



**BP OIL**

BP Oil Company  
Environmental Resources Management  
Building 13, Suite N  
295 SW 41st Street  
Renton, Washington 98055-4931  
(206) 251-0687

August 14, 1995

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 June 13, 1995 for the above referenced facility. Please note that Pacific Environmental Group is under contract to perform a pump test and vapor extraction test at this site.

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

Respectfully,

Scott T. Hooton  
Environmental Resources Management

STH:mu 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 Andrew Lehane, Pacific Environmental Group, 2025 Gateway Place Ste 440, San Jose, CA 95110

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

Site File

95 AUG 17 PM 2:23  
PACIFIC ENVIRONMENTAL GROUP

98101

JUN 20 1995

GROUNDWATER MONITORING AND SAMPLING ENVIRONMENTAL DEPT.  
WEST COAST REGION OFFICE

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

Project No. 10-061-04-002

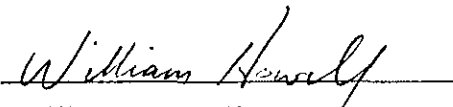
Prepared for:

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

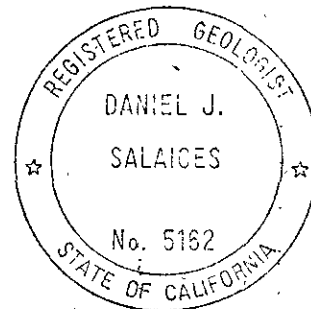
June 13, 1995



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. 10-061-04-002

June 13, 1995

## INTRODUCTION

This report presents the results and findings of the April 13, 1995 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 in 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 in Figure 2. The results of groundwater analysis are shown in 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)	TOG (ug/l)	HVOC (ug/l)	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 (c)	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 (c)	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 (c)	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-2	11/04/92	8.56	5.88	--	2.68	12000	--	3900	1300	ND<0.5	2300	--	--	--	PACE
QC-1 (c)	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	5.58	--	3.00	2000	--	430	270	28	390	--	--	4.0	PACE
QC-1 (c)	02/15/94	8.56	5.58	--	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 (c)	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 (c)	04/13/95	8.56	--	--	--	25000	--	6500	1500	110	5300	--	--	--	ATI
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 (d)	--	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 (d)	--	PACE
QC-1 (c)	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 (d)	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 (d)	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 (d)	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 (d)	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 (d)	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 (d)	8.4	ATI
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-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

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

AJLSTO 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)	TOG (ug/l)	HVOC (ug/l)	DO (ppm)	LAB
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-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-8	10/12/93	8.60	5.88	---	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-9 (e)	10/12/93	8.08	5.66	0.08	2.48	---	---	---	---	---	---	---	---	---	---
MW-9 (e)	02/15/94	8.08	5.32	0.05	2.80	---	---	---	---	---	---	---	---	---	---
MW-9 (e)	05/11/94	8.08	5.57	---	2.51	---	---	---	---	---	---	---	---	---	---
MW-9 (e)	08/01/94	8.08	6.25	---	1.83	---	---	---	---	---	---	---	---	---	---
MW-9 (e)	10/18/94	8.08	5.59	0.13	2.59	---	---	---	---	---	---	---	---	---	---
MW-9 (e)	01/13/95	8.08	4.42	0.14	3.77	---	---	---	---	---	---	---	---	---	---
MW-9 (e)	04/13/95	8.08	4.06	0.11	4.10	---	---	---	---	---	---	---	---	---	---
QC-2 (f)	11/05/92	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	10/12/93	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	02/15/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	05/11/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	08/01/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	10/18/94	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2 (f)	01/13/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	ATI
QC-2 (f)	04/13/95	---	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	ATI

ABBREVIATIONS:

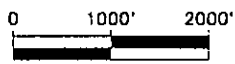
TPH-G Total petroleum hydrocarbons as gasoline  
 TPH-D Total petroleum hydrocarbons as diesel  
 B Benzene  
 T Toluene  
 E Ethylbenzene  
 X Total xylenes  
 TOG Total oil and grease  
 HVOC Halogenated volatile organic compounds  
 DO Dissolved oxygen  
 ug/l Micrograms per liter  
 ppb - Parts per billion  
 ppm Parts per million  
 ND Not detected above reported detection limit  
 --- Not analyzed/applicable/measurable  
 PACE Pace, Inc.  
 ATI Analytical Technologies, 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 in feet above mean sea level.  
 (c) Blind duplicate.  
 (d) Detection limits vary; see laboratory report.  
 (e) Well not sampled due to presence of free product. Groundwater elevation adjusted assuming a specific gravity of 0.75 for free product.  
 (f) Travel blank.



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



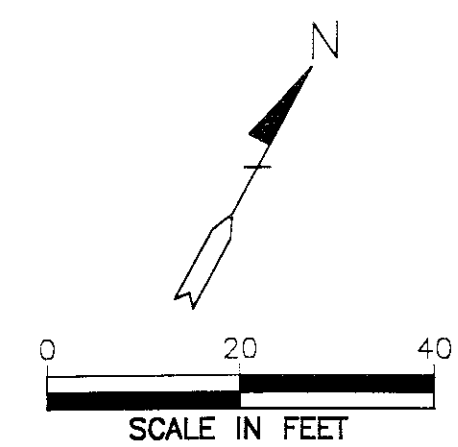
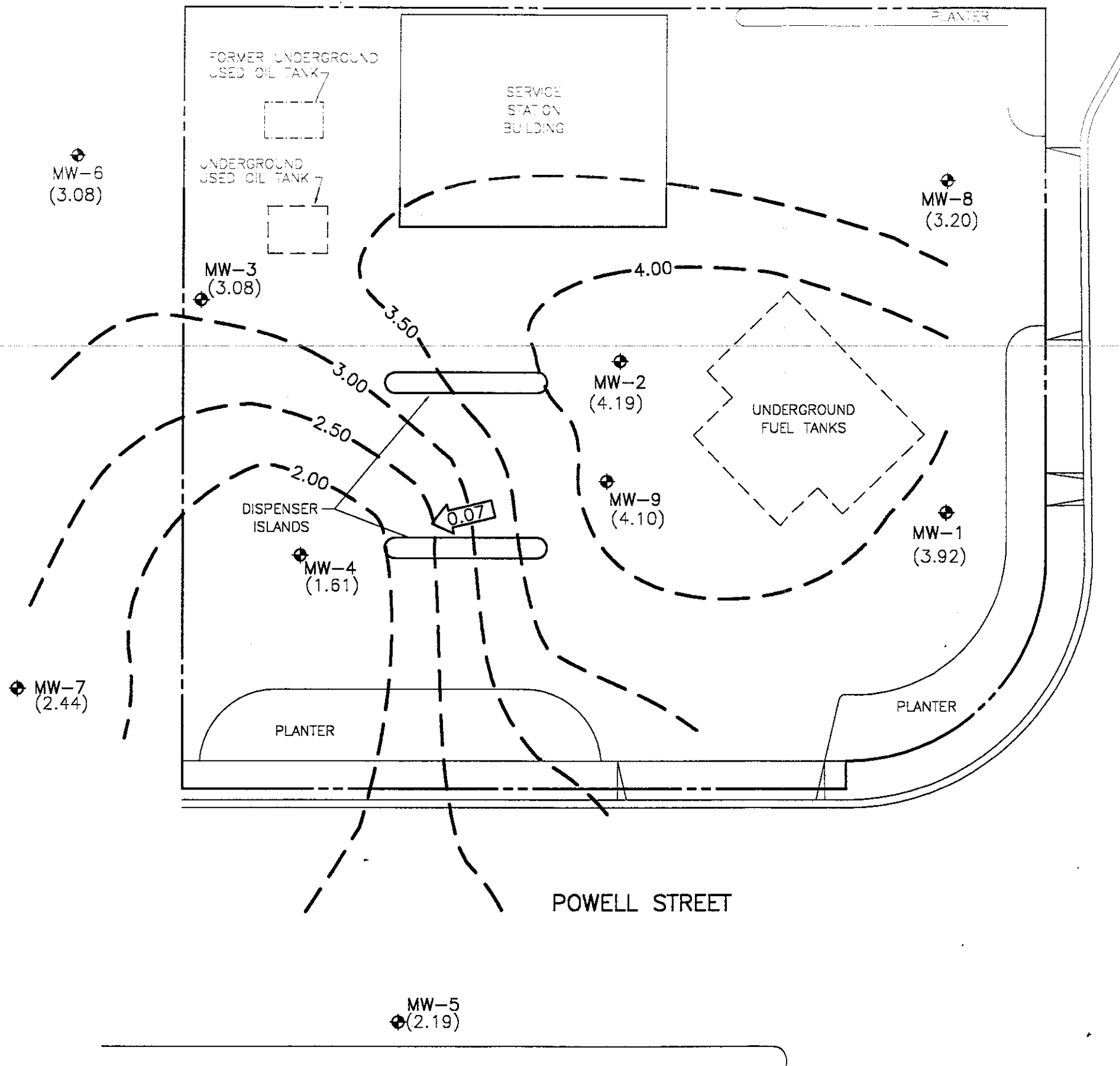
**FIGURE 1**

**SITE VICINITY MAP**

BP OIL SERVICE STATION NO. 11126  
 1700 POWELL STREET  
 EMERYVILLE, CALIFORNIA  
 PROJECT NO. 10-061



**ALISTO ENGINEERING GROUP**  
 WALNUT CREEK, CALIFORNIA

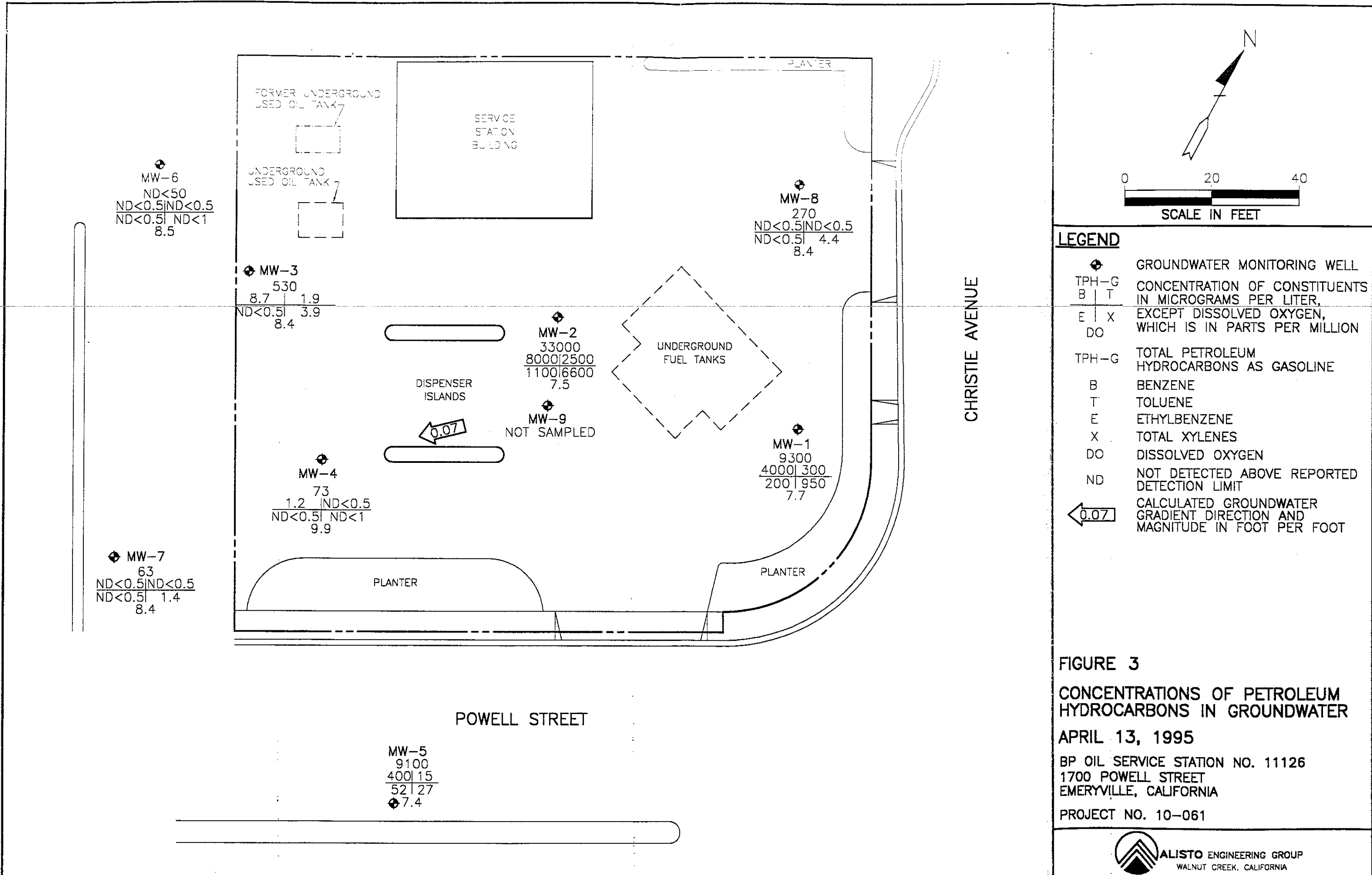


- LEGEND**
- ◆ GROUNDWATER MONITORING WELL
  - (3.20) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
  - - - 3.50 - GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL - 0.50 FOOT)
  - ← 0.07 → CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

**FIGURE 2**  
**POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP**  
**APRIL 13, 1995**  
 BP OIL SERVICE STATION NO. 11126  
 1700 POWELL STREET  
 EMERYVILLE, CALIFORNIA  
 PROJECT NO. 10-061



100810-N.DWG 6-6-85 RW 1-20



**FIGURE 3**  
**CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER**  
**APRIL 13, 1995**  
 BP OIL SERVICE STATION NO. 11126  
 1700 POWELL STREET  
 EMERYVILLE, CALIFORNIA  
 PROJECT NO. 10-061



**APPENDIX A**  
**WATER SAMPLING FIELD SURVEY FORMS**

# ALISTO

## Field Report / Sampling Data Sheet

ENGINEERING  
GROUP

Groundwater Sampling

Date: 4/13/95 Project No. 10-061-04-002

Day: M T W **Th** F Facility No. 1126

1777 OAKLAND BLVD, STE 200

Barometric pres. 760

Temp. \_\_\_\_\_ Address 1700 Powell St, Emeryville CA

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

SAMPLER: DL

Well ID	SAMPLE #	WATER	time	Well ID	SAMPLE #	WATER/	time	Well ID	SAMPLE	WATER / litre
mw-5	S-1	5.50	1132	mw-3	S-6	5.17	1157			
mw-7	S-2	5.17	1143	mw-1	S-7	3.84	1202			
mw-6	S-3	5.44	1147	mw-2	S-8	4.37	1208			
mw-4	S-4	6.51	1150	mw-9	not	4.06	1212			
mw-8	S-5	5.40	1155							

### FIELD INSTRUMENT CALIBRATION DATA

PH METER HydAC 4.00  7.00  10.00 \_\_\_\_\_ TIME 1009 TEMPERATURE COMPENSATED  N  
 TURBIDI METER \_\_\_\_\_ 5.0 NTU STANDARD \_\_\_\_\_ OTHER \_\_\_\_\_ 1cm DO meter DSO in 1.8 @ 1022  
 CONDUCTIVITY METER HydAC 10,000  OTHER \_\_\_\_\_

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
mw-5	5.50	2"	refused	φ	Y (N)	1.5	1242	68.1	6.86	0.76	7.2	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX <u>HCL</u>
Total Depth - Water Level =						3	1245	65.7	6.88	0.67		<input type="checkbox"/> TPH Diesel
13.70 - 5.50 = 8.2 x .16 = 1.31 x 3 = 3.94						4	1247	65.1	6.88	0.65	7.4	<input type="checkbox"/> TOG 5520
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input checked="" type="checkbox"/> Disp. Bailor(s) <input type="checkbox"/> OSys Port												Time/Sample 1255 / S-1
Comments: <u>sampled 1st because it is street well</u>												
mw-7	5.17	2"	OK	φ	Y (N)	1.5	1310	69.7	7.15	0.83	8.1	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX <u>HCL</u>
Total Depth - Water Level =						3	1313	67.6	7.29	0.95		<input type="checkbox"/> TPH Diesel
13.72 - 5.17 = 8.55 x .16 = 1.37 x 3 = 4.10						4.25	1315	67.3	7.35	0.96	8.4	<input type="checkbox"/> TOG 5520
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Bailor(s) <input type="checkbox"/> OSys Port												Time/Sample - 1320 / S-2
Comments:												
mw-6	5.44	2"	OK	φ	Y (N)	1	1327	65.3	7.28	1.12	8.6	<input type="checkbox"/> EPA 601 <input checked="" type="checkbox"/> TPH-G/BTEX <u>HCL</u>
Total Depth - Water Level =						2	1330	66.6	7.31	1.12		<input type="checkbox"/> TPH Diesel
13.25 - 5.44 = 7.81 x .16 = 1.25 x 3 = 3.75						3.75	1332	67.0	7.32	1.12	8.5	<input type="checkbox"/> TOG 5520
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Bailor(s) <input type="checkbox"/> OSys Port												Time/Sample 1335 / S-3
Comments:												

# ALISTO

## Field Report / Sampling Data Sheet

ENGINEERING

Groundwater Sampling

Date: 4/13/95

Project No. 10-061-04-002

GROUP

Day: Thu

Station No. 11126

1777 OAKLAND BLVD, STE 200

Weather: Overcast

Address 1700 Powell St, Emeryville CA

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

SAMPLER: DC

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-4	6.51	2"	OK	Φ	Φ	1	1341	66.4	8.04	1.20	9.1	0 EPA 601
Total Depth - Water Level = $11.06 - 6.51 = 4.55$ x Well Vol. Factor = $0.16$ = $0.73 \times 3 = 2.18$						2	1343	69.1	8.12	1.33		<input checked="" type="checkbox"/> TPH-G/BTEX <u>HCN</u>
Purge Method: <input checked="" type="checkbox"/> Surface Pump ODisp. Tube OWinch ODisp. Bailer(s) OSys Port						2.25	1344	70.4	8.19	1.35	9.9	0 TPH Diesel
Comments:												0 TOG 5520
												Time Sampled
												<u>1347/5-4</u> S-4

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-8	5.40	2"	OK	Φ	Φ	1.5	1357	69.5	7.58	0.91	9.1	0 EPA 601
Total Depth - Water Level = $13.65 - 5.40 = 8.25$ x Well Vol. Factor = $0.16$ = $1.32 \times 3 = 3.96$						3	1400	68.7	7.41	0.82		<input checked="" type="checkbox"/> TPH-G/BTEX <u>HCN</u>
Purge Method: <input type="checkbox"/> Surface Pump ODisp. Tube OWinch ODisp. Bailer(s) OSys Port						4	1402	68.4	7.35	0.78	8.4	0 TPH Diesel
Comments:												0 TOG 5520
												Time Sampled
												<u>1408/5-5</u> S-5

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-3	5.17	2"	OK	Φ	Φ	1	1414	70.0	7.65	1.02	8.8	<input checked="" type="checkbox"/> EPA 601 <u>HCN</u>
Total Depth - Water Level = $12.08 - 5.17 = 6.91$ x Well Vol. Factor = $0.16$ = $1.11 \times 3 = 3.32$						2	1417	69.4	7.58	1.05		<input checked="" type="checkbox"/> TPH-G/BTEX <u>HCN</u>
Purge Method: <input checked="" type="checkbox"/> Surface Pump ODisp. Tube OWinch ODisp. Bailer(s) OSys Port						3.5	1421	69.2	7.54	1.05	8.4	<input checked="" type="checkbox"/> TPH Diesel <u>HCN</u>
Comments:												0 TOG 5520 <u>HCN</u>
												Time Sampled
												<u>1425/5-6</u> S-6

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-1	3.84	2"	OK	Φ	Φ	1.5	1439	67.9	7.59	0.92	7.9	0 EPA 601
Total Depth - Water Level = $11.62 - 3.84 = 7.78$ x Well Vol. Factor = $0.16$ = $1.25 \times 3 = 3.73$						3	1443	66.2	7.41	0.85		<input checked="" type="checkbox"/> TPH-G/BTEX <u>HCN</u>
Purge Method: <input checked="" type="checkbox"/> Surface Pump ODisp. Tube OWinch ODisp. Bailer(s) OSys Port						4	1445	66.0	7.36	0.85	7.7	0 TPH Diesel
Comments:												0 TOG 5520
												Time Sampled
												<u>1450/5-7</u> S-7

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	
MW-2	4.37	2"	OK	Φ	Φ	1.5	1503	67.3	7.81	0.74	7.7	0 EPA 601
Total Depth - Water Level = $11.83 - 4.37 = 7.46$ x Well Vol. Factor = $0.16$ = $1.19 \times 3 = 3.58$						3	1506	65.9	7.67	0.74		<input checked="" type="checkbox"/> TPH-G/BTEX <u>HCN</u>
Purge Method: <input checked="" type="checkbox"/> Surface Pump ODisp. Tube OWinch ODisp. Bailer(s) OSys Port						3.75	1508	65.5	7.64	0.74	7.5	0 TPH Diesel
Comments: <u>Qc-1 from this well (S-9)</u>												0 TOG 5520
												Time Sampled
												<u>1515/5-8</u> S-8

# ALISTO

## Field Report / Sampling Data Sheet

ENGINEERING

GROUP

1777 OAKLAND BLVD, STE 200

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

Groundwater Sampling

Date: 4/13/95

Project No. 10-061-04-002

Day: Thur

Station No. 11126

Weather: Overcast

Address 1700 Powell St Emeryville CA

SAMPLER: DC

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	<input type="checkbox"/> EPA 601
<u>MW-9</u>	<u>5.06</u>	<u>4"</u>	<u>OK</u>	<u>4.95</u>	<u>0.11</u>							<input type="checkbox"/> TPH-G/BTEX
Total Depth - Water Level = <u>        </u> x Well Vol. Factor = <u>        </u> x #vol. to Purge = <u>        </u> PurgeVol. <u>        </u>												<input type="checkbox"/> TPH Diesel
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Bailor(s) <input type="checkbox"/> Sys Port												<input type="checkbox"/> TOG 6520
Comments: <u>Not Sampled due to some product</u>												Time Sampled
												<u>NOT</u>
Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	<input type="checkbox"/> EPA 601
												<input type="checkbox"/> TPH-G/BTEX
Total Depth - Water Level = <u>        </u> x Well Vol. Factor = <u>        </u> x #vol. to Purge = <u>        </u> PurgeVol. <u>        </u>												<input type="checkbox"/> TPH Diesel
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Bailor(s) <input type="checkbox"/> Sys Port												<input type="checkbox"/> TOG 6520
Comments:												Time Sampled
Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	<input type="checkbox"/> EPA 601
												<input type="checkbox"/> TPH-G/BTEX
Total Depth - Water Level = <u>        </u> x Well Vol. Factor = <u>        </u> x #vol. to Purge = <u>        </u> PurgeVol. <u>        </u>												<input type="checkbox"/> TPH Diesel
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Bailor(s) <input type="checkbox"/> Sys Port												<input type="checkbox"/> TOG 6520
Comments:												Time Sampled

**APPENDIX B**

**LABORATORY REPORT AND CHAIN OF CUSTODY RECORD**



Analytical**Technologies**, Inc.

Corporate Offices 5550 Morehouse Drive San Diego, CA 92121 (619) 458-9141

ATI I.D.: 504161

April 25, 1995

ALISTO ENGINEERING  
1777 OAKLAND BOULEVARD, SUITE 200  
WALNUT CREEK, CA 94596

Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA  
Project # : G463058/10-061-04-002


Attention: BILL HOWELL


Analytical Technologies, Inc. has received the following sample(s):

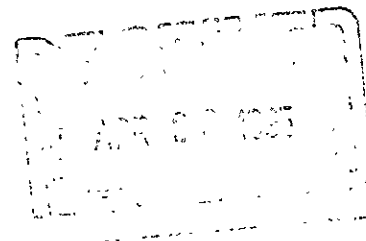
<u>Date Received</u>	<u>Quantity</u>	<u>Matrix</u>
April 15, 1995	10	WATER

The sample(s) were analyzed with EPA methodology or equivalent methods as specified in the enclosed analytical schedule. The symbol for "less than" indicates a value below the reportable detection limit. If any flags appear next to the analytical data in this report, please see the attached list of flag definitions.

The results of these analyses and the quality control data are enclosed. Please note that the Sample Condition Upon Receipt Checklist is included at the end of this report.

  
GARY STEWART  
VOLATILES SUPERVISOR

  
ALAN J. KLEINSCHMIDT  
LABORATORY MANAGER



## SAMPLE CROSS REFERENCE

Client : ALISTO ENGINEERING  
Project # : G463058/10-061-04-002  
Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

Report Date: April 25, 1995  
ATI I.D. : 504161

ATI #	Client Description	Matrix	Date Collected
1	S-1	WATER	13-APR-95
2	S-2	WATER	13-APR-95
3	S-3	WATER	13-APR-95
4	S-4	WATER	13-APR-95
5	S-5	WATER	13-APR-95
6	S-6	WATER	13-APR-95
7	S-7	WATER	13-APR-95
8	S-8	WATER	13-APR-95
9	S-9	WATER	13-APR-95
10	S-10	WATER	13-APR-95

---TOTALS---

Matrix

# Samples

WATER

10

ATI STANDARD DISPOSAL PRACTICE

The sample(s) from this project will be disposed of in twenty-one (21) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.

## ANALYTICAL SCHEDULE

Client : ALISTO ENGINEERING  
Project # : G463058/10-061-04-002  
Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D.: 504161

-----  
AnalysisTechnique/Description  
-----

EPA 413.2 (OIL & GREASE)	INFRARED SPECTROMETER
EPA 601 (HALOGENATED VOLATILE ORGANICS)	GC/ELECTROLYTIC CONDUCTIVITY DETECTOR
MOD EPA 8015-CDOHS (FUEL HYDROCARBONS: C7-C24)	GC/FLAME IONIZATION DETECTOR
MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)	GC/FLAME ION./PHOTO IONIZATION DETECTOR





GENERAL CHEMISTRY RESULTS

Client : ALISTO ENGINEERING

Project # : G463058/10-061-04-002

ATI I.D.: 504161

Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

Sample #	Client ID	Matrix	Date Sampled	Date Received
6	S-6	WATER	13-APR-95	15-APR-95
Parameter	Units			
OIL AND GREASE	MG/L	2.1		



GENERAL CHEMISTRY - QUALITY CONTROL

DUP/MS

Client : ALISTO ENGINEERING

Project # : G463058/10-061-04-002

ATI I.D. : 504161

Project Name: BP SITE#111126/1700 POWELL ST. EMERYVILLE CA

Parameters	REF I.D.	Units	Sample Result	Dup Result	RPD	Spiked Sample	Spike Conc	% Rec
OIL AND GREASE	504163-01	MG/L	<0.05	<0.05	0	4.8	5.0	96

% Recovery = (Spike Sample Result - Sample Result)\*100/Spike Concentration

RPD (Relative % Difference) = (Sample Result - Duplicate Result)\*100/Average Result

## GENERAL CHEMISTRY - QUALITY CONTROL

## BLANK SPIKE

Page 5

Client : ALISTO ENGINEERING

Project # : G463058/10-061-04-002

ATT I.D. : 504161

Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

Parameters	Blank Spike ID#	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
OIL AND GREASE	55958	MG/L	<0.05	4.3	5.0	86

 $\% \text{ Recovery} = (\text{Spike Sample Result} - \text{Sample Result}) * 100 / \text{Spike Concentration}$  $\text{RPD (Relative \% Difference)} = (\text{Sample Result} - \text{Duplicate Result}) * 100 / \text{Average Result}$



GAS CHROMATOGRAPHY RESULTS

Test : EPA 601 (HALOGENATED VOLATILE ORGANICS)  
 Client : ALISTO ENGINEERING  
 Project # : G463058/10-061-04-002  
 Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA  
 ATI I.D. : 504161

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
6	S-6	WATER	13-APR-95	N/A	20-APR-95	1.00

Parameter	Units	6
BROMODICHLOROMETHANE	UG/L	<0.20
BROMOFORM	UG/L	<1.0
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20
CHLOROBENZENE	UG/L	<0.50
CHLOROETHANE	UG/L	<1.0
CHLOROFORM	UG/L	<0.20
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20
1,2-DICHLOROBENZENE	UG/L	<0.50
1,3-DICHLOROBENZENE	UG/L	<0.50
1,4-DICHLOROBENZENE	UG/L	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50
TETRACHLOROETHENE	UG/L	<0.20
1,1,1-TRICHLOROETHANE	UG/L	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20
TRICHLOROETHENE	UG/L	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0
VINYL CHLORIDE	UG/L	<0.20

SURROGATES

BROMOFLUOROBENZENE (ELCD)	%	104
BROMOFLUOROBENZENE (PID)	%	106

**GAS CHROMATOGRAPHY - QUALITY CONTROL**
**REAGENT BLANK**

Test : EPA 601 (HALOGENATED VOLATILE ORGANICS)  
 Blank I.D. : 35104  
 Client : ALISTO ENGINEERING  
 Project # : G463058/10-061-04-002  
 Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D. : 504161  
 Date Extracted: N/A  
 Date Analyzed : 20-APR-95  
 Dil. Factor : 1.00

Parameters	Units	Results
BROMODICHLOROMETHANE	UG/L	<0.20
BROMOFORM	UG/L	<1.0
BROMOMETHANE	UG/L	<1.0
CARBON TETRACHLORIDE	UG/L	<0.20
CHLOROENZENE	UG/L	<0.50
CHLOROETHANE	UG/L	<1.0
CHLOROFORM	UG/L	<0.20
CHLOROMETHANE	UG/L	<1.0
DIBROMOCHLOROMETHANE	UG/L	<0.20
1,2-DICHLOROENZENE	UG/L	<0.50
1,3-DICHLOROENZENE	UG/L	<0.50
1,4-DICHLOROENZENE	UG/L	<0.50
DICHLORODIFLUOROMETHANE	UG/L	<1.0
1,1-DICHLOROETHANE	UG/L	<0.20
1,2-DICHLOROETHANE	UG/L	<0.20
1,1-DICHLOROETHENE	UG/L	<0.20
CIS-1,2-DICHLOROETHENE	UG/L	<0.20
TRANS-1,2-DICHLOROETHENE	UG/L	<0.20
1,2-DICHLOROPROPANE	UG/L	<0.20
CIS-1,3-DICHLOROPROPENE	UG/L	<0.20
TRANS-1,3-DICHLOROPROPENE	UG/L	<0.20
METHYLENE CHLORIDE	UG/L	<2.0
1,1,2,2-TETRACHLOROETHANE	UG/L	<0.50
TETRACHLOROETHENE	UG/L	<0.20
1,1,1-TRICHLOROETHANE	UG/L	<0.20
1,1,2-TRICHLOROETHANE	UG/L	<0.20
TRICHLOROETHENE	UG/L	<0.20
TRICHLOROFLUOROMETHANE	UG/L	<2.0
VINYL CHLORIDE	UG/L	<0.20
<b>SURROGATES</b>		
BROMOFLUOROENZENE (ELCD)	%	89
BROMOFLUOROENZENE (PID)	%	88



GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

Test : EPA 601 (HALOGENATED VOLATILE ORGANICS)
MSMSD # : 75014
Client : ALISTO ENGINEERING

ATI I.D. : 504161
Date Extracted: N/A
Date Analyzed : 20-APR-95
Sample Matrix : WATER
REF I.D. : 504161-06

Project # : G463058/10-061-04-002
Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

Table with 9 columns: Parameters, Units, Sample Result, Conc Spike, Spiked Sample, % Rec, Dup Spike, Dup % Rec, RPD. Rows include CHLORO BENZENE, CHLOROFORM, 1,1-DICHLOROETHENE, TETRACHLOROETHENE, and TRICHLOROETHENE.

% Recovery = (Spike Sample Result - Sample Result)\*100/Spike Concentration

RPD (Relative % Difference) = (Spiked Sample Result - Duplicate Spike Result)\*100/Average Result



GAS CHROMATOGRAPHY - QUALITY CONTROL

BLANK SPIKE

Test : EPA 601 (HALOGENATED VOLATILE ORGANICS)  
 Blank Spike #: 55967  
 Client : ALISTO ENGINEERING  
 Project #: G463058/10-061-04-002  
 Project Name : BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D. : 504161  
 Date Extracted: N/A  
 Date Analyzed : 20-APR-95  
 Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
CHLOROBENZENE	UG/L	<0.50	3.7	4.0	93
CHLOROFORM	UG/L	<0.20	2.0	2.0	100
1,1-DICHLOROETHENE	UG/L	<0.20	1.8	2.0	90
TETRACHLOROETHENE	UG/L	<0.20	1.9	2.0	95
TRICHLOROETHENE	UG/L	<0.20	1.8	2.0	90

% Recovery = (Spike Sample Result - Sample Result)\*100/Spike Concentration  
 RPD (Relative % Difference) = (Spiked Sample - Blank Result)\*100/Average Result



GAS CHROMATOGRAPHY RESULTS

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS: C7-C24)
Client : ALISTO ENGINEERING
Project # : G463058/10-061-04-002
Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D. : 504161

Table with 7 columns: Sample Client ID #, Matrix, Date Sampled, Date Extracted, Date Analyzed, Dil. Factor. Row 1: 6, S-6, WATER, 13-APR-95, 19-APR-95, 19-APR-95, 1.00

Table with 3 columns: Parameter, Units, Value. Row 1: FUEL HYDROCARBONS, MG/L, <0.50. Row 2: HYDROCARBON RANGE, -, -. Row 3: HYDROCARBONS QUANTITATED USING, -, -.

Table with 3 columns: SURROGATES, Units, Value. Row 1: BIS(2-ETHYLHEXYL) PHTHALATE, %, 115





GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS)  
 Blank I.D. : 35069  
 Client : ALISTO ENGINEERING  
 Project # : G463058/10-061-04-002  
 Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D. : 504161  
 Date Extracted: 19-APR-95  
 Date Analyzed : 19-APR-95  
 Dil. Factor : 1.00

Parameters	Units	Results
FUEL HYDROCARBONS	MG/L	<0.50
HYDROCARBON RANGE		-
HYDROCARBONS QUANTITATED USING		-
<u>SURROGATES</u>		
BIS(2-ETHYLHEXYL) PHTHALATE	%	92



GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS)
MSMSD # : 74917
Client : ALISTO ENGINEERING

ATI I.D. : 504161
Date Extracted: 17-APR-95
Date Analyzed : 18-APR-95
Sample Matrix : WATER
REF I.D. : 504142-10

Project # : G463058/10-061-04-002
Project Name: BP SITE#111126/1700 POWELL ST. EMERYVILLE CA

Table with 9 columns: Parameters, Units, Sample Result, Conc Spike, Spiked Sample, % Rec, Dup Spike, Dup % Rec, RPD. Row 1: FUEL HYDROCARBONS, MG/L, <0.50, 10, 12, 120, 12, 120, 0

% Recovery = (Spike Sample Result - Sample Result)\*100/Spike Concentration

RPD (Relative % Difference) = (Spiked Sample Result - Duplicate Spike Result)\*100/Average Result



GAS CHROMATOGRAPHY - QUALITY CONTROL

BLANK SPIKE

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS)  
 Blank Spike #: 55895  
 Client : ALISTO ENGINEERING  
 Project # : G463058/10-061-04-002  
 Project Name : BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D. : 504161  
 Date Extracted: 19-APR-95  
 Date Analyzed : 19-APR-95  
 Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
FUEL HYDROCARBONS	MG/L	<0.50	8.9	10	89

% Recovery = (Spike Sample Result - Sample Result)\*100/Spike Concentration  
 RPD (Relative % Difference) = (Spiked Sample - Blank Result)\*100/Average Result



GAS CHROMATOGRAPHY RESULTS

Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)  
 Client : ALISTO ENGINEERING ATI I.D. : 504161  
 Project # : G463058/10-061-04-002  
 Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
1	S-1	WATER	13-APR-95	N/A	21-APR-95	10.00
2	S-2	WATER	13-APR-95	N/A	20-APR-95	1.00
3	S-3	WATER	13-APR-95	N/A	20-APR-95	1.00

Parameter	Units	1	2	3
BENZENE	UG/L	400	<0.50	<0.50
TOLUENE	UG/L	15	<0.50	<0.50
ETHYLBENZENE	UG/L	52	<0.50	<0.50
XYLENES (TOTAL)	UG/L	27	1.4	<1.0
FUEL HYDROCARBONS	UG/L	9100	63	<50
HYDROCARBON RANGE		C6-C12	C6-C12	C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE	GASOLINE	GASOLINE
<u>SURROGATES</u>				
TRIFLUOROTOLUENE	%	147*H	106	104

**GAS CHROMATOGRAPHY RESULTS**

Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)  
 Client : ALISTO ENGINEERING  
 Project # : G463058/10-061-04-002  
 Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D. : 504161

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
4	S-4	WATER	13-APR-95	N/A	20-APR-95	1.00
5	S-5	WATER	13-APR-95	N/A	20-APR-95	1.00
6	S-6	WATER	13-APR-95	N/A	21-APR-95	1.00

Parameter	Units	4	5	6
BENZENE	UG/L	1.2	<0.50	8.7
TOLUENE	UG/L	<0.50	<0.50	1.9
ETHYLBENZENE	UG/L	<0.50	<0.50	<0.50
XYLENES (TOTAL)	UG/L	<1.0	4.4@E	3.9
FUEL HYDROCARBONS	UG/L	73	270	530
HYDROCARBON RANGE		C6-C12	C6-C12	C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE	GASOLINE	GASOLINE
<u>SURROGATES</u>				
TRIFLUOROTOLUENE	%	105	103	96



GAS CHROMATOGRAPHY RESULTS

Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)  
 Client : ALISTO ENGINEERING ATI I.D. : 504161  
 Project # : G463058/10-061-04-002  
 Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
7	S-7	WATER	13-APR-95	N/A	20-APR-95	50.00
8	S-8	WATER	13-APR-95	N/A	21-APR-95	100.00
9	S-9	WATER	13-APR-95	N/A	21-APR-95	100.00

Parameter	Units	7	8	9
BENZENE	UG/L	4000	8000	6500
TOLUENE	UG/L	300	2500	1500
ETHYLBENZENE	UG/L	200	1100	110
XYLENES (TOTAL)	UG/L	950	6600	5300
FUEL HYDROCARBONS	UG/L	9300	33000	25000
HYDROCARBON RANGE		C6-C12	C6-C12	C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE	GASOLINE	GASOLINE
<u>SURROGATES</u>				
TRIFLUOROTOLUENE	%	99	107	98



Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)  
 Client : ALISTO ENGINEERING ATI I.D. : 504161  
 Project # : G463058/10-061-04-002  
 Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
10	S-10	WATER	13-APR-95	N/A	20-APR-95	1.00

Parameter	Units	10
BENZENE	UG/L	<0.50
TOLUENE	UG/L	<0.50
ETHYLBENZENE	UG/L	<0.50
XYLENES (TOTAL)	UG/L	<1.0
FUEL HYDROCARBONS	UG/L	<50
HYDROCARBON RANGE		C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE
<u>SURROGATES</u>		
TRIFLUOROTOLUENE	%	96

## GAS CHROMATOGRAPHY - QUALITY CONTROL

## REAGENT BLANK

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Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE)  
Blank I.D. : 35119  
Client : ALISTO ENGINEERING  
Project # : G463058/10-061-04-002  
Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D. : 504161  
Date Extracted: N/A  
Date Analyzed : 20-APR-95  
Dil. Factor : 1.00

Parameters	Units	Results
BENZENE	UG/L	<0.50
TOLUENE	UG/L	<0.50
ETHYLBENZENE	UG/L	<0.50
XYLENES (TOTAL)	UG/L	<1.0
FUEL HYDROCARBONS	UG/L	<50
HYDROCARBON RANGE		C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE

SURROGATES

TRIFLUOROTOLUENE	%	102
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GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE)  
Blank I.D. : 35136  
Client : ALISTO ENGINEERING  
Project # : G463058/10-061-04-002  
Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D. : 504161  
Date Extracted: N/A  
Date Analyzed : 21-APR-95  
Dil. Factor : 1.00

Parameters	Units	Results
BENZENE	UG/L	<0.50
TOLUENE	UG/L	<0.50
ETHYLBENZENE	UG/L	<0.50
XYLENES (TOTAL)	UG/L	<1.0
FUEL HYDROCARBONS	UG/L	<50
HYDROCARBON RANGE		C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE
<u>SURROGATES</u>		
TRIFLUOROTOLUENE	%	99



GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE)
MSMSD # : 75025
Client : ALISTO ENGINEERING

ATI I.D. : 504161
Date Extracted: N/A
Date Analyzed : 19-APR-95
Sample Matrix : WATER
REF I.D. : 504152-01

Project # : G463058/10-061-04-002
Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

Table with 9 columns: Parameters, Units, Sample Result, Conc Spike, Spiked Sample, % Rec, Dup Spike, Dup % Rec, RPD. Rows include BENZENE and TOLUENE.

% Recovery = (Spike Sample Result - Sample Result)\*100/Spike Concentration
RPD (Relative % Difference) = (Spiked Sample Result - Duplicate Spike Result)\*100/Average Result



GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE)  
 MSMSD # : 75092  
 Client : ALISTO ENGINEERING  
 Project # : G463058/10-061-04-002  
 Project Name: BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D. : 504161  
 Date Extracted: N/A  
 Date Analyzed : 20-APR-95  
 Sample Matrix : WATER  
 REF I.D. : 504162-01

Parameters	Units	Sample Result	Conc Spike	Spiked Sample	% Rec	Dup Spike	Dup % Rec	RPD
BENZENE	UG/L	0.91@E	5.0	5.9@E	100	6.0@E	102	2
TOLUENE	UG/L	<0.50	5.0	4.7	94	5.1	102	8

% Recovery = (Spike Sample Result - Sample Result)\*100/Spike Concentration  
 RPD (Relative % Difference) = (Spiked Sample Result - Duplicate Spike Result)\*100/Average Result



GAS CHROMATOGRAPHY - QUALITY CONTROL

BLANK SPIKE

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE)  
 Blank Spike #: 55986  
 Client : ALISTO ENGINEERING  
 Project # : G463058/10-061-04-002  
 Project Name : BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D. : 504161  
 Date Extracted: N/A  
 Date Analyzed : 20-APR-95  
 Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
BENZENE	UG/L	<0.50	5.2	5.0	104
TOLUENE	UG/L	<0.50	5.3	5.0	106

% Recovery = (Spike Sample Result - Sample Result)\*100/Spike Concentration  
 RPD (Relative % Difference) = (Spiked Sample - Blank Result)\*100/Average Result



GAS CHROMATOGRAPHY - QUALITY CONTROL

BLANK SPIKE

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE)  
 Blank Spike #: 56033  
 Client : ALISTO ENGINEERING  
 Project # : G463058/10-061-04-002  
 Project Name : BP SITE#11126/1700 POWELL ST. EMERYVILLE CA

ATI I.D. : 504161  
 Date Extracted: N/A  
 Date Analyzed : 21-APR-95  
 Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
BENZENE	UG/L	<0.50	5.4	5.0	108
TOLUENE	UG/L	<0.50	5.5	5.0	110

% Recovery = (Spike Sample Result - Sample Result)\*100/Spike Concentration  
 RPD (Relative % Difference) = (Spiked Sample - Blank Result)\*100/Average Result

ANALYTICAL TECHNOLOGIES, INC.  
SAN DIEGO  
FLAGS

ORGANICS

FLAG MESSAGE DESCRIPTION

A A TIC IS A SUSPECTED ALDOL-CONDENSATION PRODUCT  
B ANALYTE FOUND IN THE ASSOCIATED REAGENT BLANK  
C PESTICIDE, WHERE THE IDENTIFICATION WAS CONFIRMED BY GC/MS  
CO THESE COMPOUNDS CO-ELUTE AND ARE QUANTITATED AS ONE PEAK  
D COMPOUND IDENTIFIED IN AN ANALYSIS AT SECONDARY DILUTION  
E ANALYTE AMOUNT EXCEEDS THE CALIBRATION RANGE  
J ESTIMATED VALUE  
H QUANTIFIED AS DIESEL BUT CHROMATOGRAPHIC PATTERN DOES NOT MATCH  
THAT OF DIESEL  
K QUANTIFIED AS KEROSENE BUT CHROMATOGRAPHIC PATTERN DOES NOT MATCH  
THAT OF KEROSENE  
L QUANTIFIED AS GASOLINE BUT CHROMATOGRAPHIC PATTERN DOES NOT MATCH  
THAT OF GASOLINE  
N PRESUMPTIVE EVIDENCE OF A COMPOUND  
P PESTICIDE/AROCLOR TARGET ANALYTE, WHERE THERE IS GREATER THAN 25%  
DIFFERENCE FOR DETECTED CONCENTRATION BETWEEN 2 GC COLUMNS  
TR COMPOUND DETECTED AT AN UNQUANTIFIABLE TRACE LEVEL  
U COMPOUND WAS ANALYZED FOR BUT NOT DETECTED  
X SEE CASE NARRATIVE  
Y SEE CASE NARRATIVE  
Z SEE CASE NARRATIVE  
\* OUTSIDE OF QUALITY CONTROL LIMITS  
\*D COMPOUND ANALYZED FROM A SECONDARY ANALYSIS  
\*F RESULT OUTSIDE OF ATI'S QUALITY CONTROL LIMITS  
\*G RESULT OUTSIDE QUALITY CONTROL LIMITS. INSUFFICIENT SAMPLE FOR RE-  
EXTRACTION/ANALYSIS  
\*H RESULT OUTSIDE OF LIMITS DUE TO SAMPLE MATRIX INTERFERENCE  
\*I BECAUSE OF NECESSARY SAMPLE DILUTION, VALUE WAS OUTSIDE QC LIMITS  
\*K DUE TO THE NECESSARY DILUTION OF THE SAMPLE, RESULT WAS NOT ATTAINABLE  
\*L ANALYTE IS A SUSPECTED LAB CONTAMINANT  
\*P A STANDARD WAS USED TO QUANTITATE THIS VALUE  
\*R DATA IS NOT USABLE  
\*T SURROGATE RECOVERY IS OUTSIDE QC CONTROL LIMITS. NO CORRECTIVE  
ACTION INDICATED BY METHOD  
\*V SAMPLE RESULT IS >4X SPIKED CONCENTRATION, THEREFORE SPIKE IS NOT DETECTABLE  
\*Y RESULT NOT ATTAINABLE DUE TO SAMPLE MATRIX INTERFERENCE  
@A RESULTS OUT OF LIMITS DUE TO SAMPLE NON-HOMOGENEITY  
@C *VARIABLE MESSAGE*  
@D RESULT COULD NOT BE CONFIRMED DUE TO MATRIX INTERFERENCE ON THE  
CONFIRMATION COLUMN  
@E RESULT MAY BE FALSELY ELEVATED DUE TO SAMPLE MATRIX INTERFERENCE  
@F RESULT OUTSIDE OF CONTRACT SPECIFIED QUALITY CONTROL LIMITS  
@G RESULT OUTSIDE OF CONTRACT SPECIFIED ADVISORY LIMITS  
@H DETECTION LIMIT ELEVATED DUE TO MATRIX INTERFERENCE  
@M RESULT NOT CONFIRMED BY U.V. DUE TO SAMPLE MATRIX INTERFERENCE  
@N RESULT NOT CONFIRMED BY FLUORESCENCE DUE TO SAMPLE MATRIX INTERFERENCE  
@P RESULT QUANTITATED USING FLUORESCENCE ONLY DUE TO THE LOW CONCENTRATION  
@Q DETECTION LIMIT ELEVATED DUE TO LIMITED SAMPLE FOR ANALYSIS  
@T RESULT DUE TO TCLP EXTRACTION MATRIX INTERFERENCE. NO QC LIMITS  
HAVE BEEN ESTABLISHED  
@U SAMPLE CHROMATOGRAM DOES NOT RESEMBLE COMMON FUEL HYDROCARBON  
FINGERPRINTS  
@Z SAMPLE CHROMATOGRAM DOES NOT RESEMBLE A FUEL HYDROCARBON

**ATI-SanDiego**  
**SAMPLE CONDITION UPON RECEIPT CHECKLIST**  
**(FOR RE-ACCESSIONS, COMPLETE #7 THRU #9)**

1	Does this project require special handling according to NFESC Levels C, D, AFCEE or CLP protocols? If yes, complete a) and b) a) pH sample aliquoted: yes /no /na b) Either 1) Record Bottle Lot #'s: Or 2) Attach Sample Kit Request Form(s)	YES	<u>NO</u>
2	Number of Coolers Received If more than one cooler received attach Multiple Cooler Documentation Form (MCD) Indicate "see MCD" on Item 11 below	1	
3	Are custody seals required for this project ?	YES	<u>N/A</u>
	a) are Custody Seals present on Cooler(s) ?	YES	NO
	If yes, are seals intact ?	YES	<u>NO</u>
	b) are Custody Seals present on the sample ?	YES	NO
	If yes, are seals intact ?	YES	<u>NO</u>
4	Is there a Chain-Of-Custody (COC) per cooler ? if not, if a problem is found indicate which samples/test were in the affected cooler on the MCD.	<u>YES</u>	NO
5	Is the COC complete per cooler ? Relinquished: <u>yes</u> /no Requested analysis: <u>yes</u> /no	<u>YES</u>	NO
6	Is the COC in agreement with the samples received? # Samples: <u>yes</u> /no Sample ID's: <u>yes</u> /no Date sampled: <u>yes</u> /no Matrix: <u>yes</u> /no # containers: <u>yes</u> /no	<u>YES</u>	NO
7	Are the samples preserved correctly?	<u>YES</u>	NO
8	Is there enough sample for all the requested analyses?	<u>YES</u>	NO
9	Are all samples within holding times for the requested analyses?	<u>YES</u>	NO
10	Record cooler temperature. Contact PM if temperature is not 4°C ± 2°C.	3.5 °C	
	Is ice present in cooler?	<u>YES</u>	NO
11	Were all sample containers received intact (ie. not broken, leaking, etc.)?	<u>YES</u>	NO
12	Are samples requiring no headspace, headspace free? N/A	<u>YES</u>	NO
13	Are VOA 1st stickers required?	YES	<u>NO</u>
14	Are there special comments on the Chain of Custody which require client contact?	YES	<u>N/A</u>
15	If yes, was ATI Project Manager notified?	YES	NO

Describe "no" items: # Only 2 x 8cc vials 7/12/04 sent for analysis - RE NOTED in RQC.

Was client contacted? yes / no  
 If yes, Date: \_\_\_\_\_ Name of Person contacted:  
 Describe actions taken or client instructions: \_\_\_\_\_

\*Or other representative documents, letters, and/or shipping memos



ATI# 504161  
CHAIN OF CUSTODY

No. 055848

Page 1 of 1

CONSULTANT'S NAME <i>Aristo Engineering</i>		ADDRESS <i>1777 Oakland Blvd</i>		CITY <i>Walnut Creek CA</i>	STATE <i>CA</i>	ZIP CODE <i>94596</i>
BP SITE NUMBER <i>11126</i>	BP CORNER ADDRESS/CITY <i>1700 Pennell St. Emeryville CA</i>			CONSULTANT PROJECT NUMBER <i>10-011-01-002</i>		
CONSULTANT PROJECT MANAGER <i>Bill Howell</i>		PHONE NUMBER <i>(510) 255 1650</i>		FAX NUMBER <i>(510) 255 1723</i>		CONSULTANT CONTRACT NUMBER <i>64163008</i>
BP CONTACT <i>Scott Hooden</i>	BP ADDRESS <i>Barton WA</i>		PHONE NUMBER		FAX NO.	
LAB CONTACT <i>ATI Inc</i>	LABORATORY ADDRESS <i>San Diego, CA</i>		PHONE NUMBER		FAX NO.	
SAMPLED BY (Please Print Name) <i>Dave Casack</i>		SAMPLED BY (Signature) <i>[Signature]</i>		SHIPMENT DATE <i>4-14-95</i>		SHIPMENT METHOD <i>Express Fedex</i>

TAT:  24 Hours  48 Hours  1 Week  Standard 2 Weeks

ANALYSIS REQUIRED

AIRBILL NUMBER *181892073* *SKT Del*

SAMPLE DESCRIPTION	COLLECTION DATE	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE	H2O	H+	HCl	H2O2	COMMENTS
			NO.	TYPE (VOL.)		TPH Gas Box	COI	TPH Dist	TDE	
S-1 1255	4/13/95	H2O	1	VOL	01	X				
S-2 1320					02					
S-3 1335					03					
S-4 1347					04					
S-5 1408					05					
S-6 1425			2	VOL	06		X	X	X	
S-7 1450			2	VOL	07					
S-8 1515					08					
S-9 -					09					
S-10 -					10					

RELINQUISHED BY / AFFILIATION <i>Jas Casack Aristo</i>	DATE <i>4/14/95</i>	TIME <i>0900</i>	ACCEPTED BY / AFFILIATION <i>[Signature] (ATI)</i>	DATE <i>4/15/95</i>	TIME <i>09:00</i>	ADDITIONAL COMMENTS <i>3.5°C</i>
---	------------------------	---------------------	---	------------------------	----------------------	-------------------------------------