	4.05	19000	—	3300	99	7.5	4600	—	—	—	7.8	ATI
QC-1	(d)	07/11/95	—	—	—	—	28000	—	6800	1000	900	4900	—	—	—	—	ATI
MW-2		11/02/95	8.56	5.55	—	3.01	20000	—	3800	1200	570	2700	15000	—	—	7.3	ATI
QC-1	(d)	11/02/95	—	—	—	—	22000	—	4000	1200	600	2700	19000	—	—	—	ATI
MW-2		02/05/96	8.56	5.10	—	3.46	1200	—	320	220	26	187	99	—	—	2.2	SPL
QC-1	(d)	02/05/96	—	—	—	—	910	—	290	180	19	137	93	—	—	—	SPL
MW-2		04/24/96	8.56	4.95	—	3.61	ND<500	—	70	22	ND<10	61	ND<50	—	—	7.0	SPL
QC-1	(d)	04/24/96	—	—	—	—	ND<500	—	100	30	ND<10	71	ND<100	—	—	—	SPL
MW-3		11/04/92	8.25	6.38	—	1.87	200	690	1.6	ND<0.5	ND<0.5	1.1	—	ND<5000	ND	—	PACE
MW-3		10/12/93	8.25	5.84	—	2.41	270	2100	5.0	0.7	ND<0.5	2.6	—	ND<5000	ND	—	PACE
QC-1	(d)	10/12/93	8.25	5.84	—	2.41	150	—	5.6	0.6	ND<0.5	1.6	—	—	—	—	PACE
MW-3		02/15/94	8.25	6.60	—	1.65	140	2.3	5.7	ND<0.5	ND<0.5	ND<0.5	—	90	ND	3.9	PACE
MW-3		05/11/94	8.25	5.86	—	2.39	190	2500	2.7	1.9	ND<0.5	1.9	—	ND<5000	ND	9.2	PACE
MW-3		08/01/94	8.25	6.13	—	2.12	120	1300	1.3	ND<0.5	0.5	1.1	—	ND<5000	ND	2.9	PACE
MW-3		10/18/94	8.25	6.39	—	1.86	100	2200	2.3	ND<0.5	ND<0.5	ND<0.5	—	ND<5000	ND	3.6	PACE
MW-3		01/13/95	8.25	5.47	—	2.78	ND<50	970	0.8	ND<0.5	ND<0.5	ND<1	—	—	ND	7.7	ATI
MW-3		04/13/95	8.25	5.17	—	3.08	530	ND<500	8.7	1.9	ND<0.5	3.9	—	2100	ND	8.4	ATI
MW-3		07/11/95	8.25	5.37	—	2.88	78	2100	0.57	ND<0.50	ND<0.50	ND<1.0	—	1900	ND	8.3	ATI
MW-3		11/02/95	8.25	6.29	—	1.96	250	2000	0.73	ND<0.50	ND<0.50	1.8	270	1400	ND	8.3	ATI
MW-3		02/05/96	8.25	5.80	—	2.45	ND<50	1600	ND<0.5	ND<1	ND<1	2.7	11	9000	ND	3.5	SPL
MW-3		04/24/96	8.25	5.69	—	2.56	ND<50	2800	ND<5	ND<10	ND<10	ND<10	150	6000	ND	8.6	SPL

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BP OIL COMPANY SERVICE STATION NO. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	TOG (ug/l)	HVOC (ug/l) (c)	DO (ppm)	LAB
MW-4	11/04/92	8.12	6.66	—	1.46	340	—	4.5	ND<0.5	4.3	ND<0.5	—	—	—	—	PACE
MW-4	10/12/93	8.12	6.87	—	1.25	160	—	5.8	1.4	0.8	2.7	—	—	—	—	PACE
MW-4	02/15/94	8 12	6.61	—	1.51	110	—	4.4	0.7	ND<0.5	2.5	—	—	—	4.3	PACE
MW-4	05/11/94	8.12	5.89	—	2.23	120	—	0.5	0.8	ND<0.5	ND<0.5	—	—	—	9.3	PACE
MW-4	08/01/94	8.12	6.87	—	1.25	140	—	0.7	2.0	5.2	15	—	—	—	3.3	PACE
MW-4	10/18/94	8.12	6.62	—	1.50	140	—	3.5	ND<0.5	0.5	ND<0.5	—	—	—	3.0	PACE
MW-4	01/13/95	8.12	7.27	—	0.85	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1	—	—	—	7.9	ATI
MW-4	04/13/95	8.12	6.51	—	1.61	73	—	1.2	ND<0.5	ND<0.5	ND<1	—	—	—	9.9	ATI
MW-4	07/11/95	8.12	6.21	—	1.91	82	—	0.57	ND<0.50	ND<0.50	ND<1.0	—	—	—	7.2	ATI
MW-4	11/02/95	8.12	6.78	—	1.34	71	—	1.4	0.96	0.99	2.8	140	—	—	8.6	ATI
MW-4	02/05/96	8.12	6.41	—	1.71	ND<50	—	ND<5	ND<10	ND<10	ND<10	200	—	—	4.4	SPL
MW-4	04/24/96	8.12	6.18	—	1.94	ND<250	—	ND<2.5	ND<5	ND<5	ND<5	510	—	—	8.3	SPL
MW-5	10/12/93	7.69	6.01	—	1.68	—	—	—	—	—	—	—	—	—	—	—
MW-5	10/13/93	—	—	—	—	2300	—	160	10	ND<0.5	26	—	—	—	—	PACE
MW-5	02/15/94	7.69	5.74	—	1.95	5100	—	710	16	33	35	—	—	—	4.0	PACE
MW-5	05/11/94	7.69	5.28	—	2.41	11000	—	1100	39	110	57	—	—	—	8.0	PACE
MW-5	08/01/94	7.69	5.84	—	1.85	9000	—	730	35	61	41	—	—	—	2.6	PACE
MW-5	10/18/94	7.69	6.01	—	1.68	7800	—	330	30	27	27	—	—	—	5.6	PACE
MW-5	01/13/95	7.69	4.74	—	2.95	ND<500	—	290	6	ND<5	18	—	—	—	6.8	ATI
MW-5	04/13/95	7.69	5.50	—	2.19	9100	—	400	15	52	27	—	—	—	7.4	ATI
MW-5	07/11/95	7.69	5.75	—	1.94	7300	—	390	13	28	23	—	—	—	7.2	ATI
MW-5	11/03/95	7.69	6.65	—	1.04	7200	—	270	15	38	23	200	—	—	8.4	ATI
MW-5	02/05/96	7.69	4.83	—	2.86	4600	—	370	15	53	28	ND<50	—	—	1.9	SPL
MW-5	04/24/96	7.69	6.09	—	1.60	3000	—	180	ND<10	32	14	ND<100	—	—	8.1	SPL
MW-6	10/12/93	8.52	6.59	—	1.93	63	—	ND<0.5	ND<0.5	ND<0 5	ND<0 5	—	—	—	—	PACE
MW-6	02/15/94	8.52	6.31	—	2.21	68	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	3.1	PACE
MW-6	05/11/94	8.52	6.15	—	2.37	68	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	8.7	PACE
MW-6	08/01/94	8.52	6.46	—	2 06	91	—	ND<0 5	ND<0.5	ND<0.5	0.6	—	—	—	2.4	PACE
MW-6	10/18/94	8.52	6.72	—	1.80	ND<50	—	ND<0.5	ND<0 5	ND<0.5	ND<0.5	—	—	—	6.0	PACE
MW-6	01/13/95	8.52	5.95	—	2.57	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1	—	—	—	7.0	ATI
MW-6	04/13/95	8.52	5.44	—	3.08	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<1	—	—	—	8.5	ATI
MW-6	07/11/95	8.52	5.68	—	2 84	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	—	—	8.4	ATI
MW-6	11/02/95	8.52	6.57	—	1.95	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	35	—	—	8.3	ATI
MW-6	02/05/96	8.52	6 27	—	2.25	ND<50	—	ND<5	ND<10	ND<10	ND<10	ND<100	—	—	2 2	SPL
MW-6	04/24/96	8.52	5 95	—	2.57	ND<250	—	ND<2.5	ND<5	ND<5	ND<5	62	—	—	8 0	SPL

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BP OIL COMPANY SERVICE STATION NO. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	TOG (ug/l)	HVOC (ug/l) (c)	DO (ppm)	LAB
MW-7	10/12/93	7.61	6.14	---	1.47	ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.7	---	---	---	---	PACE
MW-7	02/15/94	7.61	5.88	---	1.73	78	---	ND<0.5	ND<0.5	ND<0.5	0.6	---	---	---	4.0	PACE
MW-7	05/11/94	7 61	5.76	---	1.85	70	---	ND<0.5	ND<0.5	ND<0.5	0.9	---	---	---	9.1	PACE
MW-7	08/01/94	7.61	5.97	---	1.64	77	---	ND<0.5	ND<0.5	ND<0.5	0.5	---	---	---	2.5	PACE
MW-7	10/18/94	7.61	6.24	---	1.37	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	6.3	PACE
MW-7	01/13/95	7.61	5.39	---	2.22	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	8.2	ATI
MW-7	04/13/95	7.61	5.17	---	2.44	63	---	ND<0.5	ND<0.5	ND<0.5	1.4	---	---	---	8.4	ATI
MW-7	07/11/95	7.61	5.25	---	2.36	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	7.9	ATI
MW-7	11/02/95	7.61	6.19	---	1.42	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	55	---	---	8.0	ATI
MW-7	02/05/96	7.61	5.69	---	1.92	ND<50	---	ND<0.5	ND<1	ND<1	ND<1	40	---	---	1.9	SPL
MW-7	04/24/96	7.61	5.59	---	2.02	ND<250	---	ND<2.5	ND<5	ND<5	ND<5	53	---	---	8.2	SPL
MW-8	10/12/93	8.60	5.86	---	2.74	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
MW-8	02/15/94	8.60	5.50	---	3.10	380	---	ND<0.5	ND<0.5	ND<0.5	ND<0 5	---	---	---	3.3	PACE
MW-8	05/11/94	8.60	5.09	---	3.51	330	---	ND<0.5	1.2	ND<0.5	1.9	---	---	---	8.5	PACE
MW-8	08/01/94	8.60	5.20	---	3.40	260	---	ND<0.5	1.2	2.9	5.8	---	---	---	2.3	PACE
MW-8	10/18/94	8.60	5.70	---	2.90	82	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	6 4	PACE
MW-8	01/13/95	8 60	4.96	---	3.64	ND<50	---	ND<0 5	ND<0.5	ND<0.5	ND<1	---	---	---	6.9	ATI
MW-8	04/13/95	8.60	5.40	---	3.20	270	---	ND<0.5	ND<0.5	ND<0.5	4.4	---	---	---	8.4	ATI
MW-8	07/11/95	8.60	6.01	---	2.59	320	---	ND<0.50	ND<0.50	ND<0.50	3.5	---	---	---	8.0	ATI
MW-8	11/02/95	8.60	6.81	---	1.79	100	---	ND<0.50	ND<0 50	ND<0.50	ND<1.0	ND<5.0	---	---	8.7	ATI
MW-8	02/05/96	8.60	6.12	---	2.48	ND<50	---	ND<5	ND<10	ND<10	ND<10	ND<100	---	---	1.5	SPL
MW-8	04/24/96	8.60	6.23	---	2.37	ND<50	---	ND<5	ND<10	ND<10	ND<10	ND<100	---	---	8.7	SPL
MW-9	10/12/93	8.08	5.66	0.08	2.48	---	---	---	---	---	---	---	---	---	---	---
MW-9	02/15/94	8.08	5.32	0.05	2.80	---	---	---	---	---	---	---	---	---	---	---
MW-9	05/11/94	8.08	5.57	---	2.51	---	---	---	---	---	---	---	---	---	---	---
MW-9	08/01/94	8.08	6.25	---	1.83	---	---	---	---	---	---	---	---	---	---	---
MW-9	10/18/94	8.08	5.59	0 13	2.59	---	---	---	---	---	---	---	---	---	---	---
MW-9	01/13/95	8.08	4.42	0.14	3.77	---	---	---	---	---	---	---	---	---	---	---
MW-9	04/13/95	8.08	4.06	0.11	4 10	---	---	---	---	---	---	---	---	---	---	---
MW-9	07/11/95	8.08	4.21	0.08	3.93	---	---	---	---	---	---	---	---	---	---	---
MW-9	11/02/95	8.08	5.22	0.05	2.90	---	---	---	---	---	---	---	---	---	---	---
MW-9	02/05/96	8.08	4.76	0.01	3.33	---	---	---	---	---	---	---	---	---	---	---
MW-9	04/24/96	8.08	4.62	0.09	3.53	---	---	---	---	---	---	---	---	---	---	---

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ug/l)	TPH-D (ug/l)	B (ug/l)	T (ug/l)	E (ug/l)	X (ug/l)	MTBE (ug/l)	TOG (ug/l)	HVOC (ug/l) (c)	DO (ppm)	LAB
QC-2 (e)	11/05/92	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2 (e)	10/12/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2 (e)	02/15/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2 (e)	05/11/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2 (e)	08/01/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2 (e)	10/18/94	---	---	---	---	ND<50	---	ND<0.5	ND<0 5	ND<0.5	ND<0.5	---	---	---	---	PACE
QC-2 (e)	01/13/95	---	---	---	---	ND<50	---	ND<0.5	ND<0 5	ND<0.5	ND<1	---	---	---	---	ATI
QC-2 (e)	04/13/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	---	ATI
QC-2 (e)	07/11/95	---	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	---	ATI
QC-2 (e)	11/02/95	---	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	---	---	ATI
QC-2 (e)	02/05/96	---	---	---	---	ND<50	---	ND<0 5	ND<1	ND<1	ND<1	ND<10	---	---	---	SPL
QC-2 (e)	04/24/96	---	---	---	---	ND<50	---	ND<0 5	ND<1	ND<1	ND<1	ND<10	---	---	---	SPL

ABBREVIATIONS:

TPH-G	Total petroleum hydrocarbons as gasoline
TPH-D	Total petroleum hydrocarbons as diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Total xylenes
MTBE	Methyl tert butyl ether
TOG	Total oil and grease
HVOC	Halogenated volatile organic compounds
DO	Dissolved oxygen
ug/l	Micrograms per liter
ppm	Parts per million
ND	Not detected above reported detection limit
---	Not analyzed/applicable/measurable
PACE	Pace, Inc.
ATI	Analytical Technologies, Inc.
SPL	SPL, Inc.

NOTES:

(a) Top of casing elevations surveyed relative to an established benchmark with an elevation of 8.11 feet above mean sea level.

(b) Groundwater elevations adjusted assuming a specific gravity of 0.75 for free product.

(c) Detection limits vary; see laboratory report.

(d) Blind duplicate.

(e) Travel blank.

F:\0\10-061\061-6-4.WQ2

TABLE 2
PRODUCT REMOVAL STATUS
BP OIL COMPANY SERVICE STATION NO. 11126
1700 POWELL STREET, EMERYVILLE, CALIFORNIA

ALISTO PROJECT NO. 10-061

WELL ID	DATE	PRODUCT THICKNESS (Feet)	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)
MW-9	12/02/93	4.62	0.15	0.15
MW-9	12/09/93	2.45	0.15	0.30
MW-9	12/30/93	2.39	0.15	0.45
MW-9	01/12/94	2.15	0.02	0.47
MW-9	02/02/94	1.82	Sheen	0.47
MW-9	02/15/94	3.75	0.35	0.82
MW-9	05/11/94	3.00	Sheen	0.82
MW-9	05/27/94	1.50	Sheen	0.82
MW-9	06/25/94	1.32	Sheen	0.82
MW-9	08/01/94	---	Sheen	0.82
MW-9	10/18/94	0.13	---	0.82
MW-9	01/13/95	0.14	---	0.82
MW-9	04/13/95	0.11	---	0.82
MW-9	07/11/95	0.08	0.13	0.90
MW-9	04/24/96	0.09	0.06	0.91

ABBREVIATIONS:

--- Not applicable

E:\0\10-061\PRODUCT.WQ1

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

N

0 1000' 2000'

FIGURE 1

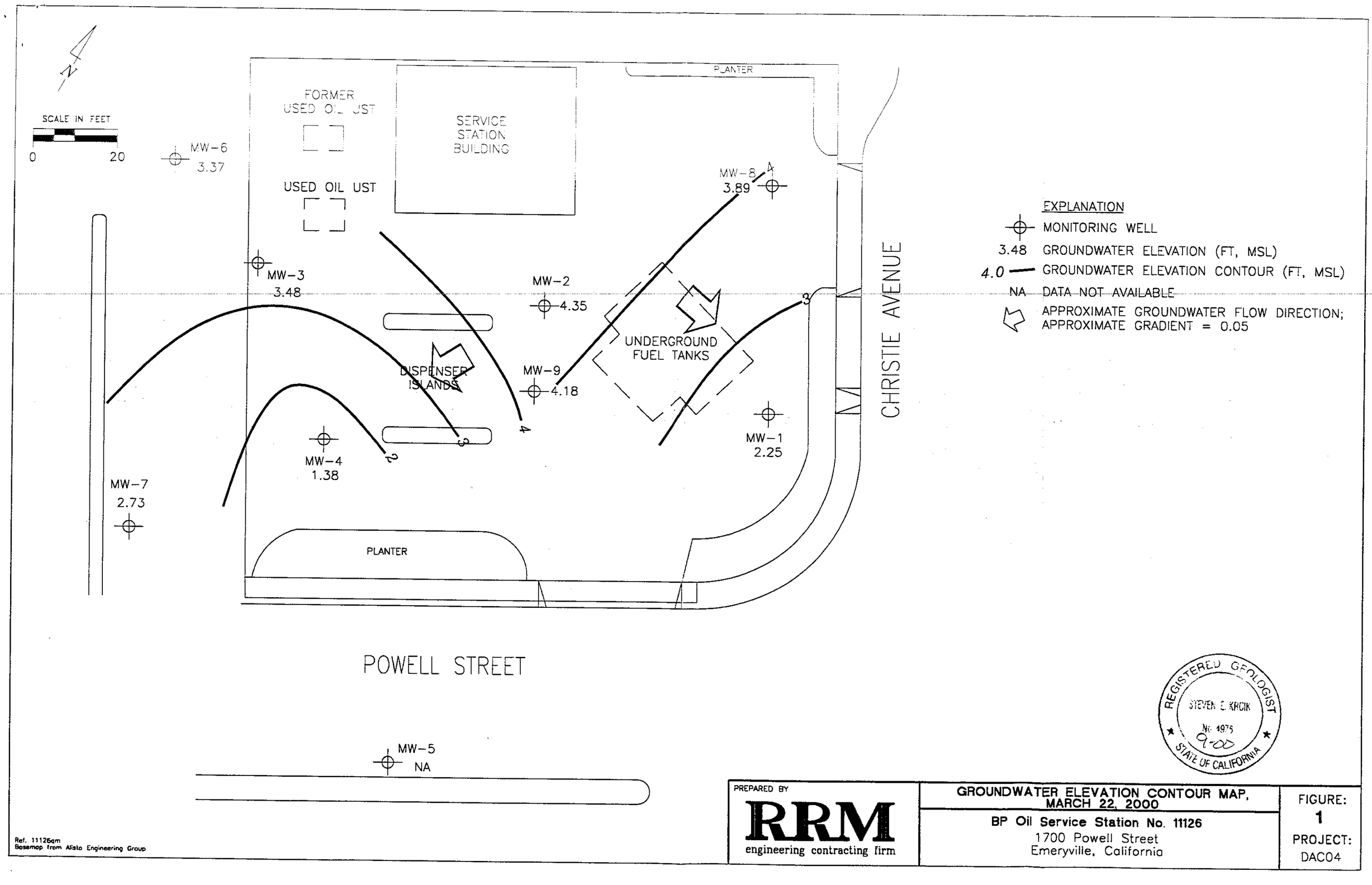
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11126
1700 POWELL STREET
EMERYVILLE, CALIFORNIA

PROJECT NO. 10-061

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10061B--DWG 12-30-93 RKW 1=1



REGISTERED GEOLOGIST
STEVEN E. KROCK
No. 4975
9-00
STATE OF CALIFORNIA

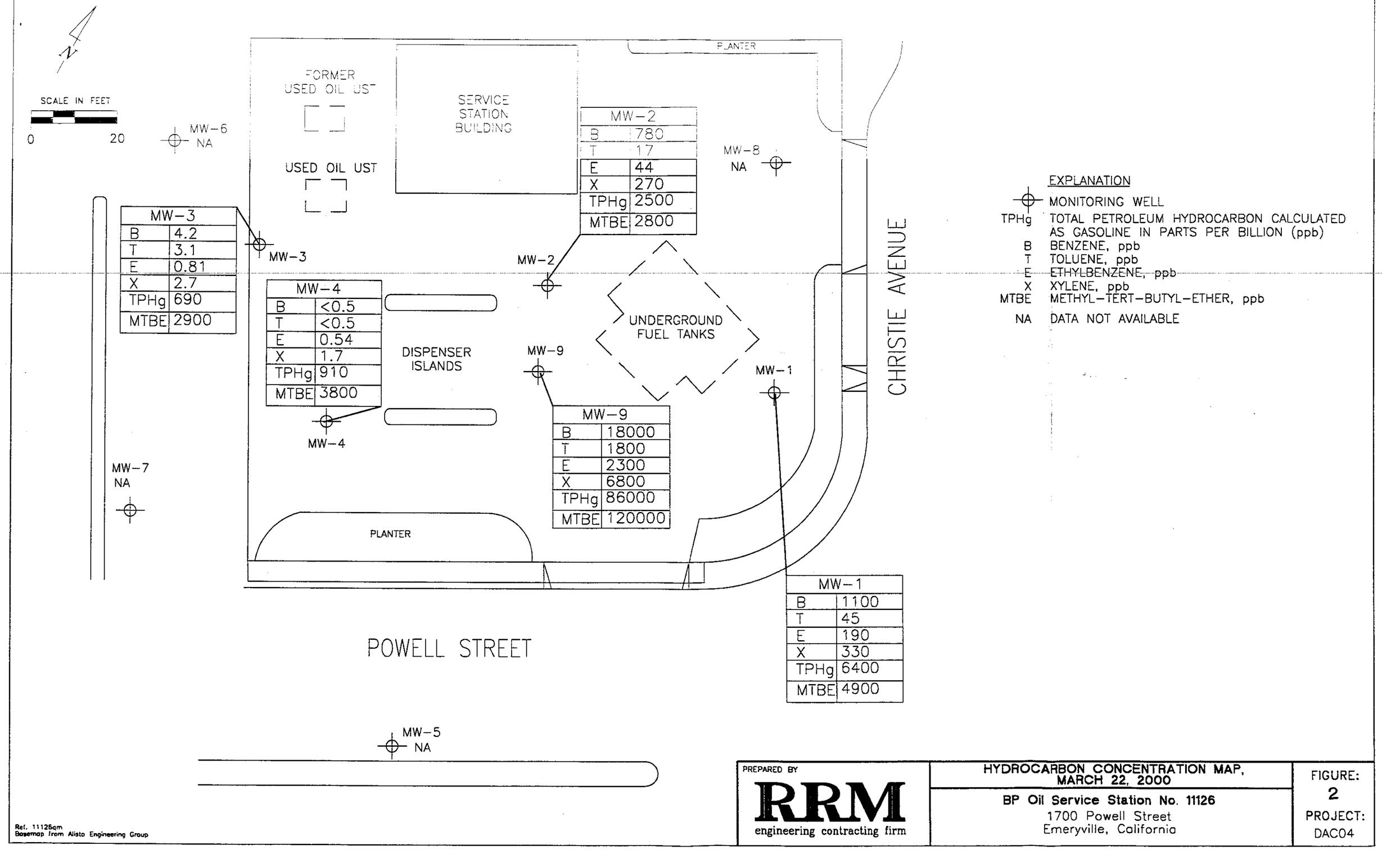
Ref. 11126gm
Basemap from Alisto Engineering Group

PREPARED BY
RRM
engineering contracting firm

GROUNDWATER ELEVATION CONTOUR MAP, MARCH 22, 2000

BP Oil Service Station No. 11126
1700 Powell Street
Emeryville, California

FIGURE:
1
PROJECT:
DAC04



EXPLANATION

⊕	MONITORING WELL
TPHg	TOTAL PETROLEUM HYDROCARBON CALCULATED AS GASOLINE IN PARTS PER BILLION (ppb)
B	BENZENE, ppb
T	TOLUENE, ppb
E	ETHYLBENZENE, ppb
X	XYLENE, ppb
MTBE	METHYL-TERT-BUTYL-ETHER, ppb
NA	DATA NOT AVAILABLE

Ref. 11126qm
Basemap from Alisto Engineering Group

PREPARED BY
RRM
engineering contracting firm

HYDROCARBON CONCENTRATION MAP, MARCH 22, 2000

BP Oil Service Station No. 11126
1700 Powell Street
Emeryville, California

FIGURE: 2
PROJECT: DAC04

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO

Field Report / Sampling Data Sheet

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201

Project No. 10-061-06-004 Date: 4/24/96
Address 1700 Powell St. Day: M T W TH F
Contract No. G602099 City: Emeryville
Station No. BP 11126 Sampler: LB

DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME MONITORED	COMMENTS: QC-2 TB = S-10
MW-1	S-7	2"	11.62	4.00	Ø	1043	DTW = 4.00'
MW-2	S-8		11.83	4.95		1046	QC-1 Dup from this well (S-9)
MW-3	S-5		12.08	5.69		1035	DTW = 5.69'
MW-4	~~S-4~~		11.06	6.18		1030	SAMPLE ID = S-4
MW-5	S-6		13.70	6.09		1038	
MW-6	S-1		13.25	5.95		1015	
MW-7	S-2		13.72	5.59		1018	
MW-8	S-3	↓	13.65	6.23	↓	1025	
MW-9	N/S	4"	N/M	4.62	.09	1050	Removed 5 gal TF & Approx .06 gal F.P.

FIELD INSTRUMENT CALIBRATION DATA

pH METER Aqua Check 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED @ N TIME 1000

D.O. METER " ZERO d.O. SOLUTION 0 BAROMETRIC PRESSURE 760 TEMP 67 WEATHER clear

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

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-6	5.95	2"	OK	Ø	Y (N)	1	1202	65.7	7.62	3.98 ms	7.7
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			2		65.1	7.56	4.02 ms	
13.25-5.95 = 7.30	x.16 = 1.17	x3 =	3.51			3.5	1207	64.4	7.48	4.05 ms	8.0
Purge Method: (S)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601 ____
⊗ TPH-G/BTEX HCl
O TPH Diesel ____
O TOG 5520 ____
TIME/SAMPLE ID: 1212

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-7	5.59	2"	OK	Ø	Y (N)	1	1222	67.2	7.82	3.99 ms	7.9
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			2		66.5	7.63	3.81 ms	
13.72-5.59 = 8.13	x.16 = 1.30	x3 =	3.90			4	1226	66.1	7.59	3.77 ms	8.2
Purge Method: (S)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

O EPA 601 ____
⊗ TPH-G/BTEX HCl
O TPH Diesel ____
O TOG 5520 ____
TIME/SAMPLE ID: 1230

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. 10-061-06-004 Date: 4/24/96
Address 1700 Powell St. Day: M T W TH F
Contract No. G602099 City: Emeryville
Station No. BP 11126 Sampler: LCS

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-8	6.23	2"	OK	Ø	Y (N)	1	1237	67.1	8.21	2.21ms	8.3
						2		66.3	8.02	2.23ms	
						4	1244	65.8	7.99	2.26ms	8.7

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
13.65 - 6.23 = 7.42 x .16 = 1.19 x 3 = 3.57
Purge Method: (X)Surface 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: 1247

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-4	6.18	2"	OK	Ø	Y (N)	1	1239	66.4	7.79	3.95ms	8.1
						2		65.7	7.51	4.02ms	
						2.5	1250	65.3	7.49	4.03ms	8.3

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
11.06 - 6.18 = 4.88 x .16 = .78 x 3 = 2.34
Purge Method: (X)Surface 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: 1256

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-3	5.69	2"	OK	Ø	Y (N)	1	1320	67.5	7.72	5.11ms	8.2
						2		66.1	7.53	4.63ms	
						3.5	1330	66.1	7.40	4.57ms	8.6

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
12.09 - 5.69 = 6.39 x .16 = 1.02 x 3 = 3.06
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

(X) EPA 601___
(X) TPH-G/BTEX HCl
(X) TPH Diesel HCl
(X) TOG 5520 HCl
TIME/SAMPLE ID: 1339

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-5	6.09	2"	OK	Ø	Y (N)	1	1352	67.3	7.77	3.99ms	7.9
						2		66.4	7.63	3.71ms	
						4	1410	66.0	7.60	7.67ms	8.1

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
13.70 - 6.09 = 7.61 x .16 = 1.22 x 3 = 3.66
Purge Method: (X)Surface 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: 1412

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-1	4.00	2"	OK	Ø	Y (N)	1	1421	66.4	7.88	1.71ms	6.9
						2		65.6	7.69	1.60ms	
						4	1430	64.9	7.72	1.50ms	7.5

Total Depth - Water Level= x Well Vol. Factor= x#vol. to Purge PurgeVol.
11.62 - 4.00 = 7.62 x .16 = 1.22 x 3 = 3.66
Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments: Monument Weak Lid (6")

(X) EPA 601___
(X) TPH-G/BTEX HCl
O TPH Diesel___
O TOG 5520 ___
TIME/SAMPLE ID: 1433

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. 10-061-06-004 Date: 4/24/96
Address 1700 Powell St. Day: M T (W) TH F
Contract No. G602099 City: Emeryville
Station No. BP 11126 Sampler: CB

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-2	4.95	2"	OK	Ø	Y (N)	1	1445	67.7	7.73	1.74ms	6.8
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			2		66.1	7.54	1.49ms	
11.83 - 4.95 = 6.88	X .16 = 1.10	X 3 = 3.30				3.5	1450	65.7	7.44	1.43ms	7.0
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments: Needs New Monument Dug (S-9)											

- (X) TPH-G/BTEX Hcl
- ( ) EPA 601
- ( ) TPH Diesel
- ( ) TOG 5520

TIME/SAMPLE ID: 1500

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
					Y N						
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.								
Purge Method: OSurface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port											
Comments:											

- ( ) EPA 601
- ( ) TPH-G/BTEX
- ( ) TPH Diesel
- ( ) TOG 5520

TIME/SAMPLE ID:

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 - E08

Approved for release by:

Brent Barron, Client Services Supervisor Date: 5/9/96

Ed Fry, Project Manager Date: 5/8/96

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

Certificate of Analysis No. H9-9604E08-01

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

P.O.# G602099 , COC#070724
DATE: 05/08/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-1

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 04/24/96
DATE RECEIVED: 04/27/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	62	50 P	µg/L
Benzene	ND	2.5 P	µg/L
Toluene	ND	5 P	µg/L
Ethylbenzene	ND	5 P	µg/L
Total Xylene	ND	5 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	85		
4-Bromofluorobenzene	79		
METHOD 8020***			
Analyzed by: LJ			
Date: 05/07/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.25 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	109		
4-Bromofluorobenzene	57		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 05/07/96 01:43:00			

(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. H9-9604E08-02

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

P.O.# G602099 , COC#070724
DATE: 05/08/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-2

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 04/24/96
DATE RECEIVED: 04/27/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	53	50 P	µg/L
Benzene	ND	2.5 P	µg/L
Toluene	ND	5 P	µg/L
Ethylbenzene	ND	5 P	µg/L
Total Xylene	ND	5 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	86		
4-Bromofluorobenzene	79		
METHOD 8020***			
Analyzed by: LJ			
Date: 05/07/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.25 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	114		
4-Bromofluorobenzene	56		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 05/07/96 03:55:00			

(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. H9-9604E08-03

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

P.O.# G602099 , COC#070724
DATE: 05/08/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-3

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 04/24/96
DATE RECEIVED: 04/27/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	100 P	µg/L
Benzene	ND	5 P	µg/L
Toluene	ND	10 P	µg/L
Ethylbenzene	ND	10 P	µg/L
Total Xylene	ND	10 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	84		
4-Bromofluorobenzene	79		
METHOD 8020***			
Analyzed by: LJ			
Date: 05/07/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	110		
4-Bromofluorobenzene	58		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 05/07/96 04:21:00			

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

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

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

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

Certificate of Analysis No. H9-9604E08-04

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

P.O.# G602099 , COC#070724
DATE: 05/08/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-4

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 04/24/96
DATE RECEIVED: 04/27/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	510	50 P	µg/L
Benzene	ND	2.5 P	µg/L
Toluene	ND	5 P	µg/L
Ethylbenzene	ND	5 P	µg/L
Total Xylene	ND	5 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	85		
4-Bromofluorobenzene	80		
METHOD 8020***			
Analyzed by: LJ			
Date: 05/07/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.25 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	110		
4-Bromofluorobenzene	57		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 05/07/96 04:48:00			

(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. H9-9604E08-05

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

P.O.# G602099 , COC#070724
DATE: 05/08/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-5

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 04/24/96
DATE RECEIVED: 04/27/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	150	100 P	µg/L
Benzene	ND	5 P	µg/L
Toluene	ND	10 P	µg/L
Ethylbenzene	ND	10 P	µg/L
Total Xylene	ND	10 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	84		
4-Bromofluorobenzene	74		
METHOD 8020***			
Analyzed by: LJ			
Date: 05/07/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	111		
4-Bromofluorobenzene	53		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 05/07/96 05:14:00			
Total Petroleum Hydrocarbons-Diesel	2.8	0.050 P	mg/L
Surrogate	**% Recovery**		
o-Terphenyl	CI		

(P) - Practical Quantitation Limit ND - Not detected.
CI - Coeluting interference.

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. H9-9604E08-05

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

P.O.# G602099 , COC#070724
DATE: 05/08/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-5

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 04/24/96
DATE RECEIVED: 04/27/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
2-Fluorobiphenyl	CI		
CA LUFT - Diesel			
Analyzed by: RR			
Date: 05/07/96 10:22:00			
Liquid-liquid extraction	04/29/96		
METHOD 3510B ***			
Analyzed by: DR			
Date: 04/29/96 12:00:00			
Hydrocarbons by Gravimetry	6	0.5	mg/L
Method 5520 B & F **			
Analyzed by: DR			
Date: 05/06/96 09:00:00			

CI - Coeluting interference.

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

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

Certificate of Analysis No. H9-9604E08-09

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

P.O.# G602099 , COC#070724
DATE: 05/08/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-9

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 04/24/96
DATE RECEIVED: 04/27/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	100 P	µg/L
Benzene	100	5 P	µg/L
Toluene	30	10 P	µg/L
Ethylbenzene	ND	10 P	µg/L
Total Xylene	71	10 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	88		
4-Bromofluorobenzene	81		
METHOD 8020***			
Analyzed by: LJ			
Date: 05/07/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	115		
4-Bromofluorobenzene	59		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 05/07/96 06:59:00			

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

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

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

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

Certificate of Analysis No. H9-9604E08-08

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

P.O.# G602099 , COC#070724
DATE: 05/09/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-8

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 04/24/96
DATE RECEIVED: 04/27/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	50 P	µg/L
Benzene	70	5 P	µg/L
Toluene	22	10 P	µg/L
Ethylbenzene	ND	10 P	µg/L
Total Xylene	61	10 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	82		
4-Bromofluorobenzene	78		
METHOD 8020***			
Analyzed by: LJ			
Date: 05/07/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	113		
4-Bromofluorobenzene	59		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 05/07/96 06:33:00			

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. H9-9604E08-07

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

P.O.# G602099 , COC#070724
DATE: 05/08/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-7

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 04/24/96
DATE RECEIVED: 04/27/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	4500	100 P	µg/L
Benzene	510	5 P	µg/L
Toluene	33	10 P	µg/L
Ethylbenzene	61	10 P	µg/L
Total Xylene	228	10 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	96		
4-Bromofluorobenzene	87		
METHOD 8020***			
Analyzed by: LJ			
Date: 05/07/96			
Total Petroleum Hydrocarbons-Gasoline	2.0	0.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	118		
4-Bromofluorobenzene	94		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 05/07/96 06:07:00			

(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

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PHONE (713) 660-0901

Certificate of Analysis No. H9-9604E08-06

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

P.O.# G602099 , COC#070724
DATE: 05/08/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-6

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 04/24/96
DATE RECEIVED: 04/27/96

ANALYTICAL DATA

PARAMETER	RESULTS	DETECTION LIMIT	UNITS
MTBE	ND	100 P	µg/L
Benzene	180	5 P	µg/L
Toluene	ND	10 P	µg/L
Ethylbenzene	32	10 P	µg/L
Total Xylene	14	10 P	µg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	98		
4-Bromofluorobenzene	123		
METHOD 8020***			
Analyzed by: LJ			
Date: 05/07/96			
Total Petroleum Hydrocarbons-Gasoline	3.0	0.5 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	143		
4-Bromofluorobenzene	120		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 05/07/96 05:40:00			

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

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

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

Certificate of Analysis No. H9-9604E08-05

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

P.O.# G602099 , COC#070724
05/08/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-5

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 04/24/96
DATE RECEIVED: 04/27/96

ANALYTICAL DATA

PARAMETER	RESULTS	PQL*	UNITS
Dichlorodifluoromethane	ND	1	µg/L
Chloromethane	ND	1	µg/L
Vinyl chloride	ND	1	µg/L
Bromomethane	ND	1	µg/L
Chloroethane	ND	1	µg/L
Trichlorofluoromethane	ND	1	µg/L
1,1-Dichloroethene	ND	1	µg/L
Methylene chloride	ND	1	µg/L
Trans-1,2-Dichloroethene	ND	1	µg/L
1,1-Dichloroethane	ND	1	µg/L
Chloroform	ND	1	µg/L
1,1,1-Trichloroethane	ND	1	µg/L
Carbon tetrachloride	ND	1	µg/L
1,2-Dichloroethane	ND	1	µg/L
2-Chloroethylvinyl ether	ND	1	µg/L
Trichloroethene	ND	1	µg/L
1,2-Dichloropropane	ND	1	µg/L
Bromodichloromethane	ND	1	µg/L
cis-1,3-Dichloropropene	ND	1	µg/L
trans-1,3-Dichloropropene	ND	1	µg/L
1,1,2-Trichloroethane	ND	1	µg/L
Tetrachloroethene	ND	1	µg/L
Dibromochloromethane	ND	1	µg/L
Chlorobenzene	ND	1	µg/L
Bromoform	ND	1	µg/L
1,1,2,2-Tetrachloroethane	ND	1	µg/L
1,3-Dichlorobenzene	ND	1	µg/L
1,4-Dichlorobenzene	ND	1	µg/L
1,2-Dichlorobenzene	ND	1	µg/L

METHOD: 601, Halogenated Volatile Organics

(continued on next page)

HOUSTON LABORATORY
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Certificate of Analysis No. H9-9604E08-05

Alisto Engineering **SAMPLE ID:** S-5

SURROGATES	**% RECOVERY**
1-Chloro-2-Fluorobenzene	98

ANALYZED BY: JZL DATE/TIME: 05/02/96 12:59:00
METHOD: 601, Halogenated 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

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

Certificate of Analysis No. H9-9604E08-10

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

P.O.# G602099 , COC#070724
DATE: 05/08/96

PROJECT: BP Oil #11126
SITE: Emeryville, CA
SAMPLED BY: Alisto Engineering
SAMPLE ID: S-10

PROJECT NO: 10-061-06
MATRIX: WATER
DATE SAMPLED: 01/04/96
DATE RECEIVED: 04/27/96

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	84		
4-Bromofluorobenzene	78		
METHOD 8020***			
Analyzed by: LJ			
Date: 05/07/96			
Total Petroleum Hydrocarbons-Gasoline	ND	0.05 P	mg/L
Surrogate	**% Recovery**		
1,4-Difluorobenzene	109		
4-Bromofluorobenzene	54		
CA LUFT - Gasoline			
Analyzed by: LJ			
Date: 05/07/96 07:26:00			

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

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

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SPL California License # 1903

QUALITY CONTROL

DOCUMENTATION

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

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 601**

Matrix: Aqueous
Units: µg/L

Batch Id: HP_F960502021200

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Dichlorodifluoromethane	ND	20	22	110	1 - 200
Chloromethane	ND	20	32	160	1 - 193
Vinyl chloride	ND	20	26	130	28 - 163
Bromomethane	ND	20	24	120	1 - 144
Chloroethane	ND	20	27	135	46 - 137
Trichlorofluoromethane	ND	20	23	115	21 - 156
1,1-Dichloroethene	ND	20	26	130	28 - 167
Methylene chloride	ND	20	26	130	25 - 162
Trans-1,2-Dichloroethene	ND	20	23	115	38 - 155
1,1-Dichloroethane	ND	20	23	115	34 - 132
Chloroform	ND	20	22	110	49 - 133
1,1,1-Trichloroethane	ND	20	22	110	41 - 138
Carbon tetrachloride	ND	20	22	110	43 - 143
1,2-Dichloroethane	ND	20	21	105	51 - 147
2-Chloroethylvinyl ether	ND	20	20	100	14 - 186
Trichloroethene	ND	20	22	110	35 - 146
1,2-Dichloropropane	ND	20	21	105	44 - 156
Bromodichloromethane	ND	20	22	110	42 - 172
cis-1,3-Dichloropropene	ND	20	20	100	22 - 178
trans-1,3-Dichloropropene	ND	20	20	100	33 - 178
1,1,2-Trichloroethane	ND	20	22	110	39 - 136
Tetrachloroethene	ND	20	23	115	26 - 162
Dibromochloromethane	ND	20	21	105	24 - 191
Chlorobenzene	ND	20	22	110	38 - 150
Bromoform	ND	20	21	105	13 - 159
1,1,2,2-Tetrachloroethane	ND	20	20	100	8 - 184
1,3-Dichlorobenzene	ND	20	22	110	7 - 187
1,4-Dichlorobenzene	ND	20	23	115	42 - 143
1,2-Dichlorobenzene	ND	20	23	115	1 - 208

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
DICHLORODIFLUOROMETHANE	ND	20	21	105	19	95.0	10.0	20	1 - 200
CHLOROMETHANE	ND	20	28	140	22	110	24.0 *	20	1 - 193
VINYL CHLORIDE	ND	20	27	135	20	100	29.8 *	20	28 - 163
BROMOMETHANE	ND	20	24	120	19	95.0	23.3 *	20	1 - 144
CHLOROETHANE	ND	20	31	155 *	24	120	25.5 *	20	46 - 137

QC Officer

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

** SPL BATCH QUALITY CONTROL REPORT **
METHOD 601**

Matrix: Aqueous
Units: µg/L

Batch Id: HP_F960502021200

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
TRICHLOROFLUOROMETHANE	ND	20	26	130	20	100	26.1 *	20	21 - 156
1,1-DICHLOROETHENE	ND	20	24	120	20	100	18.2	20	28 - 167
METHYLENE CHLORIDE	ND	20	36	180 *	23	115	44.1 *	20	25 - 162
TRANS-1,2-DICHLOROETHENE	ND	20	23	115	21	105	9.09	20	38 - 155
1,1-DICHLOROETHANE	ND	20	23	115	21	105	9.09	20	47 - 132
CHLOROFORM	ND	20	22	110	20	100	9.52	20	49 - 133
1,1,1-TRICHLOROETHANE	ND	20	23	115	20	100	14.0	20	41 - 138
CARBON TETRACHLORIDE	ND	20	23	115	19	95.0	19.0	20	43 - 143
1,2-DICHLOROETHANE	ND	20	22	110	20	100	9.52	20	51 - 147
2-CHLOROETHYLVINYL ETHER	ND	20	0	0 *	0	0 *	0	20	14 - 186
TRICHLOROETHENE	ND	20	24	120	20	100	18.2	20	35 - 146
1,2-DICHLOROPROPANE	ND	20	23	115	20	100	14.0	20	44 - 156
BROMODICHLOROMETHANE	ND	20	24	120	22	110	8.70	20	42 - 172
CIS-1,3-DICHLOROPROPENE	ND	20	20	100	19	95.0	5.13	20	22 - 178
TRANS-1,3-DICHLOROPROPENE	ND	20	19	95.0	18	90.0	5.41	20	33 - 178
1,1,2-TRICHLOROETHANE	ND	20	21	105	21	105	0	20	39 - 136
TETRACHLOROETHENE	ND	20	22	110	20	100	9.52	20	26 - 162
DIBROMOCHLOROMETHANE	ND	20	20	100	20	100	0	20	24 - 191
CHLOROBENZENE	ND	20	21	105	20	100	4.88	20	38 - 150
BROMOFORM	ND	20	20	100	16	80.0	22.2 *	20	13 - 159
1,1,2,2-TETRACHLOROETHANE	ND	20	21	105	18	90.0	15.4	20	8 - 184
1,3-DICHLOROBENZENE	ND	20	22	110	18	90.0	20.0	20	7 - 187
1,4-DICHLOROBENZENE	ND	20	22	110	16	80.0	31.6 *	20	42 - 143
1,2-DICHLOROBENZENE	ND	20	22	110	19	95.0	14.6	20	1 - 208

Analyst: JZL
Sequence Date: 05/02/96
SPL ID of sample spiked: 9604E30-01A
Sample File ID: FF__452.TX0
Method Blank File ID:
Blank Spike File ID: FF__443.TX0
Matrix Spike File ID: FF__446.TX0
Matrix Spike Duplicate File ID: FF__447.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: 601, Table 2
(***) = Source: SPL Temporary Limits

SAMPLES IN BATCH(SPL ID): 9604E30-01A 9604E08-05D 9604D98-08B 9604D84-10B 9604D84-11B 9604D84-12B 9605117-01A 9605099-05A 9605099-06A 9604D43-03B

QC Officer

HOUSTON LABORATORY
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_J960506041900

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	48	96.0	20 - 110
Benzene	ND	50	54	108	62 - 121
Toluene	ND	50	54	108	66 - 136
EthylBenzene	ND	50	54	108	70 - 136
O Xylene	ND	50	55	110	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	ND	20	25	125	26	130	3.92	20	39 - 150
BENZENE	ND	20	27	135	27	135	0	25	39 - 150
TOLUENE	ND	20	25	125	25	125	0	26	56 - 134
ETHYLBENZENE	ND	20	24	120	24	120	0	38	61 - 128
O XYLENE	ND	20	22	110	24	120	8.70	29	40 - 130
M & P XYLENE	ND	40	45	112	48	120	6.90	20	43 - 152

Analyst: LJ
Sequence Date: 05/06/96
SPL ID of sample spiked: 9604E08-10A
Sample File ID: J___708.TX0
Method Blank File ID:
Blank Spike File ID: J___680.TX0
Matrix Spike File ID: J___712.TX0
Matrix Spike Duplicate File ID: J___713.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 (4th Q '95)

SAMPLES IN BATCH(SPL ID):

9604C95-03A 9604C95-07A 9604C95-04A 9604C95-05A
9604C95-06A 9604C95-08A 9604C95-09A 9604C95-10A
9604E08-01A 9604E08-02A 9604E08-03A 9604E08-04A
9604E08-05A 9604E08-06A 9604E08-07A 9604E08-08A
9604E08-09A 9604E08-10A 9605189-01A

QC Officer

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

** SPL BATCH QUALITY CONTROL REPORT **

CA LUFT

Matrix: Aqueous

Batch Id: HP_J960506041901

Units: mg/L

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Petroleum Hydrocarbons-Gas	ND	0.9	0.92	102	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	0.96	107	0.95	106	0.939	50	50 - 150

Analyst: LJ

Sequence Date: 05/06/96

SPL ID of sample spiked: 9604C95-10A

Sample File ID: JJ__694.TX0

Method Blank File ID:

Blank Spike File ID: JJ__681.TX0

Matrix Spike File ID: JJ__714.TX0

Matrix Spike Duplicate File ID: JJ__715.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):

9604C95-03A 9604C95-07A 9604C95-04A 9604C95-05A
9604C95-06A 9604C95-08A 9604C95-09A 9604C95-10A
9604E08-01A 9604E08-02A 9604E08-03A 9604E08-04A
9604E08-05A 9604E08-06A 9604E08-07A 9604E08-08A
9604E08-09A 9604E08-10A 9605189-01A

QC Officer

HOUSTON LABORATORY
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** SPL BATCH QUALITY CONTROL REPORT **
Mod. 8015 - Diesel

Matrix: Aqueous
Units: mg/L

Batch Id: HPTT960504082600

LABORATORY CONTROL SAMPLE

SPIKE COMPOUNDS	Method Blank Result <2>	Spike Added <3>	Blank Spike Result <1>	Blank Spike Recovery %	QC Limits(**) (Mandatory) % Recovery Range
Diesel Petr. Hydrocarbons	ND	250	270.78	108	20 - 130

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
DIESEL PETR. HYDROCARBONS	ND	5.0	4.88	97.4	4.77	95.2	2.28	43	20 - 177

Analyst: RR
Sequence Date: 05/02/96
SPL ID of sample spiked: 9604A84-03B
Sample File ID: TT__479.TX0
Method Blank File ID:
Blank Spike File ID: T___045.TX0
Matrix Spike File ID: TT__480.TX0
Matrix Spike Duplicate File ID: TT__481.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 (2nd Q '94)
(***) = Source: SPL-Houston Historical Data

SAMPLES IN BATCH(SPL ID):

9604B66-03B 9604B66-06B 9604B66-07B 9604C27-02A
9604E08-05B 9604B66-04B 9604B66-02B 9604C27-01A
9604B66-01B 9604A84-03B 9604B66-05B

QC Officer

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** SPL QUALITY CONTROL REPORT **

Matrix: Aqueous

Reported on: 05/06/96
Analyzed on: 05/06/96
Analyst: DR

This sample was randomly selected for use in the SPL quality control program. Samples chosen are fortified with a known concentration in duplicate. The results are as follows:

Hydrocarbons by Gravimetry
Method 5520 B & F **

SPL Sample ID Number	Blank Value mg/l	Amt Added mg/l	Matrix Spike Recovery %	Matrix Spike Duplicate Recovery %	Relative Percent Difference %	QC Limits Recovery	RPD Max.
BLANK	ND	4.0	92.5	92.5	0	82. - 112	9.8

960506DR -9605246

Samples in batch:

9604D98-08D 9604E08-05C 9605110-02C 9605202-02C

COMMENTS:

SPL, Incorporated

QC Officer

CHAIN OF CUSTODY

AND

SAMPLE RECEIPT CHECKLIST

9604E08

BP

TCB 4/27

CHAIN OF CUSTODY

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CONSULTANT'S NAME	ADDRESS	CITY	STATE	ZIP CODE
Allisto Engineering	1575 Treat Blvd #201	W.C.	Ca	94598

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11126	Emeryville, Ca	10-061-06

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
Brady Nagle	(510) 295-1650	295-1823	6602099

BP CONTACT	BP ADDRESS	PHONE NUMBER	FAX NO
Scott Hooton	Renton, WA	–	–

LAB CONTACT	LABORATORY ADDRESS	PHONE NUMBER	FAX NO
SPL	Texas	–	–

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
Larry Buenvenida	[signature]	4-26-96	Fed Ex

TAT: ☐ 24 Hours ☐ 48 Hours ☐ 1 Week ☒ Standard 2 Weeks

AIRBILL NUMBER: 9360716901

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH-G BTEX	MTBE	VOCs	TPH-D	TOG 5520	COMMENTS
S-1	4/24/96	W	3	HCL		X	X				pHs checked @ LAB
S-2	↓	↓	↓	VOAs		↓	↓				BTEX FRAC 01A,
S-3	↓	↓	↓	Liters		↓	↓				2A, 5A, 5D (6a)
S-4	↓	↓	↓			↓	↓				+ 7A = 7
S-5	↓	↓	↓			↓	↓	X	X	X	Others = 1
S-6	↓	↓	↓			↓	↓				TOG, + TPH-D = 1
S-7	↓	↓	↓			↓	↓				DB 4/27
S-8	↓	↓	↓			↓	↓				
S-9	↓	↓	3			↓	↓				
S-10	4/24/96	W	3	↓		↓	↓				

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	4/25/96	1600	Patricia Yelton	4/25/96	1630
Patricia Yelton	4/26/96		[signature] / SPL	4-27-96	1000

ADDITIONAL COMMENTS: ROI - Intact 3°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:
4/27/96	1000

SPL Sample ID:
9604E08

			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:		3° C	
10	Method of sample delivery to SPL:	SPL Delivery		
		Client Delivery		
		FedEx Delivery (airbill #)	936071690 1	
		Other:		
11	Method of sample disposal:	SPL Disposal	✓	
		HOLD		
		Return to Client		

Name:	Date:
D. Bocca	4/27/96