

1995

GROUNDWATER MONITORING AND SAMPLING REPORT

**BP Oil Company Service Station No. 11105
3515 Castro Valley Boulevard
Castro Valley, California**

Project No. 10-138-04-001

Prepared for:

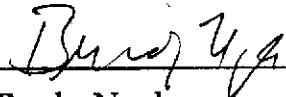
**BP Oil Company
Environmental Resources Management
295 S.W. 41st Street
Building 13, Suite N
Renton, Washington**

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ENVIRONMENTAL

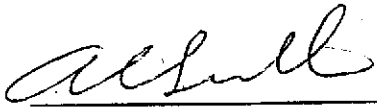
Prepared by:

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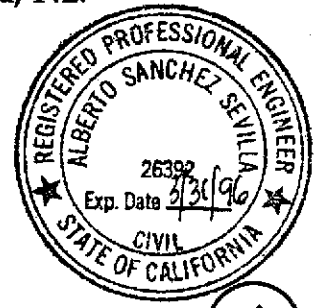
June 30, 1995



**Brady Nagle
Project Manager**



**Al Sevilla, P.E.
Principal**



GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11105
3515 Castro Valley Boulevard
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INTRODUCTION

This report presents the results and findings of the May 2, 1995 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11105, 3515 Castro Valley Boulevard, Castro Valley, 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. The survey data and groundwater elevation measurements collected to date are presented in Table 1.

Depth to groundwater was measured concurrently at the neighboring Xtra Oil Company service station (dba Shell), 3495 Castro Valley Boulevard. The results are presented in Table 2.

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 collected during 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 laboratory 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. 11105
 3515 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

ALISTO PROJECT NO. 10-138

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (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)	1,2-DCA (ug/l)	DO (ppm)	LAB
ESE-1	10/05/92	182.49	11.22	171.27	2100	96	370	150	17	110	ND	1.8	--	--
ESE-1D (c)	10/05/92	--	--	--	2300	--	370	160	16	110	--	--	--	--
ESE-1	04/01/93	182.49	8.79	173.70	5900	--	1500	410	110	390	--	--	--	PACE
ESE-1	06/29/93	182.49	10.34	172.15	7600	--	2900	390	130	460	--	--	--	PACE
ESE-1	09/23/93	182.49	10.91	171.58	2000	--	490	40	20	56	--	--	--	PACE
QC-1 (c)	09/23/93	--	--	--	1500	--	420	39	19	56	--	--	--	PACE
ESE-1	12/10/93	182.49	9.93	172.56	1800	--	480	42	19	66	--	--	3.2	PACE
QC-1 (c)	12/10/93	--	--	--	1500	--	380	38	17	55	--	--	--	PACE
ESE-1	02/17/94	182.49	9.64	172.85	1900	--	380	48	24	80	--	--	--	PACE
QC-1 (c)	02/17/94	--	--	--	2200	--	430	42	19	65	--	--	--	PACE
ESE-1	08/08/94	177.69	(d) 11.72	165.97	2100	--	450	46	16	50	--	--	5.1	PACE
ESE-1	10/12/94	177.69	10.48	167.21	760	--	240	16	51	39	--	--	3.5	PACE
ESE-1	01/19/95	177.69	7.77	169.92	840	--	600	120	22	58	--	--	8.0	ATI
ESE-1	05/02/95	177.69	8.69	169.00	2000	--	640	67	24	98	--	--	8.5	ATI
ESE-2	10/05/92	181.95	11.68	170.27	300	--	5.4	16	3.9	45	--	--	--	--
ESE-2	04/01/93	181.95	9.17	172.78	240	--	27	ND<0.5	17	2.6	--	--	--	PACE
ESE-2	06/29/93	181.95	10.88	171.07	1700	--	260	24	110	23	--	--	--	PACE
QC-1 (c)	06/29/93	--	--	--	1300	--	240	17	110	25	--	--	--	PACE
ESE-2	09/23/93	181.95	11.56	170.39	240	--	3.1	0.5	0.6	2.5	--	--	--	PACE
ESE-2	12/10/93	181.95	10.48	171.47	250	--	2.4	2.4	1.5	11	--	--	2.6	PACE
ESE-2	02/17/94	181.95	10.06	171.89	900	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	--	PACE
ESE-2	08/08/94	178.23	(d) 11.11	167.12	750	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	5.1	PACE
ESE-2	10/12/94	178.23	11.31	166.92	1700	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	3.6	PACE
ESE-2	01/19/95	178.23	8.25	169.98	300	--	2	0.9	0.7	1	--	--	8.1	ATI
ESE-2	05/02/95	178.23	9.21	169.02	1200	--	4.0	ND<2.5	ND<2.5	ND<5.0	--	--	8.4	ATI
ESE-3	10/05/92	182.00	10.58	171.42	430	--	57	31	3.6	34	--	--	--	--
ESE-3	04/01/93	182.00	8.14	173.86	2400	--	460	220	74	210	--	--	--	PACE
ESE-3	06/29/93	182.00	9.72	172.28	280	--	56	14	15	13	--	--	--	PACE
ESE-3	09/23/93	182.00	10.46	171.54	72	--	13	3.5	1.7	4.1	--	--	--	PACE
ESE-3	12/10/93	182.00	9.30	172.70	270	--	71	32	6.1	33	--	--	2.7	PACE
ESE-3	02/17/94	182.00	8.97	173.03	520	--	140	10	20	33	--	--	--	PACE
ESE-3	08/08/94	178.20	(d) 10.02	168.18	ND<50	--	8.8	1.6	1.6	2.3	--	--	6.2	PACE
ESE-3	10/12/94	178.20	10.32	167.88	470	--	190	6.4	15	18	--	--	3.5	PACE
ESE-3	01/19/95	178.20	7.40	170.80	330	--	260	27	21	20	--	--	6.7	ATI
ESE-3	05/02/95	178.20	8.26	169.94	530	--	180	30	23	44	--	--	8.6	ATI

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11105
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ALISTO PROJECT NO. 10-138

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (Feet)	DEPTH TO WATER (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)	1,2-DCA (ug/l)	DO (ppm)	LAB
ESE-4	10/05/92	182.47	10.33	172.14	98	--	7.2	1.3	1.1	6.1	--	--	--	--
ESE-4	04/01/93	182.47	7.88	174.59	550	--	93	20	23	33	--	--	--	PACE
ESE-4	06/29/93	182.40	(e) 8.33	174.07	150	--	23	0.6	5.4	0.5	--	--	--	PACE
ESE-4	09/23/93	182.40	10.05	172.35	110	--	14	1.7	3.2	4.6	--	--	--	PACE
ESE-4	12/10/93	182.40	8.95	173.45	110	--	21	7.2	4.2	10	--	--	2.8	PACE
ESE-4	02/17/94	182.40	8.65	173.75	210	--	26	1.2	4.7	11	--	--	--	PACE
ESE-4	08/08/94	177.66	(d) 9.76	167.90	76	--	9.6	ND<0.5	2.0	ND<0.5	--	--	7.0	PACE
ESE-4	10/12/94	177.66	9.62	168.04	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	--	3.2	PACE
ESE-4	01/19/95	177.66	6.97	170.69	140	--	56	14	24	23	--	--	6.9	ATI
ESE-4	05/02/95	177.66	7.85	169.81	130	--	21	2.8	8.6	8.2	--	--	9.1	ATI
ESE-5	10/05/92	184.09	9.22	174.87	1300	--	200	3.8	1.2	18	--	--	--	--
ESE-5	04/01/93	184.09	7.02	177.07	13000	--	2200	26	730	1000	--	--	--	PACE
QC-1 (c)	04/01/93	--	--	--	13000	--	2500	25	740	1100	--	--	--	PACE
ESE-5	06/29/93	184.09	10.21	173.88	7600	--	1500	9.3	170	100	--	--	--	PACE
ESE-5	09/23/93	184.09	10.64	173.45	560	--	19	1.2	0.9	1.8	--	--	--	PACE
ESE-5	12/10/93	184.09	9.42	174.67	1700	--	300	3.0	76	110	--	--	2.5	PACE
ESE-5	02/07/94	184.09	9.35	174.74	3500	--	640	7.8	90	130	--	--	--	PACE
ESE-5	08/08/94	176.08	(d) 8.76	167.32	2600	--	210	4.6	9.4	4.4	--	--	5.8	PACE
QC-1 (c)	08/08/94	--	--	--	2500	--	230	4.6	13	4.8	--	--	--	PACE
ESE-5	10/12/94	176.08	8.95	167.13	5600	--	560	9.5	75	21	--	--	3.6	PACE
QC-1 (c)	10/12/94	--	--	--	6000	--	550	10	78	22	--	--	--	PACE
ESE-5	01/19/95	176.08	5.40	170.68	1900	--	620	ND<5	95	15	--	--	7.6	ATI
QC-1 (c)	01/19/95	--	--	--	1600	--	620	ND<5	93	17	--	--	--	ATI
ESE-5	05/02/95	176.08	6.48	169.60	5700	--	1100	ND<10	180	58	--	--	8.2	ATI
QC-1 (c)	05/02/95	--	--	--	5300	--	1100	ND<10	180	58	--	--	--	ATI

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
 BP OIL COMPANY SERVICE STATION NO. 11105
 3515 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

ALISTO PROJECT NO. 10-138

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (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)	1,2-DCA (ug/l)	DO (ppm)	LAB
QC-2	(f) 04/01/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f) 06/29/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f) 09/23/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f) 12/10/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f) 02/17/94	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f) 08/08/94	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f) 10/12/94	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
QC-2	(f) 01/19/95	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<1	---	---	---	ATI
QC-2	(f) 05/02/95	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	---	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
 1,2-DCA 1,2-Dichloroethane
 DO Dissolved oxygen
 ug/l Micrograms per liter
 ppm Parts per million
 ND Not detected above reported detection limit
 --- Not applicable/measured/analyzed
 PACE Pace, Inc.
 ATI Analytical Technologies, Inc.

NOTES:

(a) Top of casing elevations relative to mean sea level.
 (b) Groundwater elevations in feet relative to mean sea level.
 (c) Blind duplicate.
 (d) Well resurveyed in March 1994.
 (e) Top of casing lowered by 0.07 foot after the monitoring event on 4/01/93.
 (f) Travel blank.

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TABLE 2 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING
 XTRA OIL COMPANY SERVICE STATION
 3495 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

ALISTO PROJECT NO. 10-138

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)
MW-1	08/19/91	175.73	9.31	166.42
MW-1	09/17/91	175.73	9.50	166.23
MW-1	10/10/91	175.73	9.70	166.03
MW-1	11/25/91	175.73	9.41	166.32
MW-1	12/23/91	175.73	9.65	166.08
MW-1	01/14/92	175.73	8.57	167.16
MW-1	05/29/92	175.73	8.59	167.14
MW-1	11/13/92	200.00	9.13	190.87
MW-1	02/23/93	177.43	7.34	170.09
MW-1	05/18/93	177.43	8.12	169.31
MW-1	08/30/93	177.43	8.78	168.65
MW-1	11/24/93	177.43	8.74	168.69
MW-1	02/28/94	177.43	7.44	169.99
MW-1	05/19/94	177.43	8.05	169.38
MW-1	08/22/94	177.43	8.67	168.76
MW-1	11/18/94	177.43	7.14	170.29
MW-1	02/23/95	177.43	7.72	169.71
MW-1	05/02/95	--	6.96	--
MW-2	08/19/91	175.45	9.60	165.85
MW-2	09/17/91	175.45	10.23	165.22
MW-2	10/10/91	175.45	10.39	165.06
MW-2	11/25/91	175.45	9.81	165.64
MW-2	12/23/91	175.45	10.39	165.06
MW-2	01/14/92	175.45	8.97	166.48
MW-2	05/29/92	175.45	9.31	166.14
MW-2	11/13/92	198.61	8.70	189.91
MW-2	02/23/93	176.04	6.39	169.65
MW-2	05/18/93	176.04	7.73	168.31
MW-2	08/30/93	176.04	8.64	167.40
MW-2	11/24/93	176.04	8.47	167.57
MW-2	02/28/94	176.04	6.99	169.05
MW-2	05/19/94	176.04	7.70	168.34
MW-2	08/22/94	176.04	8.59	167.45
MW-2	11/18/94	176.04	6.92	169.12
MW-2	02/23/95	176.04	7.51	168.53
MW-2	05/02/95	176.30	6.79	169.51

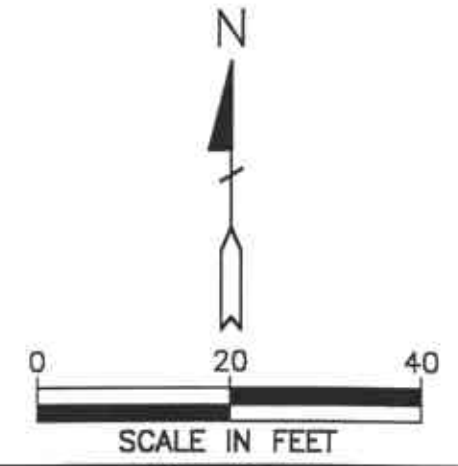
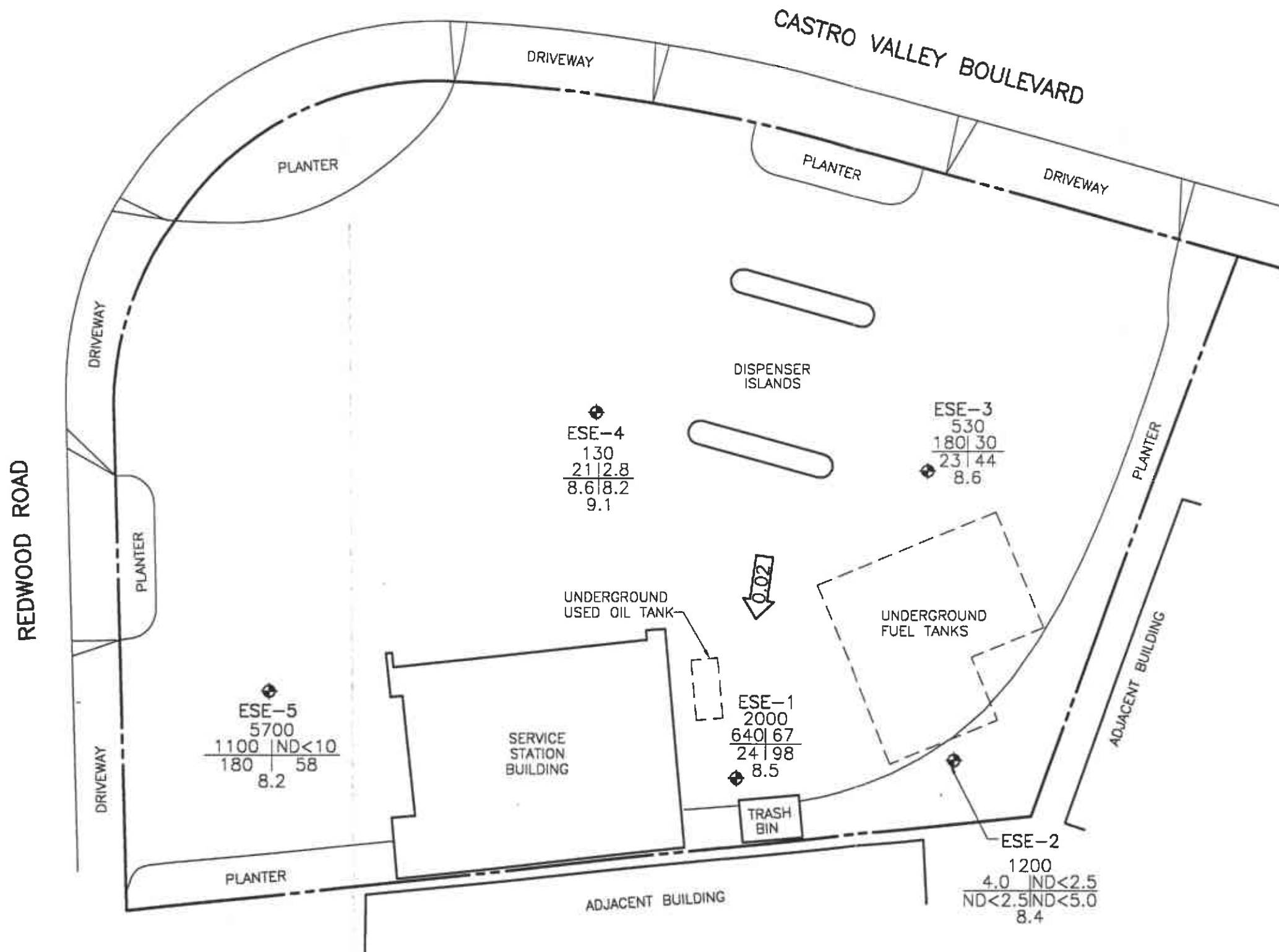
TABLE 2 - SUMMARY OF RESULTS OF GROUNDWATER MONITORING
 XTRA OIL COMPANY SERVICE STATION
 3495 CASTRO VALLEY BOULEVARD, CASTRO VALLEY, CALIFORNIA

ALISTO PROJECT NO. 10-138

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a) (Feet)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)
MW-3	08/19/91	175.00	8.95	166.05
MW-3	09/17/91	175.00	9.20	165.80
MW-3	10/10/91	175.00	9.43	165.57
MW-3	11/25/91	175.00	9.19	165.81
MW-3	12/23/91	175.00	9.37	165.63
MW-3	01/14/92	175.00	8.24	166.76
MW-3	05/29/92	175.00	8.45	166.55
MW-3	11/13/92	190.97	7.86	183.11
MW-3	02/23/93	176.41	8.01	168.40
MW-3	05/18/93	176.41	7.12	169.29
MW-3	08/30/93	176.41	7.64	168.77
MW-3	11/24/93	176.41	7.55	168.86
MW-3	02/28/94	176.41	6.68	169.73
MW-3	05/19/94	176.41	7.15	169.26
MW-3	08/22/94	176.41	7.65	168.76
MW-3	11/18/94	176.41	6.05	170.36
MW-3	02/23/95	176.41	7.24	169.17
MW-3	05/02/95	178.07	6.50	171.57

NOTES:

- (a) Top of casing elevations relative to mean sea level.
- (b) Groundwater elevations in feet above mean sea level.



LEGEND

◆	GROUNDWATER MONITORING WELL
TPH-G	CONCENTRATION OF CONSTITUENTS IN MICROGRAMS PER LITER, EXCEPT DISSOLVED OXYGEN, WHICH IS IN PARTS PER MILLION
B T	
E X	
DO	
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
DO	DISSOLVED OXYGEN
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
←0.02	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3
CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER
MAY 2, 1995
 BP OIL SERVICE STATION NO. 11105
 3515 CASTRO VALLEY BOULEVARD
 CASTRO VALLEY, CALIFORNIA
 PROJECT NO. 10-138

APPENDIX A
WATER SAMPLING FIELD SURVEY FORMS

ALISTO

ENGINEERING
GROUP

1777 OAKLAND BLVD, STE 200

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

Field Report / Sampling Data Sheet

Groundwater Sampling

Date: 5/2/95

Project No. 10-138-04-001

Day: M W Th F

Facility No. 11105

Temp. 68°F

Address 3515 Castro Valley Blvd, Castro Valley CA

SAMPLER: DC

Barometric pres. 762

Well ID	SAMPLE #	WATER	time	Well ID	SAMPLE #	WATER/	time	Well ID	SAMPLE	WATER / time
Esse-4	S-1	7.85	1332							
Esse-2	S-2	9.21	1335							
Esse-3	S-3	8.26	1337							
Esse-1	S-4	8.69	1341							
Esse-5	S-5	6.48	1345							

FIELD INSTRUMENT CALIBRATION DATA

PH METER Hypac 4.00 7.00 10.00 TIME 1415 TEMPERATURE COMPENSATED Y N
 TURBIDI METER 5.0 NTU STANDARD OTHER ICM DO meter 0.50m L.C. → 1430
 CONDUCTIVITY METER Hypac 10,000 OTHER _____

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
Esse-4	7.85	2 1/2"	DC	Φ	Y (N)	3	1433	72.6	6.42	0.89	7.9	<input type="checkbox"/> EPA 601
Total Depth - Water Level = $25.00 - 7.85 = 17.15$						6	1436	69.9	6.69	0.64		<input checked="" type="checkbox"/> TPH-G/BTEX <u>Hu</u>
x Well Vol. Factor = $17.15 \times .16 = 2.74$						8.25	1438	69.5	6.80	0.65	9.1	<input type="checkbox"/> TPH Dissol
x #vol. to Purge = $2.74 \times 3 = 8.23$												<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. Baller(s) <input type="checkbox"/> Sys Port												Time/Sample
Comments:												1442/S-1

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
Esse-2	8.25	2"	DC	Φ	Y (N)	3	1452	69.2	7.53	0.60	8.7	<input type="checkbox"/> EPA 601
Total Depth - Water Level = $30.00 - 8.25 = 21.75$						8	1456	68.7	7.43	0.59		<input checked="" type="checkbox"/> TPH-G/BTEX <u>Hu</u>
x Well Vol. Factor = $21.75 \times .16 = 3.48$						10	1459	68.6	7.32	0.61	8.4	<input type="checkbox"/> TPH Dissol
x #vol. to Purge = $3.48 \times 3 = 10.43$												<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. Baller(s) <input type="checkbox"/> Sys Port												Time/Sample
Comments:												-1505/S-2

Well ID	Depth to Water	Diam	Cap/Lock	Depth to prod.	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.	
Esse-3	8.26	2"	DC	Φ	Y (N)	4	1516	70.0	7.43	0.59	8.3	<input type="checkbox"/> EPA 601
Total Depth - Water Level = $30.00 - 8.26 = 21.74$						8	1519	69.4	7.38	0.57		<input checked="" type="checkbox"/> TPH-G/BTEX <u>Hu</u>
x Well Vol. Factor = $21.74 \times .16 = 3.48$						10.5	1521	70.0	7.33	0.56	8.4	<input type="checkbox"/> TPH Dissol
x #vol. to Purge = $3.48 \times 3 = 10.43$												<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. Baller(s) <input type="checkbox"/> Sys Port												Time/Sample
Comments:												1525/S-3

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: 5/2/95 Project No. 10-138-04-001
Day: Tu Station No. 11105
Weather: Sunny Address 3515 Castro Valley Blvd
SAMPLER: ORC CASTRO VALLEY CA

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Thickness	Gal.	Time	Temp *F	pH	E.C.	D.O.	EPA 601	TPII-G/BTEX	TPII Diesel	TOG 5520	Time Sampled
ES-1	8.69	2"	OK	Φ	Φ	3	1533	68.6	7.45	0.56	8.2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Total Depth - Water Level =						8	1536	67.8	7.31	0.51		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30.00 - 8.69 = 21.31 x .16 = 3.41 x 3 = 10.23						10.25	1538	68.2	7.20	0.53	8.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Baller(s) <input type="checkbox"/> Sys Port																
Comments:																
ES-5	6.48	2"	OK	Φ	Φ	3	1558	70.1	7.46	0.54	8.6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Total Depth - Water Level =						6	1602	68.8	7.35	0.52		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24.00 - 6.48 = 17.52 x .16 = 2.8 x 3 = 8.41						9	1605	69.1	7.29	0.52	8.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Purge Method: <input checked="" type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Baller(s) <input type="checkbox"/> Sys Port																
Comments: <u>QC-1 from this well (3-6)</u>																
												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Total Depth - Water Level =												<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Purge Method: <input type="checkbox"/> Surface Pump <input type="checkbox"/> Disp. Tube <input type="checkbox"/> Winch <input type="checkbox"/> Disp. Baller(s) <input type="checkbox"/> Sys Port																
Comments:																

APPENDIX B

LABORATORY REPORT AND CHAIN OF CUSTODY RECORD



May 16, 1995

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

Project Name: BP SITE#11105/3515 CASTOW VALLEY BLVD, CASTOW VALLEY, CA.
Project # : G225684/10-138-04-001

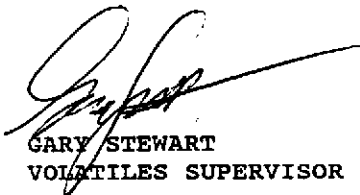
Attention: BILL HOWELL

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

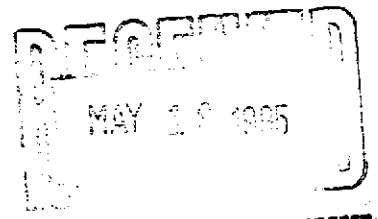
<u>Date Received</u>	<u>Quantity</u>	<u>Matrix</u>
May 04, 1995	7	WATER

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





Client : ALISTO ENGINEERING
Project # : G225684/10-138-04-001
Project Name: BP SITE#11105/3515 CASTOW VALLEY BLVD, CASTOW VALLEY, CA.

Report Date: May 16, 1995
ATI I.D. : 505037

ATI #	Client Description	Matrix	Date Collected
1	S-1	WATER	02-MAY-95
2	S-2	WATER	02-MAY-95
3	S-3	WATER	02-MAY-95
4	S-4	WATER	02-MAY-95
5	S-5	WATER	02-MAY-95
6	S-6	WATER	02-MAY-95
7	S-7	WATER	02-MAY-95

---TOTALS---

<u>Matrix</u>	<u># Samples</u>
WATER	7

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.



Client : ALISTO ENGINEERING
Project # : G225684/10-138-04-001
Project Name: BP SITE#11105/3515 CASTOW VALLEY BLVD, CASTOW VALLEY, CA.

ATI I.D.: 505037

Analysis	Technique/Description
MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)	GC/FLAME ION./PHOTO IONIZATION DETECTOR



Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)
 Client : ALISTO ENGINEERING ATI I.D. : 505037
 Project # : G225684/10-138-04-001
 Project Name: BP SITE#11105/3515 CASTOW VALLEY BLVD, CASTOW VALLEY,

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
1	S-1	WATER	02-MAY-95	N/A	14-MAY-95	1.00
2	S-2	WATER	02-MAY-95	N/A	14-MAY-95	5.00
3	S-3	WATER	02-MAY-95	N/A	14-MAY-95	2.00

Parameter	Units	1	2	3
BENZENE	UG/L	21	4.0	180
TOLUENE	UG/L	2.8	<2.5	30
ETHYLBENZENE	UG/L	8.6	<2.5	23
XYLENES (TOTAL)	UG/L	8.2	<5.0	44
FUEL HYDROCARBONS	UG/L	130	1200	530
HYDROCARBON RANGE		C6-C12	C6-C12	C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE	GASOLINE	GASOLINE

SURROGATES				
TRIFLUOROTOLUENE	%	104	91	104



GAS CHROMATOGRAPHY RESULTS

Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)
 Client : ALISTO ENGINEERING ATI I.D. : 505037
 Project # : G225684/10-138-04-001
 Project Name: BP SITE#11105/3515 CASTOW VALLEY BLVD, CASTOW VALLEY,

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
4	S-4	WATER	02-MAY-95	N/A	14-MAY-95	10.00
5	S-5	WATER	02-MAY-95	N/A	14-MAY-95	20.00
6	S-6	WATER	02-MAY-95	N/A	14-MAY-95	20.00

Parameter	Units	4	5	6
BENZENE	UG/L	640	1100	1100
TOLUENE	UG/L	67	<10	<10
ETHYLBENZENE	UG/L	24	180	180
XYLENES (TOTAL)	UG/L	98	58	58
FUEL HYDROCARBONS	UG/L	2000	5700	5300
HYDROCARBON RANGE		C6-C12	C6-C12	C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE	GASOLINE	GASOLINE
<u>SURROGATES</u>				
TRIFLUOROTOLUENE	%	98	107	106



Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTEX)
 Client : ALISTO ENGINEERING ATI I.D. : 505037
 Project # : G225684/10-138-04-001
 Project Name: BP SITE#11105/3515 CASTOW VALLEY BLVD, CASTOW VALLEY,

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
7	S-7	WATER	02-MAY-95	N/A	14-MAY-95	1.00

Parameter	Units	7
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	%	83



GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTEX)
 Blank I.D. : 35388
 Client : ALISTO ENGINEERING
 Project # : G225684/10-138-04-001
 Project Name: BP SITE#11105/3515 CASTOW VALLEY BLVD, CASTOW VALLEY,

ATI I.D. : 505037
 Date Extracted: N/A
 Date Analyzed : 13-MAY-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	μ	99



BLANK SPIKE

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE) ATI I.D. : 505037
 Blank Spike #: 56494 Date Extracted: N/A
 Client : ALISTO ENGINEERING Date Analyzed : 13-MAY-95
 Project # : G225684/10-138-04-001 Sample Matrix : WATER
 Project Name : BP SITE#11105/3515 CASTOW VALLEY BLVD, CASTOW VALLEY,

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



505037

CHAIN OF CUSTODY

No. 055483

Page 1 of 1

CONSULTANT'S NAME Alisto Engineering		ADDRESS 1575 Trout Blvd Walnut Creek CA		CITY Walnut Creek CA	STATE CA	ZIP CODE 94598
BP SITE NUMBER 11105	BP CORNER ADDRESS/CITY 3515 Cast. Valley Blvd, Cast. Valley CA			CONSULTANT PROJECT NUMBER 10-138-04-001		
CONSULTANT PROJECT MANAGER Bill Howell		PHONE NUMBER (510) 295 1650	FAX NUMBER (510) 295 1823		CONSULTANT CONTRACT NUMBER 6225684	
BP CONTACT Scott Hooten	BP ADDRESS Renton WA		PHONE NUMBER		FAX NO.	
LAB CONTACT ATI Inc	LABORATORY ADDRESS San Diego CA		PHONE NUMBER		FAX NO.	
SAMPLED BY (Please Print Name) Dave Casack		SAMPLED BY (Signature) <i>[Signature]</i>		SHIPMENT DATE		SHIPMENT METHOD Courier Fed-Ex

TAT: 24 Hours 48 Hours 1 Week Standard 2 Weeks

ANALYSIS REQUIRED

AIRBILL NUMBER **4531331442**

SAMPLE DESCRIPTION	COLLECTION DATE	MATRIX SOIL/WATER	CONTAINERS		PRESERVATIVE	TPH CAS (BPA)	COMMENTS
	COLLECTION TIME		NO.	TYPE (VOL.)	LAB SAMPLE #		
S-1 1412	5/2/95	H2O	2	VOA	01	X	
S-2 1505	↓	↓	↓	↓	02	↓	
S-3 1525	↓	↓	↓	↓	03	↓	
S-4 1542	↓	↓	↓	↓	04	↓	
S-5 1610	↓	↓	↓	↓	05	↓	
S-6 -	↓	↓	↓	↓	06	↓	
S-7 -	↓	↓	↓	↓	07	↓	

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	ADDITIONAL COMMENTS
<i>[Signature]</i> Alisto	5/2/95		<i>[Signature]</i>	5/4/95	10:00	2.0°C