BP OIL

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

February 22, 1996

Alameda County Health Care Services Agency
Attention Ms. Juliet Shin - Senior Hazardous Materials Specialist
1131 Harbor Bay Parkway, Ste. 250
Alameda, CA 94502-6577

RE: BP Oil Site No. 11270
3255 MeCartney Road
Alameda, CA

Dear Ms. Shin:

Enclosed find a report entitled Groundwater Monitoring and Sampling Report, dated December 20, 1995. Trust that you can agree that this information further supports the rationale for case closure presented in my February 21, 1996 letter. I look forward to receiving a letter of "no further action" at your earliest convenience.

Absent contrary direction from the Alameda County Health Care Services Agency, I will assume that no further monitoring or sampling is necessary at this site.

Please give me a call if you have any questions, comments or concerns regarding this matter. I can be reached at (206) 251-0689.

Sincerely,

Scott Hooton
Environmental Remediation Management

attachment

cc: site file
A. Sevilla - Alisto
Mr. Larry Cummins, RREEF Engineering Group, 1301 Dove Street, #460, Newport Beach, CA 92660 (w/attachment)
Mr. Jim Pate, RREEF Management Company, 230-A Alamo Plaza, Alamo, CA 94507 (w/attachment)
CRWQCB-SFBR, Attention Mr. E. So, 2101 Webster Street, Ste. 500, Oakland, CA 94612 (w/attachment)

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11270
3255 Mecartney Road
Alameda, California

Project No. 10-206-03-002

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

December 20, 1995

FOR

Dale Swain
Project Manager

Al Sevilla, P.E.
Principal

REGISTERED PROFESSIONAL ENGINEER
ALBERTO SANCHEZ SEVILLA
26392
Exp. Date 3/31/96
CIVIL
STATE OF CALIFORNIA

GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11270
3255 Mecartney Road
Alameda, California

Project No. 10-206-03-002

December 20, 1995

INTRODUCTION

This report presents the results and findings of the October 12, 1995 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11270, 3255 Mecartney Road, Alameda, California. A site vicinity map is shown on Figure 1.

FIELD PROCEDURES

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

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

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

SAMPLING AND ANALYTICAL RESULTS

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

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11270
3255 MECARTNEY ROAD, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-206

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)	MTBE (ug/l)	TDS (mg/l)	DO (ppm)	LAB
MW-1 (c)	10/29/92	12.50	7.28	5.22	---	---	---	---	---	---	---	---	---	---
MW-1 (c)	06/21/93	12.50	5.40	7.10	---	---	---	---	---	---	---	---	---	---
MW-1	04/05/94	12.50	5.64	6.86	1700	---	20	1.1	3.9	7.6	---	---	---	PACE
MW-1	07/28/94	12.50	6.22	6.28	---	---	---	---	---	---	---	---	---	PACE
MW-1	10/26/94	12.50	6.40	6.10	---	---	---	---	---	---	---	---	---	---
MW-1 (d)	02/05/95	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-2	10/29/92	12.08	6.84	5.24	2500	3900	140	ND<10	65	22	---	---	---	---
MW-2	06/21/93	12.08	5.49	6.59	720	770	12	1.5	11	12	---	---	---	---
MW-2	04/05/94	12.08	5.40	6.68	420	1300	ND<0.5	ND<0.5	ND<0.5	4.0	---	---	1.8	PACE
MW-2	07/28/94	12.08	5.97	6.11	---	---	---	---	---	---	---	---	---	PACE
MW-2	10/26/94	12.08	6.10	5.98	---	---	---	---	---	---	---	---	---	---
MW-2 (d)	02/05/95	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-3 (c)	10/29/92	12.09	7.14	4.95	---	---	---	---	---	---	---	---	---	---
MW-3 (c)	06/21/93	12.09	5.84	6.25	---	---	---	---	---	---	---	---	---	---
MW-3	04/05/94	12.09	5.83	6.26	990	4300	3.2	ND<0.5	ND<0.5	1.3	---	---	---	PACE
MW-3	07/28/94	12.09	6.32	5.77	---	---	---	---	---	---	---	---	---	PACE
MW-3	10/26/94	12.09	6.42	5.67	---	---	---	---	---	---	---	---	---	---
MW-3 (d)	02/05/95	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-4	10/29/92	12.14	6.90	5.24	2600	---	250	2.5	74	6.6	---	---	---	---
MW-4	06/21/93	12.14	5.54	6.60	1400	1100	24	2.9	2.6	7.9	---	---	---	---
MW-4	04/05/94	12.14	5.46	6.68	930	940	33	0.8	ND<0.5	2.8	---	---	2.7	PACE
MW-4	07/28/94	12.14	6.02	6.12	2400	1400	19	1.8	0.5	8.0	---	---	6.7	PACE
QC-1 (e)	07/28/94	---	---	---	2300	---	19	1.7	0.5	7.4	---	---	---	PACE
MW-4	10/26/94	12.14	6.13	6.01	---	---	---	---	---	---	---	---	---	---
MW-4 (d)	02/05/95	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-5	06/21/93	13.37	7.44	5.93	ND<50	100	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	---
MW-5	04/05/94	13.37	7.42	5.95	ND<50	100	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	2.5	PACE
QC-1 (e)	04/05/94	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-5	07/28/94	13.37	7.88	5.49	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	7.4	PACE
MW-5	10/26/94	13.37	7.92	5.45	ND<50	160	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	5.5	PACE
QC-1 (e)	10/26/94	---	---	---	ND<50	---	ND<0.5	0.5	ND<0.5	ND<0.5	---	---	---	PACE
MW-5	02/05/95	8.36 (f)	7.83	0.53 (g)	ND<50	ND<500	ND<0.25	ND<0.25	ND<0.25	ND<0.50	---	---	---	ATI
QC-1 (e)	02/05/95	---	---	---	ND<50	---	ND<0.25	ND<0.25	ND<0.25	ND<0.50	---	---	---	ATI
MW-5	05/05/95	8.36	9.00	-0.64	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	3.1	ATI
MW-5	07/19/95	8.36	9.03	-0.67	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	14700	4.6	ATI
MW-5	10/12/95	8.36	9.15	-0.79	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	8490	4.3	ATI
MW-6	02/05/95	6.88 (f)	6.39	0.49 (g)	1000	1000	7.6	19	9.1	96	---	---	5.0	ATI
MW-6	05/05/95	6.88	6.85	0.03	2300	---	49	9.0	130	46	---	---	3.3	ATI
QC-1 (e)	05/05/95	---	---	---	2400	---	49	9.2	140	48	---	---	---	ATI
MW-6	07/19/95	6.88	7.13	-0.25	1500	---	84	3.3	28	24	---	818	3.7	ATI
QC-1 (e)	07/19/95	---	---	---	1500	---	89	3.8	30	26	---	---	---	ATI
MW-6	10/12/95	6.88	7.35	-0.47	1800	---	38	13	38	86	2500	868	4.1	ATI
QC-1 (e)	10/12/95	---	---	---	1100	---	33	7.0	18	44	2200	---	---	ATI
MW-7	02/05/95	6.62 (f)	7.62	-1.00 (g)	280	ND<500	ND<0.25	ND<0.25	ND<0.25	ND<0.50	---	---	5.1	ATI
MW-7	05/05/95	6.62	7.64	-1.02	290	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	3.6	ATI
MW-7	07/19/95	6.62	7.70	-1.08	150	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	12100	4.6	ATI
MW-7	10/12/95	6.62	7.88	-1.26	110	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	390	14000	4.7	ATI

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION NO. 11270
3255 MECARTNEY ROAD, ALAMEDA, CALIFORNIA

ALISTO PROJECT NO. 10-206

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)	MTBE (ug/l)	TDS (mg/l)	DO (ppm)	LAB
XW-1	06/21/93	—	—	—	—	—	—	—	—	—	—	—	—	—
XW-1	04/05/94	—	5.36	—	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	3.0	PACE
XW-1	07/28/94	—	5.92	—	—	—	—	—	—	—	—	—	—	PACE
XW-1	10/26/94	—	6.05	—	—	—	—	—	—	—	—	—	—	—
XW-1	02/05/95	7.49 (f)	5.82	1.67 (g)	ND<50	ND<500	ND<0.25	ND<0.25	ND<0.25	ND<0.50	—	—	4.9	ATI
XW-1	05/05/95	7.49	5.57	1.92	—	—	—	—	—	—	—	—	—	—
XW-1	07/19/95	7.49	6.12	1.37	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	1680	4.3	ATI
XW-1	10/12/95	7.49	6.82	0.67	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	1150	3.8	ATI
XW-2	06/21/93	12.50	5.89	6.61	—	—	—	—	—	—	—	—	—	—
XW-2	04/05/94	12.50	5.77	6.73	ND<50	160	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	3.0	PACE
XW-2	07/28/94	12.50	6.25	6.25	—	—	—	—	—	—	—	—	—	PACE
XW-2	10/26/94	12.50	6.39	6.11	—	—	—	—	—	—	—	—	—	—
XW-2	02/05/95	7.48 (f)	5.62	1.86 (g)	ND<50	ND<500	ND<0.25	0.38	ND<0.25	ND<0.50	—	—	5.2	ATI
XW-2	05/05/95	7.48	5.66	1.82	—	—	—	—	—	—	—	—	—	—
XW-2	07/19/95	7.48	6.80	0.68	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	4750	3.9	ATI
XW-2	10/12/95	7.48	7.21	0.27	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	3630	4.3	ATI
XW-3	06/21/93	11.85	5.85	6.00	—	—	—	—	—	—	—	—	—	—
XW-3	04/05/94	11.85	5.85	6.00	ND<50	150	ND<0.5	0.7	ND<0.5	ND<0.5	—	—	3.1	PACE
XW-3	07/28/94	11.85	6.28	5.57	—	—	—	—	—	—	—	—	—	PACE
XW-3	10/26/94	11.85	6.40	5.45	—	—	—	—	—	—	—	—	—	—
XW-3	02/05/95	6.84 (f)	7.23	-0.39 (g)	280	ND<500	ND<0.50	ND<0.50	0.63	ND<1.0	—	—	4.9	ATI
XW-3	05/05/95	6.84	7.43	-0.59	—	—	—	—	—	—	—	—	—	—
XW-3	07/19/95	6.84	7.60	-0.76	400	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	10400	4.3	ATI
XW-3	10/12/95	6.84	7.74	-0.90	130	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	480	8430	4.7	ATI
QC-2 (h)	04/05/94	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	PACE
QC-2 (h)	07/28/94	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	PACE
QC-2 (h)	10/26/94	—	—	—	ND<50	—	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	—	—	PACE
QC-2 (h)	02/05/95	—	—	—	ND<50	—	ND<0.25	ND<0.25	ND<0.25	ND<0.50	—	—	—	ATI
QC-2 (h)	05/05/95	—	—	—	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	—	—	ATI
QC-2 (h)	07/19/95	—	—	—	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	—	—	—	ATI
QC-2 (h)	10/12/95	—	—	—	ND<50	—	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	—	—	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
MTBE	Methyl tert butyl ether
TDS	Total dissolved solids
DO	Dissolved oxygen
ug/l	Micrograms per liter
mg/l	Milligrams per liter
ppm	Parts per million
—	Not analyzed/measured/applicable
ND	Not detected above reported detection limit
PACE	Pace, Inc.
ATI	Analytical Technologies, Inc.

NOTES:

(a) Casing elevations surveyed to nearest 0.01 foot above mean sea level.

(b) Groundwater elevations in feet above mean sea level.

(c) Not sampled due to inadequate recharge.

(d) Wells destroyed by HETI on January 18 and 19, 1995.

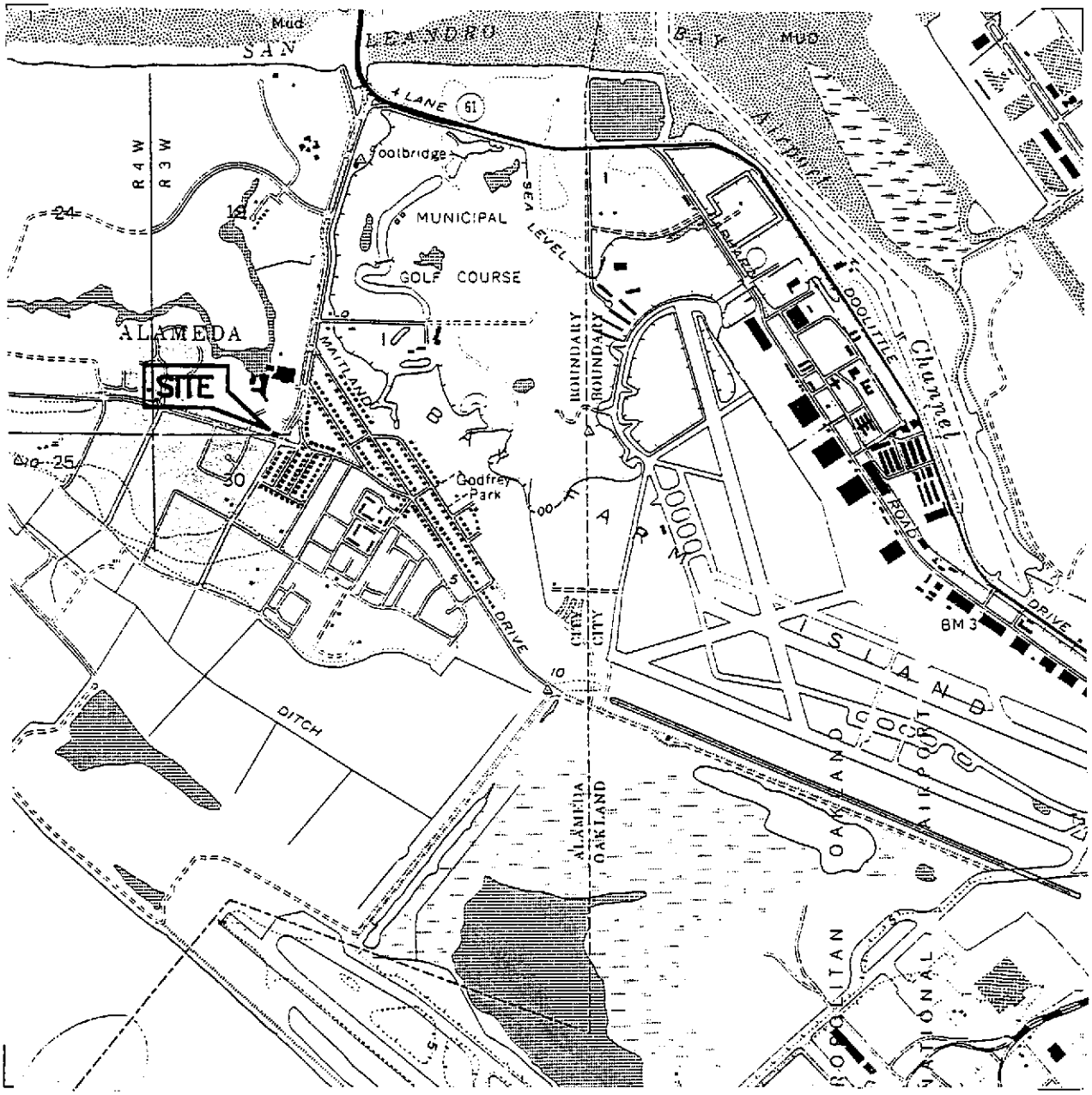
(e) Blind duplicate.

(f) Top of casing elevation surveyed in reference to an arbitrary benchmark: top of hydrant = 10.00 feet above datum.

(g) Groundwater elevation relative to an arbitrary datum.

(h) Travel blank.

EXD\10-206\206-3-2.WQ1



SOURCE:
USGS MAP, SAN LEANDRO QUADRANGLE,
7.5 MINUTE SERIES. 1959.
PHOTOREVISED 1980.

N

0 1000' 2000'

FIGURE 1

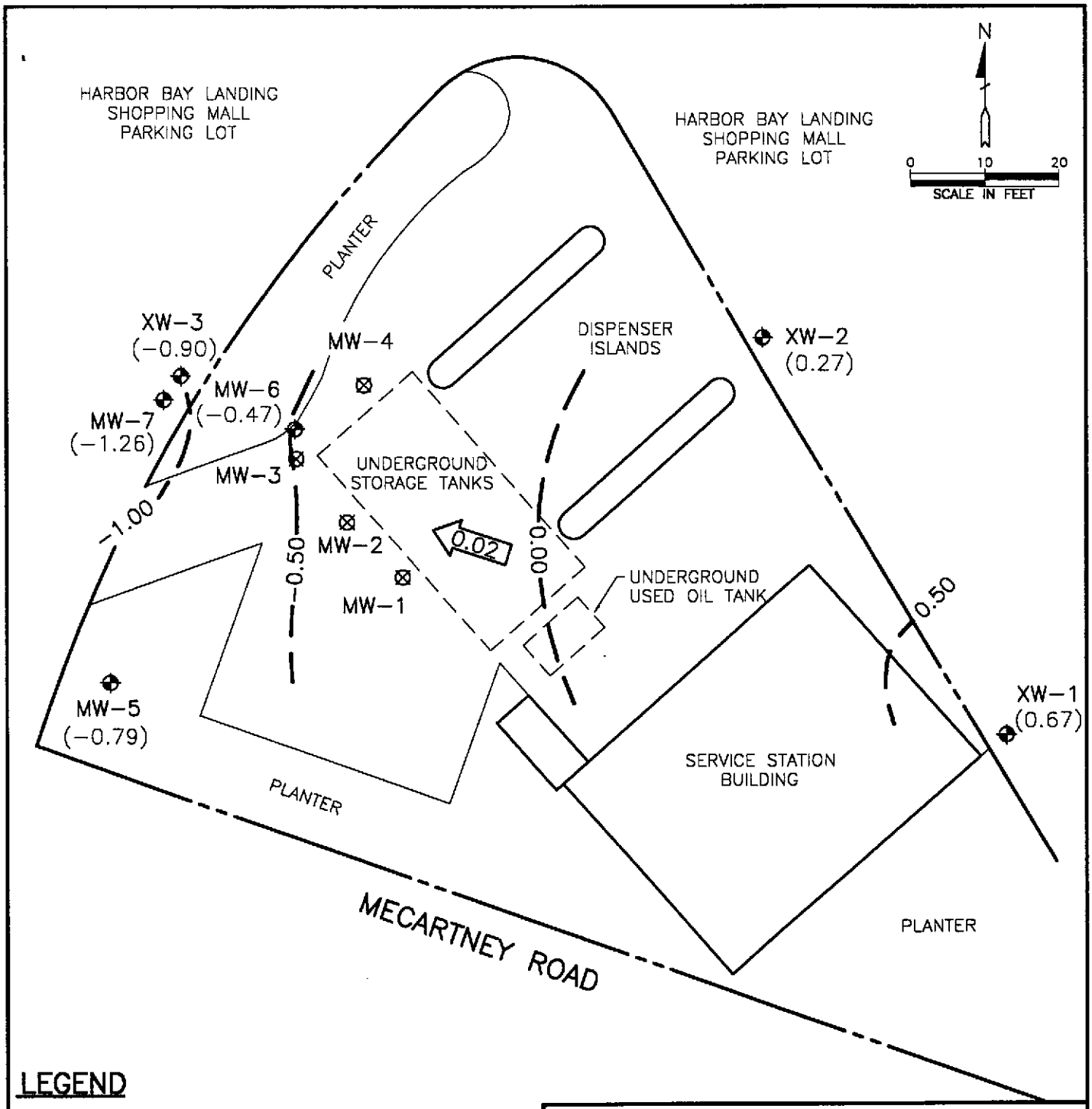
VICINITY MAP

BP OIL SERVICE STATION NO. 11270
3255 MECARTNEY ROAD
ALAMEDA, CALIFORNIA

PROJECT NO. 10-206

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

102068--DWG 5-2-95 RKW 1-1



LEGEND

⊕	GROUNDWATER MONITORING WELL
⊠	DESTROYED WELL
(0.67)	GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
0.50	GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.50 FOOT)
⟵ 0.02	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

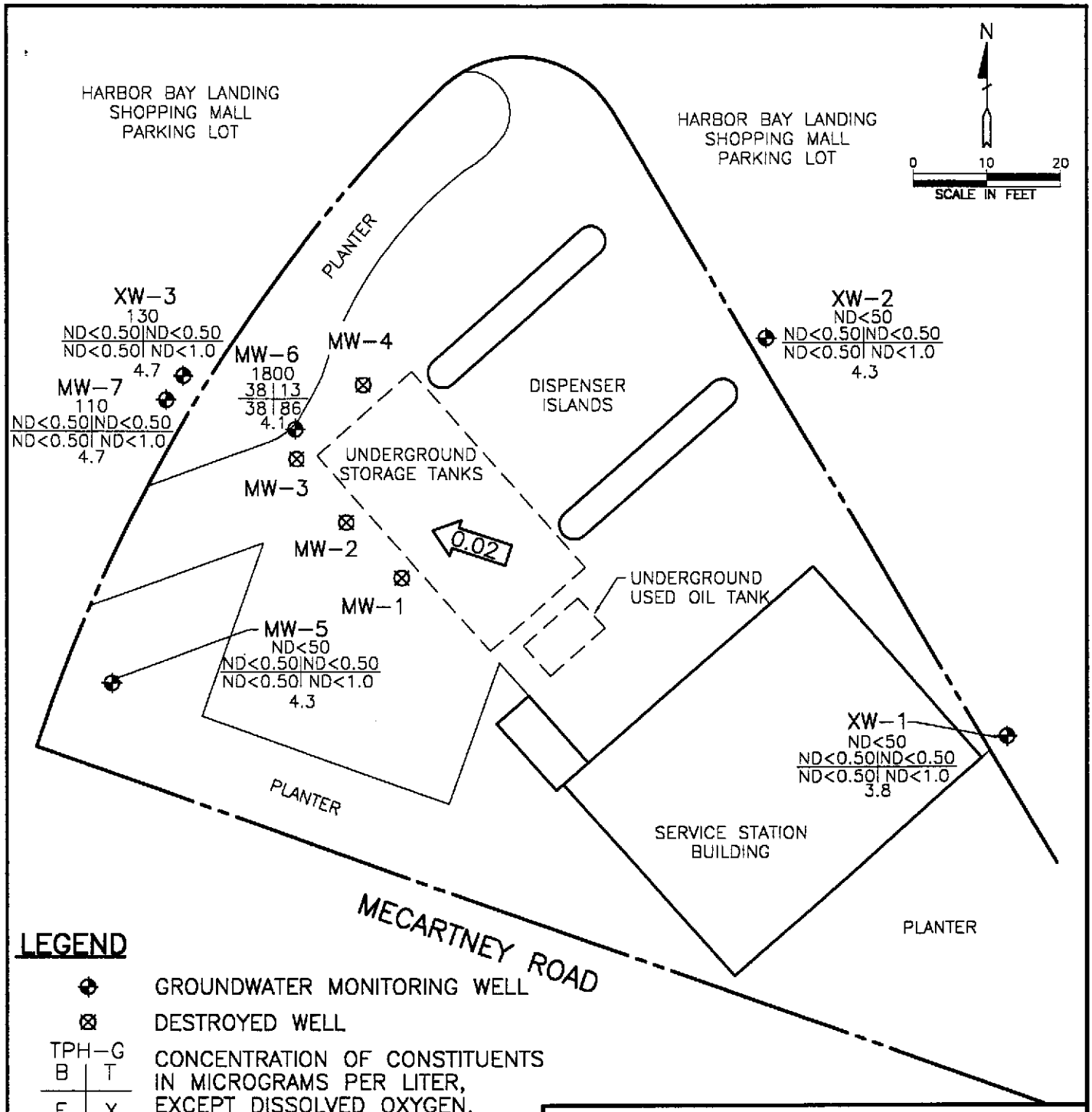
OCTOBER 12, 1995

BP OIL SERVICE STATION NO. 11270
3255 MECARTNEY ROAD
ALAMEDA, CALIFORNIA

PROJECT NO. 10–206

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10206D-P.DWG 11-27-95 MAP 1=20



LEGEND

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

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

OCTOBER 12, 1995

BP OIL SERVICE STATION NO. 11270
3255 MECARTNEY ROAD
ALAMEDA, CALIFORNIA

PROJECT NO. 10-206

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10206E-P.DWG 12-14-95 MAP 1=20

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

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. 10-206-03-002 Date: 10/12/95
Address 3255 McCartney Rd. Day: M T W (TH) F
Contract No. G620649 City: Alameda
Station No. BP 11270 Sampler: LB

DEPTH TO GROUNDWATER SUMMARY

S-8 = TB

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME SAMPLED	COMMENTS:
MW-5	S-4	4"	14.51	9.15	Ø	1007	
MW-6	S-6	4"	20.00	7.35		1230	QC-1 Dup taken from this well (S-7)
MW-7	S-5 S-1	2"	20.00	7.88		0900	S-1
XW-1	S-5		15.35	6.82		1145	
XW-2	S-2		13.62	7.21		0923	
XW-3	S-3		13.53	7.74		0945	

FIELD INSTRUMENT CALIBRATION DATA

pH METER ICm 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED (Y) N TIME _____ WEATHER clear

D.O. METER ICm ZERO d.O. SOLUTION 0 BAROMETRIC PRESSURE 760 TEMP 67

CONDUCTIVITY METER ICm 10,000 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-5	9.15	4"	OK	Ø	Y (N)	3.5	0950	65.9	7.36	10.7ms	4.1
Total Depth - Water Level=		x Well Vol. Factor=		x# vol. to Purge	Purge Vol.	7.0		64.7	7.21	10.2ms	
14.51 - 9.15 = 5.36		X ~~.16~~ .65 = ~~.86~~ 3.48		X3 = ~~2.58~~ 10.44		10.5	1003	64.1	7.16	9.9ms	4.3

Purge Method: (X)Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port

Comments:

O EPA 601 ___
~~O~~ X TPH-G/BTEX ALL
~~O~~ X TDS
~~O~~ X TPH-Diesel X
O TOG 5520 ___

TIME/SAMPLE ID
1007

PAGE _____ OF _____

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. 10-206-03-002 Date: 10/12/95
Address 3255 McCartney Rd. Day: M T W (TH) F
Contract No. G620649 City: Alameda
Station No. BP 11270 Sampler: WB

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-7	7.88	2"	OIC	Ø	Y (N)	2	0847	67.1	7.41	8.97ms	4.3
						4		66.1	7.31	8.91ms	
						6	0857	65.6	7.26	8.88ms	4.7

Total Depth - Water Level= 20.00 - 7.88 = 12.12 x Well Vol. Factor= .16 x #vol. to Purge= 1.94 x 3 = Purge Vol. 5.82
Purge Method: (X) Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

EPA 601___ TPH-G/BTEX HCl TDS TPH Diesel HCl TOG 5520___
TIME/SAMPLE ID: 0900

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
X-1	6.82	2"	OIC	Ø	Y (N)	2.5	1030	67.7	8.11	1.28ms	4.0
						3.0		66.5	7.92	1.22ms	
						4.5	1045	65.9	7.86	1.19ms	3.8

Total Depth - Water Level= 15.35 - 6.82 = 8.53 x Well Vol. Factor= .16 x #vol. to Purge= 1.36 x 3 = Purge Vol. 4.08
Purge Method: (X) Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

EPA 601___ TPH-G/BTEX HCl TDS TPH Diesel___ TOG 5520___
TIME/SAMPLE ID: 1145

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
X-2	7.21	2"	OIC	Ø	Y (N)	1	0906	68.8	7.37	3.72ms	4.1
						2		67.3	7.30	3.62ms	
						3.5	0920	66.6	7.24	3.59ms	4.3

Total Depth - Water Level= 13.62 - 7.21 = 6.41 x Well Vol. Factor= .16 x #vol. to Purge= 1.03 x 3 = Purge Vol. 3.09
Purge Method: (X) Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

EPA 601___ TPH-G/BTEX HCl TDS TPH Diesel___ TOG 5520___
TIME/SAMPLE ID: 0923

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
X-3	7.74	2"	OIC	Ø	Y (N)	1	0930	69.2	7.14	9.16ms	4.2
						2		68.3	7.03	9.00ms	
						3	0942	67.4	6.98	8.80ms	4.7

Total Depth - Water Level= 13.53 - 7.74 = 5.79 x Well Vol. Factor= .16 x #vol. to Purge= .93 x 3 = Purge Vol. 2.79
Purge Method: (X) Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments:

EPA 601___ TPH-G/BTEX HCl TDS TPH Diesel___ TOG 5520___
TIME/SAMPLE ID: 0945

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp °F	pH	E.C.	D.O.
MW-6	7.35	4"	OIC	Ø	Y (N)	9	1157	69.9	8.07	561 µS	3.6
						18		68.0	7.92	555 µS	
						25	1220	67.2	7.83	549 µS	4.1

Total Depth - Water Level= 20.00 - 7.35 = 12.65 x Well Vol. Factor= .65 x #vol. to Purge= 8.22 x 3 = Purge Vol. 24.66
Purge Method: (X) Surface Pump ODisp.Tube OWinch ODisp. Bailer(s)___ OSys Port
Comments: QC-1 Dup from this well

EPA 601___ TPH-G/BTEX HCl TDS TPH Diesel___ TOG 5520___
TIME/SAMPLE ID: 1230

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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.: 510147

October 23, 1995

ALISTO ENGINEERING
1575 TREAT BOULEVARD, SUITE 201
WALNUT CREEK, CA 94598

Project Name: BP SITE#11270/ALAMEDA, CA
Project # : G620649/10-206-03/002

Attention: BRADY NAGLE

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

Date Received	Quantity	Matrix
October 14, 1995	8	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
FOR LABORATORY MANAGER

SAMPLE CROSS REFERENCE

Client : ALISTO ENGINEERING
Project # : G620649/10-206-03/002
Project Name: BP SITE#11270/ALAMEDA, CA

Report Date: October 23, 1995
ATI I.D. : 510147

ATI #	Client Description	Matrix	Date Collected
1	S-1	WATER	12-OCT-95
2	S-2	WATER	12-OCT-95
3	S-3	WATER	12-OCT-95
4	S-4	WATER	12-OCT-95
5	S-5	WATER	12-OCT-95
6	S-6	WATER	12-OCT-95
7	S-7	WATER	12-OCT-95
8	S-8	WATER	12-OCT-95

---TOTALS---

Matrix	# Samples
WATER	8

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 # : G620649/10-206-03/002 ATI I.D.: 510147
Project Name: BP SITE#11270/ALAMEDA, CA

Analysis	Technique/Description
EPA 160.1 (TOTAL DISSOLVED SOLIDS)	GRAVIMETRIC
MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)	GC/FLAME ION./PHOTO IONIZATION DETECTOR

GENERAL CHEMISTRY RESULTS

Client : ALISTO ENGINEERING
Project # : G620649/10-206-03/002 ATI I.D.: 510147
Project Name: BP SITE#11270/ALAMEDA, CA

Sample #	Client ID	Matrix	Date Sampled	Date Received
1	S-1	WATER	12-OCT-95	14-OCT-95
2	S-2	WATER	12-OCT-95	14-OCT-95
3	S-3	WATER	12-OCT-95	14-OCT-95
4	S-4	WATER	12-OCT-95	14-OCT-95
5	S-5	WATER	12-OCT-95	14-OCT-95

Parameter	Units	1	2	3	4	5
TOTAL DISSOLVED SOLIDS	MG/L	14000	3630	8430	8490	1150

GENERAL CHEMISTRY RESULTS

Client : ALISTO ENGINEERING
Project # : G620649/10-206-03/002
Project Name: BP SITE#11270/ALAMEDA, CA

ATI I.D.: 510147

Sample #	Client ID	Matrix	Date Sampled	Date Received
6	S-6	WATER	12-OCT-95	14-OCT-95

Parameter	Units	6
TOTAL DISSOLVED SOLIDS	MG/L	868

GENERAL CHEMISTRY - QUALITY CONTROL

DUP/MS

Client : ALISTO ENGINEERING
Project # : G620649/10-206-03/002 ATI I.D. : 510147
Project Name: BP SITE#11270/ALAMEDA, CA

Parameters	REF I.D.	Units	Sample Result	Dup Result	RPD	Spiked Sample	Spike Conc	% Rec
TOTAL DISSOLVED SOLIDS	510147-06	MG/L	868	876	1	N/A	N/A	N/A

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

GAS CHROMATOGRAPHY RESULTS

Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)
Client : ALISTO ENGINEERING ATI I.D. : 510147
Project # : G620649/10-206-03/002
Project Name: BP SITE#11270/ALAMEDA, CA

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
1	S-1	WATER	12-OCT-95	N/A	20-OCT-95	1.00
2	S-2	WATER	12-OCT-95	N/A	19-OCT-95	1.00
3	S-3	WATER	12-OCT-95	N/A	19-OCT-95	1.00

Parameter	Units	1	2	3
METHYL T-BUTYL ETHER	UG/L	390	<5.0	480
BENZENE	UG/L	<0.50	<0.50	<0.50
TOLUENE	UG/L	<0.50	<0.50	<0.50
ETHYLBENZENE	UG/L	<0.50	<0.50	<0.50
XYLENES (TOTAL)	UG/L	<1.0	<1.0	<1.0
FUEL HYDROCARBONS	UG/L	110	<50	130
HYDROCARBON RANGE		C6-C12	C6-C12	C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE	GASOLINE	GASOLINE
SURROGATES				
TRIFLUOROTOLUENE	%	95	92	95

GAS CHROMATOGRAPHY RESULTS

Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)
Client : ALISTO ENGINEERING ATI I.D. : 510147
Project # : G620649/10-206-03/002
Project Name: BP SITE#11270/ALAMEDA, CA

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
4	S-4	WATER	12-OCT-95	N/A	19-OCT-95	1.00
5	S-5	WATER	12-OCT-95	N/A	19-OCT-95	1.00
6	S-6	WATER	12-OCT-95	N/A	19-OCT-95	10.00

Parameter	Units	4	5	6
METHYL T-BUTYL ETHER	UG/L	<5.0	<5.0	2500
BENZENE	UG/L	<0.50	<0.50	38
TOLUENE	UG/L	<0.50	<0.50	13
ETHYLBENZENE	UG/L	<0.50	<0.50	38
XYLENES (TOTAL)	UG/L	<1.0	<1.0	86
FUEL HYDROCARBONS	UG/L	<50	<50	1800
HYDROCARBON RANGE		C6-C12	C6-C12	C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE	GASOLINE	GASOLINE
SURROGATES				
TRIFLUOROTOLUENE	%	94	95	85

GAS CHROMATOGRAPHY RESULTS

Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)
Client : ALISTO ENGINEERING ATI I.D. : 510147
Project # : G620649/10-206-03/002
Project Name: BP SITE#11270/ALAMEDA, CA

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
7	S-7	WATER	12-OCT-95	N/A	19-OCT-95	10.00
8	S-8	WATER	12-OCT-95	N/A	19-OCT-95	1.00

Parameter	Units	7	8
METHYL T-BUTYL ETHER	UG/L	2200	<5.0
BENZENE	UG/L	33	<0.50
TOLUENE	UG/L	7.0	<0.50
ETHYLBENZENE	UG/L	18	<0.50
XYLENES (TOTAL)	UG/L	44	<1.0
FUEL HYDROCARBONS	UG/L	1100	<50
HYDROCARBON RANGE		C6-C12	C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE	GASOLINE
SURROGATES			
TRIFLUOROTOLUENE	%	87	95

GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE)
Blank I.D. : 37121
Client : ALISTO ENGINEERING
Project # : G620649/10-206-03/002
Project Name: BP SITE#11270/ALAMEDA, CA

ATI I.D. : 510147
Date Extracted: N/A
Date Analyzed : 19-OCT-95
Dil. Factor : 1.00

Parameters	Units	Results
METHYL T-BUTYL ETHER	UG/L	<5.0
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	%	96

GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE)
Blank I.D. : 37123
Client : ALISTO ENGINEERING
Project # : G620649/10-206-03/002
Project Name: BP SITE#11270/ALAMEDA, CA

ATI I.D. : 510147
Date Extracted: N/A
Date Analyzed : 20-OCT-95
Dil. Factor : 1.00

Parameters	Units	Results
METHYL T-BUTYL ETHER	UG/L	<5.0
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

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE)
MSMSD # : 79346
Client : ALISTO ENGINEERING

Project # : G620649/10-206-03/002
Project Name: BP SITE#11270/ALAMEDA, CA

ATI I.D. : 510147
Date Extracted: N/A
Date Analyzed : 19-OCT-95
Sample Matrix : WATER
REF I.D. : 510147-05

Parameters	Units	Sample Result	Conc Spike	Spiked Sample	% Rec	Dup Spike	Dup % Rec	RPD
BENZENE	UG/L	<0.50	5.0	4.4	88	4.4	88	0
TOLUENE	UG/L	<0.50	5.0	4.6	92	4.6	92	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/BTXE)
Blank Spike #: 59530
Client : ALISTO ENGINEERING
Project # : G620649/10-206-03/002
Project Name : BP SITE#11270/ALAMEDA, CA

ATI I.D. : 510147
Date Extracted: N/A
Date Analyzed : 19-OCT-95
Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
BENZENE	UG/L	<0.50	4.4	5.0	88
TOLUENE	UG/L	<0.50	4.6	5.0	92

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 #: 59541
Client : ALISTO ENGINEERING
Project # : G620649/10-206-03/002
Project Name : BP SITE#11270/ALAMEDA, CA

ATI I.D. : 510147
Date Extracted: N/A
Date Analyzed : 20-OCT-95
Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
BENZENE	UG/L	<0.50	4.4	5.0	88
TOLUENE	UG/L	<0.50	4.6	5.0	92

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

ACCESSION #: 510147 INITIALS: JY

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	(NO)
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 (#1155)	
3	Are custody seals required for this project ?	YES	(N/A)
	a) are Custody Seals present on Cooler(s) ?	YES	(NO)
	If yes, are seals intact ?	YES	NO
	b) are Custody Seals present on the sample ?	YES	(NO)
	If yes, are seals intact ?	YES	NO
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.	(YES)	NO
5	Is the COC' complete per cooler ? Relinquished: (yes)/no Requested analysis: (yes)/no	(YES)	NO
6	Is the COC' in agreement with the samples received? # Samples: (yes)/no Sample ID's: (yes)/no Date sampled: (yes)/no Matrix: (yes)/no # containers: yes/(no)	YES	(NO)
7	Are the samples preserved correctly?	(YES)	NO
8	Is there enough sample for all the requested analyses?	(YES)	NO
9	Are all samples within holding times for the requested analyses?	(YES)	NO
10	Record cooler temperature. Contact PM if temperature is not 4°C ± 2°C.	2.1 °C	
	Is ice present in cooler?	(YES)	NO
11	Were all sample containers received intact (ie. not broken, leaking, etc.)?	(YES)	NO
12	Are samples requiring no headspace, headspace free? N/A	(YES)	NO
13	Are VOA 1st stickers required?	YES	(NO)
14	Are there special comments on the Chain of Custody which require client contact?	YES	(N/A)
15	If yes, was ATI Project Manager notified?	YES	NO

Describe "no" items: (6) Only two VOA vials received for each sample.
NO Bottles for TDS. COC implies 3 bottles for 01-06.

Was client contacted? (yes) no

If yes, Date: 10/15/95 Name of Person contacted: Patty Yelton will send.

Describe actions taken or client instructions:
Received TDS 10/17/95 Hold Time up 10/19!!
Cooler Temp 2.0°C → Samples in good condition.

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

BP

ATI #56147

CHAIN OF CUSTODY

No.066929 Page 1 of 1

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

BP SITE NUMBER	BP CORNER ADDRESS/CITY	CONSULTANT PROJECT NUMBER
11270	Alameda, Ca	10-206-03/007

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
Brady Nagle	(510) 295-1650	295-1823	6620649

BP CONTACT	BP ADDRESS	PHONE NUMBER	FAX NO.
Scott Hooten	Renton, WA		

LAB CONTACT	LABORATORY ADDRESS	PHONE NUMBER	FAX NO.
ATI	San Diego		

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
Larry Buenaventura	[signature]		~~Courier~~ FedEx

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

ANALYSIS REQUIRED

AIRBILL NUMBER: 6623236 ITC

SAMPLE DESCRIPTION	COLLECTION DATE / COLLECTION TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE / LAB SAMPLE #	TPH-G BTEX	TDS	MTBE								COMMENTS
																Sample Time
S-1	10/12/95	W	3	HCL Voas	01	X	X	X								0900
S-2	↓	↓	↓	↓	02	↓	↓	↓								0923
S-3	↓	↓	↓	↓	03	↓	↓	↓								0945
S-4	↓	↓	↓	↓	04	↓	↓	↓								1007
S-5	↓	↓	↓	↓	05	↓	↓	↓								1145
S-6	↓	↓	↓	↓	06	↓	↓	↓								1230
S-7	↓	↓	2	↓	07	↓		↓								1235
S-8	↓	↓	2	↓	08	↓		↓								0800

→ DID NOT Receive in this shipment 10/14/95

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	10/13/95		[signature] / ATI	10-14-95 ~~10-13-95~~	08:55

ADDITIONAL COMMENTS

Cooler #1155 = 2.1°

CLV-16722
PKG/50

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