GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11120
6400 Dublin Boulevard
Dublin, California

Project No. 10-170-03-002

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

March 5, 1996

Dale Swain
Project Manager

Al Sevilla, P.E.
Principal

5/1/96:

① Could there have been a recent piping leak near MW-3? (high MTBE)

② Check w/ R. Wasten if tightness tests have been ok. especially for piping

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INTRODUCTION

This report presents the results and findings of the December 22, 1995 groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Company Service Station No. 11120, 6400 Dublin Boulevard, Dublin, 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 an arbitrary datum. 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. 11120
6400 DUBLIN BOULEVARD, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-170

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)	DO (ppm)	LAB
MW-1 (c)	10/27/92	328.96	8.19	320.77	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-1	04/09/93	328.96	4.79	324.17	ND<50	100	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-1	08/25/93	328.96	6.85	322.11	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-1	11/22/93	328.96	7.38	321.58	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-1	03/07/94	328.96	5.89	323.07	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	4.3	PACE
MW-1	06/09/94	328.96	6.42	322.54	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	8.8	PACE
MW-1	09/12/94	328.96	7.33	321.63	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	7.8	PACE
MW-1	12/20/94	328.96	6.34	322.62	---	---	---	---	---	---	---	---	---
MW-1	03/16/95	328.96	4.37	324.59	ND<50	ND<500	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	5.6	ATI
MW-1	06/28/95	328.96	5.35	323.61	---	---	---	---	---	---	---	---	---
MW-1	09/06/95	328.96	6.44	322.52	ND<50	340	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	7.4	ATI
MW-1	12/22/95	328.96	6.04	322.92	---	---	---	---	---	---	---	---	---
MW-2	10/27/92	328.50	7.64	320.86	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-2	04/09/93	328.50	4.12	324.38	ND<50	80	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-2	08/25/93	328.50	6.31	322.19	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-2	11/22/93	328.50	7.12	321.38	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-2	03/07/94	328.50	5.60	322.90	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	4.3	PACE
MW-2	06/09/94	328.50	5.91	322.59	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	8.2	PACE
MW-2	09/12/94	328.50	6.87	321.63	ND<50	160	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	7.5	PACE
MW-2	12/20/94	328.50	5.86	322.64	---	---	---	---	---	---	---	---	---
MW-2	03/16/95	328.50	3.77	324.73	ND<50	ND<500	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	6.6	ATI
MW-2	03/16/95	328.50	3.77	324.73	ND<50	ND<500	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	6.6	ATI
MW-2	06/28/95	328.50	4.33	324.17	---	---	---	---	---	---	---	---	---
MW-2	09/06/95	328.50	5.85	322.65	ND<50	210	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	7.0	ATI
MW-2	12/22/95	328.50	5.50	323.00	---	---	---	---	---	---	---	---	---
MW-3	10/27/92	329.36	8.43	320.93	210	ND<50	3	0.7	0.9	30	---	---	PACE
MW-3	04/09/93	329.36	4.90	324.46	400	260	6.1	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-3	08/25/93	329.36	7.13	322.23	2000	440	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-3	11/22/93	329.36	7.60	321.76	1800	360	ND<2.5	ND<2.5	ND<2.5	ND<2.5	---	---	PACE
MW-3	03/07/94	329.36	6.08	323.28	1300	5000	22	4.0	2.2	3.8	---	3.7	PACE
MW-3	06/09/94	329.36	6.51	322.85	8500	2600	25	8.3	0.5	15	---	7.2	PACE
QC-1 (d)	06/09/94	---	---	---	8800	---	23	6.3	0.5	10	---	---	PACE
MW-3	09/12/94	329.36	7.63	321.73	2100	3200	ND<5.0	ND<5.0	8.8	20	---	7.3	PACE
QC-1 (d)	09/12/94	---	---	---	1800	---	ND<5.0	ND<5.0	6.0	10	---	---	PACE
MW-3	12/20/94	329.36	6.41	322.95	18000	9600	79	28	89	9.3	---	7.3	PACE
QC-1 (d)	12/20/94	---	---	---	17000	---	79	33	80	ND<2.5	---	---	PACE
MW-3	03/16/95	329.36	4.39	324.97	6300	7000	470	ND<5.0	210	9.9	---	5.5	ATI
QC-1 (d)	03/16/95	---	---	---	6300	---	500	ND<5.0	230	13	---	---	ATI
MW-3	06/28/95	329.36	5.50	323.86	9000	3000	ND<10	ND<10	ND<10	ND<20	---	7.4	ATI
QC-1 (d)	06/28/95	---	---	---	8800	---	ND<10	ND<10	ND<10	ND<20	---	---	ATI
MW-3	09/06/95	329.36	6.66	322.70	10000	2800	ND<50	ND<50	ND<50	ND<100	37000	7.1	ATI
QC-1 (d)	09/06/95	---	---	---	9700	---	ND<50	ND<50	ND<50	ND<100	36000	---	ATI
MW-3	12/22/95	329.36	6.31	323.05	9200	2500	ND<50	ND<50	ND<50	ND<100	29000	6.7	ATI

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ALISTO PROJECT NO. 10-170

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)	DO (ppm)	LAB
MW-4	10/27/92	329.45	8.61	320.84	2300	190	23	54	50	320	---	---	PACE
MW-4	04/09/93	329.45	5.25	324.20	1600	500	78	3.5	68	1.0	---	---	PACE
MW-4	08/25/88	329.45	7.32	322.13	1800	380	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-1 (d)	08/25/93	---	---	---	1600	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-4	11/22/93	329.45	7.83	321.62	610	260	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-1 (d)	11/22/93	---	---	---	1700	---	ND<2.5	ND<2.5	ND<2.5	ND<2.5	---	---	PACE
MW-4	03/07/94	329.45	6.29	323.16	710	1400	0.5	0.8	ND<0.5	ND<0.5	---	3.8	PACE
QC-1 (d)	03/07/94	---	---	---	1600	---	ND<0.5	ND<0.5	1.4	0.6	---	---	PACE
MW-4	06/09/94	329.45	6.76	322.69	6400	1800	ND<10	ND<10	ND<10	ND<10	---	7.5	PACE
MW-4	09/12/94	329.45	7.83	321.62	2000	2700	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	7.2	PACE
MW-4	12/20/94	329.45	6.68	322.77	9200	2400	ND<5.0	ND<5.0	ND<5.0	ND<5.0	---	6.1	PACE
MW-4	03/16/95	329.45	4.66	324.79	1400	960	140	ND<2.5	58	14	---	5.5	ATI
MW-4	06/28/95	329.45	5.93	323.52	5000	5400	240	ND<5.0	220	ND<10	---	7.4	ATI
MW-4	09/06/95	329.45	6.83	322.62	4400	4500	ND<13	ND<13	ND<13	ND<25	12000	7.6	ATI
MW-4	12/22/95	329.45	6.42	323.03	3800	4700	15	ND<13	ND<13	ND<25	9200	7.1	ATI
QC-1 (d)	12/22/95	---	---	---	3900	---	16	ND<13	ND<13	ND<25	8600	---	ATI
MW-5	04/09/93	329.60	5.18	324.42	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-5	08/25/93	329.60	7.28	322.32	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-5	11/22/93	329.60	7.82	321.78	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-5	03/07/94	329.60	6.27	323.33	ND<50	120	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	5.7	PACE
MW-5	06/09/94	329.60	6.73	322.87	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	7.7	PACE
MW-5	09/12/94	329.60	7.78	321.82	ND<50	120	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	7.2	PACE
MW-5	12/20/94	329.60	6.63	322.97	---	---	---	---	---	---	---	---	---
MW-5	03/16/95	329.60	4.65	324.95	ND<50	ND<500	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	4.9	ATI
MW-5	06/28/95	329.60	5.69	323.91	---	---	---	---	---	---	---	---	---
MW-5	09/06/95	329.60	6.82	322.78	ND<50	200	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	7.3	ATI
MW-5	12/22/95	329.60	6.40	323.20	---	---	---	---	---	---	---	---	---
MW-6	04/09/93	329.55	5.37	324.18	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	08/25/93	329.55	7.42	322.13	ND<50	170	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	11/22/93	329.55	7.93	321.62	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-6	03/07/94	329.55	6.25	323.30	ND<50	90	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	4.2	PACE
MW-6	06/09/94	329.55	6.85	322.70	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	7.0	PACE
MW-6	09/12/94	329.55	7.91	321.64	ND<50	240	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	6.7	PACE
MW-6	12/20/94	329.55	6.82	322.73	---	---	---	---	---	---	---	---	---
MW-6	03/16/95	329.55	4.78	324.77	ND<50	ND<500	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	6.1	ATI
MW-6	06/28/95	329.55	5.97	323.58	---	---	---	---	---	---	---	---	---
MW-6	09/06/95	329.55	6.94	322.61	ND<50	340	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	7.2	ATI
MW-6	12/22/95	329.55	6.53	323.02	---	---	---	---	---	---	---	---	---

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BP OIL COMPANY SERVICE STATION NO. 11120
6400 DUBLIN BOULEVARD, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-170

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)	DO (ppm)	LAB
MW-7	04/09/93	329.49	5.36	324.13	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-7	08/25/93	329.49	7.44	322.05	ND<50	150	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-7	11/22/93	329.49	7.92	321.57	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
MW-7	03/07/94	329.49	6.20	323.29	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	3.7	PACE
MW-7	06/09/94	329.49	6.89	322.60	ND<50	70	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	6.8	PACE
MW-7	09/12/94	329.49	7.87	321.62	ND<50	50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	6.8	PACE
MW-7	12/20/94	329.49	6.77	322.72	ND<50	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	6.5	PACE
MW-7	03/16/95	329.49	4.77	324.72	ND<50	ND<500	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	5.9	ATI
MW-7	06/28/95	329.49	5.94	323.55	ND<50	320	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	7.8	ATI
MW-7	09/06/95	329.49	6.98	322.51	ND<50	240	ND<0.50	ND<0.50	ND<0.50	ND<1.0	8.5	7.5	ATI
MW-7	12/22/95	329.49	6.65	322.84	ND<50	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	7.2	6.9	ATI
QC-2 (e)	08/25/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	11/22/93	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	03/07/94	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	06/09/94	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	09/12/94	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	12/20/94	---	---	---	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	PACE
QC-2 (e)	03/16/95	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
QC-2 (e)	06/28/95	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	---	---	ATI
QC-2 (e)	09/06/95	---	---	---	ND<50	---	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<5.0	---	ATI
QC-2 (e)	12/22/95	---	---	---	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
DO	Dissolved oxygen
ug/l	Micrograms per liter
ppm	Parts per million
ND	Not detected above reported detection limit
---	Not analyzed/applicable/measured
PACE	Pace, Inc.
ATI	Analytical Technologies, Inc.

NOTES:

(a) Top of casing elevations surveyed to an arbitrary datum.

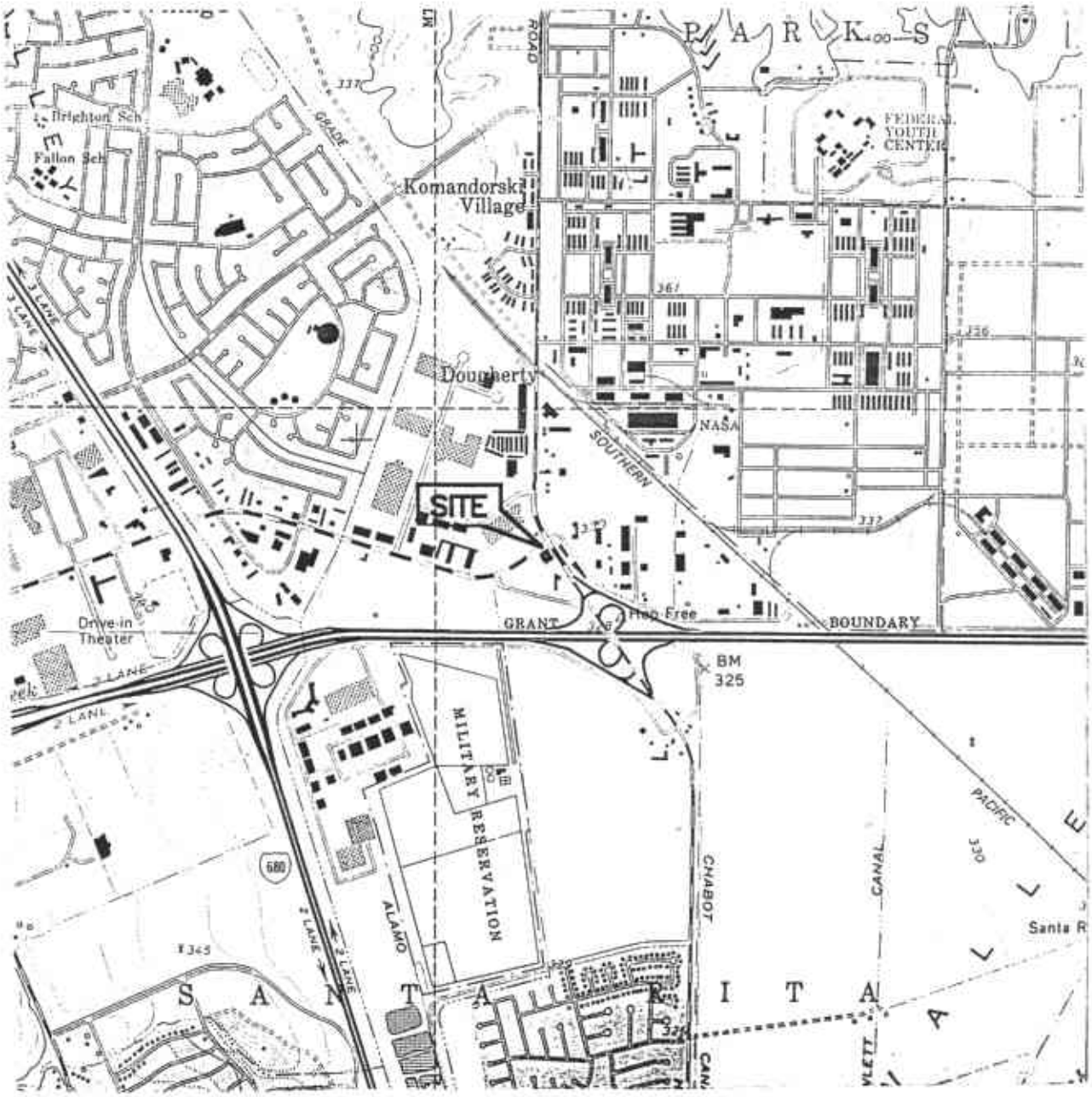
(b) Groundwater elevations relative to an arbitrary datum.

(c) Analysis did not detect total oil and grease and halogenated volatile organic compounds above reported detection limits.

(d) Blind duplicate.

(e) Travel blank.

F:\0\10-170\170-3-2.WQ2



SOURCE:
USGS MAP, DUBLIN QUADRANGLE, CALIFORNIA, 7.5 MINUTE SERIES, 1961, PHOTOREVISED 1980.

N

0 1000' 2000'

FIGURE 1

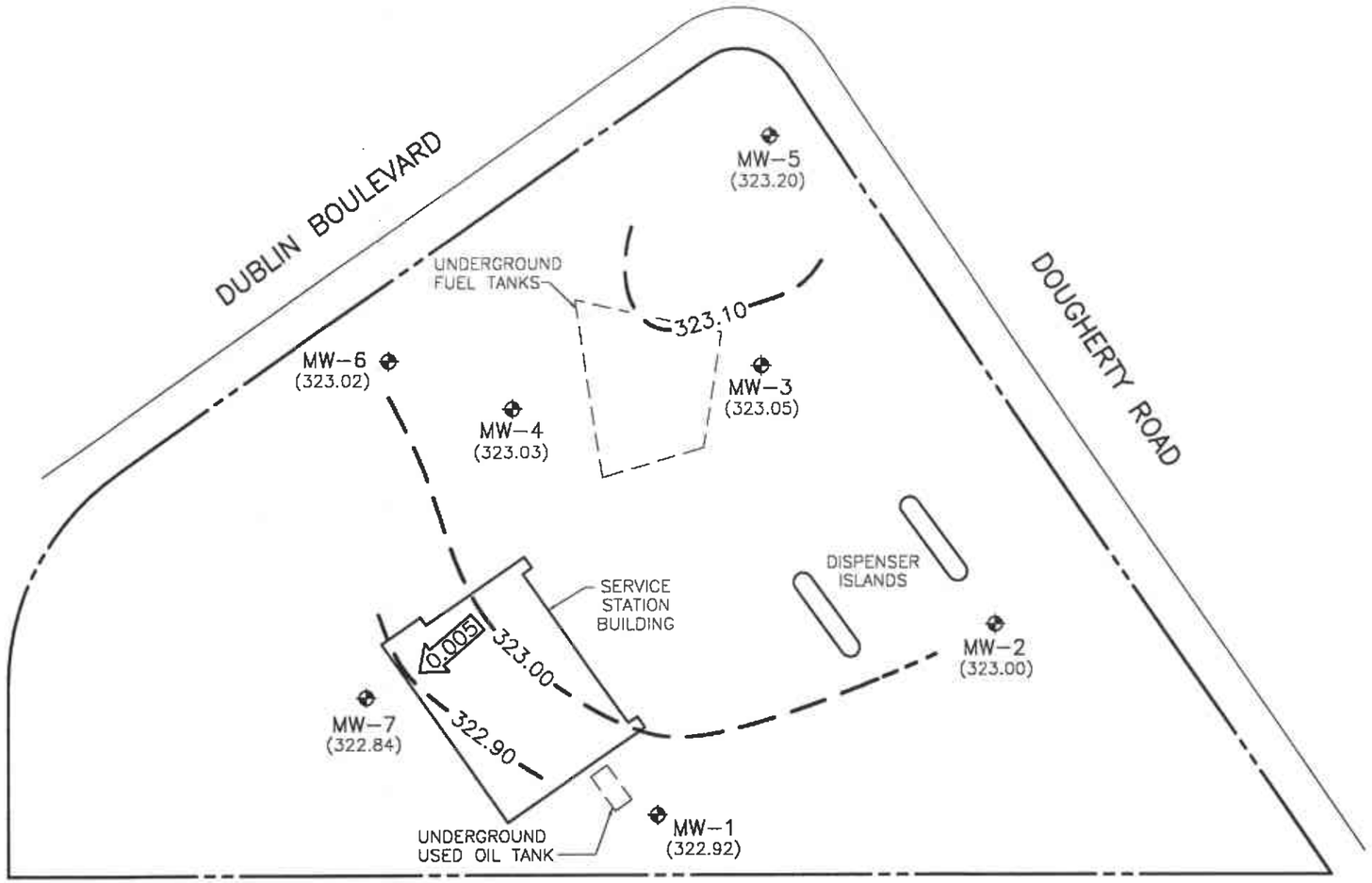
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11120
6400 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

PROJECT NO. 10-170

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

101709 — DWG 10-8-93 ROP 1=1



N

0 30 60

SCALE IN FEET

LEGEND

- ◆ GROUNDWATER MONITORING WELL
- (323.05) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 323.10 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL–0.10 FOOT)
- 0.005 CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 2

POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP

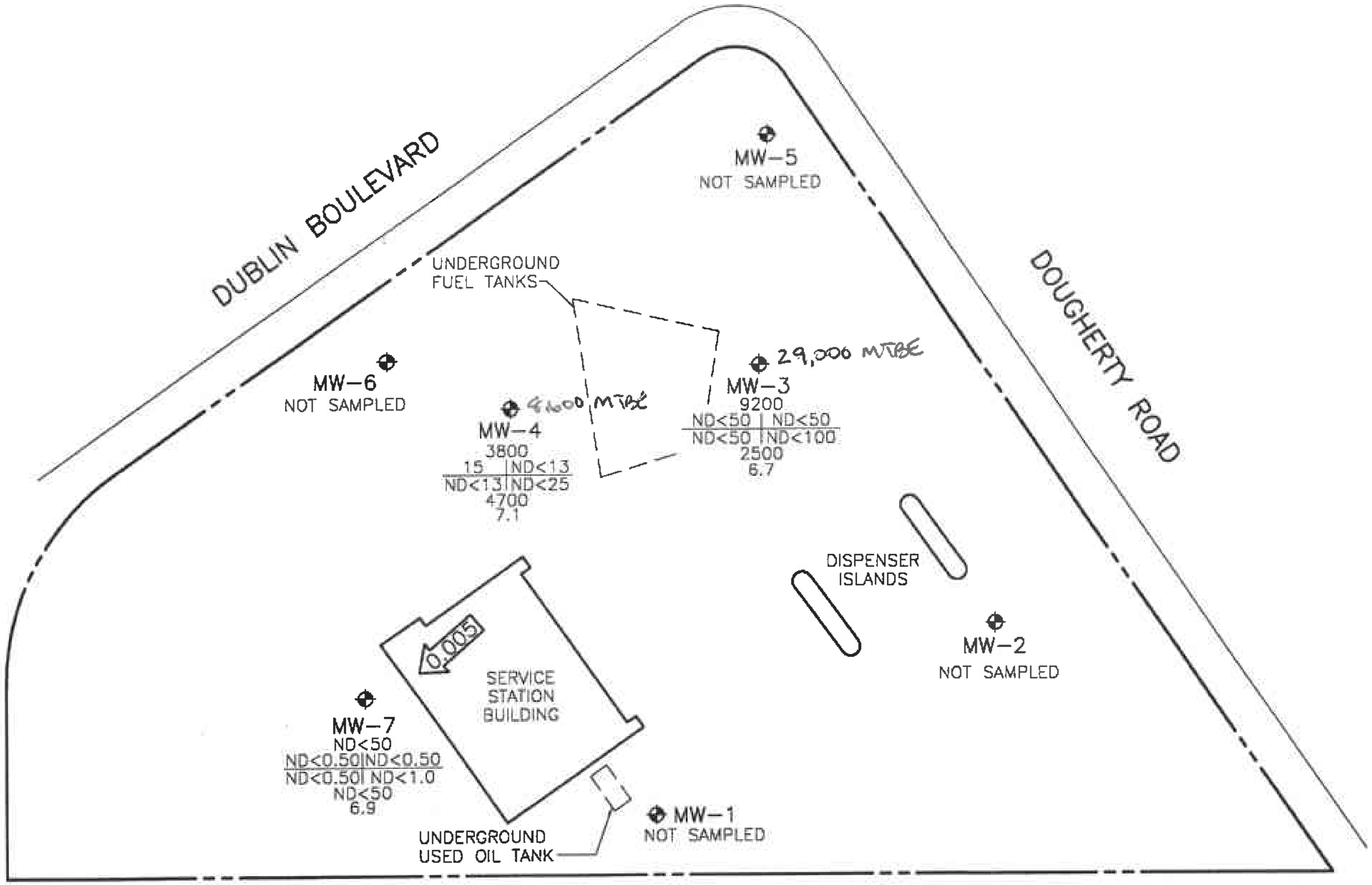
DECEMBER 22, 1995

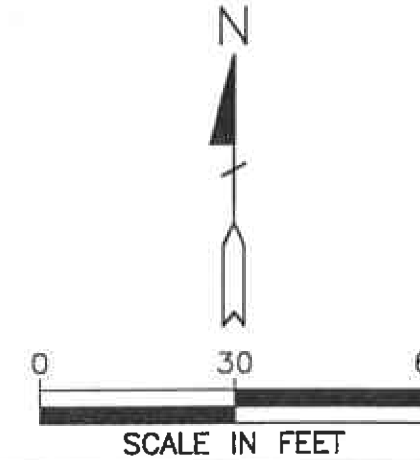
BP OIL SERVICE STATION NO. 11120
6400 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

PROJECT NO. 10–170

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

10170-F.DWG 03-04-96 JTD 1=30





LEGEND

⊕	GROUNDWATER MONITORING WELL
TPH-G / B | T / E | X / TPH-D / 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
TPH-D	TOTAL PETROLEUM HYDROCARBONS AS DIESEL
DO	DISSOLVED OXYGEN
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
0.005 (arrow)	CALCULATED GROUNDWATER GRADIENT DIRECTION AND MAGNITUDE IN FOOT PER FOOT

FIGURE 3

CONCENTRATIONS OF PETROLEUM HYDROCARBONS IN GROUNDWATER

DECEMBER 22, 1995

BP OIL SERVICE STATION NO. 11120
6400 DUBLIN BOULEVARD
DUBLIN, CALIFORNIA

PROJECT NO. 10-170

ALISTO ENGINEERING GROUP
WALNUT CREEK, CALIFORNIA

APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS

ALISTO

ENGINEERING
GROUP
1575 TREAT BOULEVARD, SUITE 201
WALNUT CREEK CA 94598 (510) 295-1650 FAX 295-1823

Field Report / Sampling Data Sheet

Project No. 10-170-03-002 Date: 12/22/95
Address I-580 & Dougherty Day: M T W TH F
Contract No. G602092 City: Dublin
Station No. BP 11120 Sampler: LB

DEPTH TO GROUNDWATER SUMMARY

WELL ID	SAMPLE ID	WELL DIAM	TOTAL DEPTH	DEPTH TO WATER	PRODUCT THICKNESS	TIME SAMPLED	COMMENTS: Semi=March/Sept
MW-1	semi	2"	N/M	6.04	Ø	N/S	
MW-2	semi		N/M	5.50		N/S	
MW-3	S-2		20.00	6.31		1320	
MW-4	S-3		20.00	6.42		1406	
MW-5	semi		N/M	6.40		N/S	
MW-6	semi	4"	N/M	6.53		N/S	
MW-7	S-1	2"	20.25	6.65		1236	

FIELD INSTRUMENT CALIBRATION DATA

pH METER Icm 4.00 4 7.00 7 10.00 10 TEMPERATURE COMPENSATED (Y) N TIME 1130 WEATHER Rain
D.O. METER Icm ZERO d.O. SOLUTION 0 BAROMETRIC PRESSURE 760 TEMP 62
CONDUCTIVITY METER Icm 10,000 other 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-7	6.65	2"	OK	Ø	Y (N)	2	1210	65.1	7.52	1.93ms	6.8
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			4		64.3	7.44	1.88ms	
20.25 - 6.65 = 13.60	X .16 = 2.18	X3 = 6.54				7	1227	64.0	7.37	1.83ms	6.9

Purge Method: (X) Surface Pump O Disp.Tube O Winch O Disp. Bailer(s) ___ O Sys Port
Comments:

O EPA 601 ____
(X) TPH-G/BTEX HL
O TPH Diesel ____
O TOG 5520 ____
TIME/SAMPLE ID: 1236

Well ID	Depth to Water	Diam	Cap/Lock	Product Depth	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-3	6.31	2"	OK	Ø	Y (N)	2	1252	68.2	7.77	1.72ms	6.4
Total Depth - Water Level=	x Well Vol. Factor=	x#vol. to Purge	PurgeVol.			4		66.6	7.63	1.47ms	
20.00 - 6.31 = 13.69	X .16 = 2.19	X3 = 6.57				7	1310	66.2	7.54	1.43ms	6.7

Purge Method: (X) Surface Pump O Disp.Tube O Winch O Disp. Bailer(s) ___ O Sys Port
Comments:

O EPA 601 ____
(X) TPH-G/BTEX HL
O TPH Diesel ____
O TOG 5520 ____
TIME/SAMPLE ID: 1320

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. 10-170-03-002 Date:
Address I-580 & Dougherty Day: M T W TH F
Contract No. G602092 City: Dublin
Station No. BP 11120 Sampler: LB

Well ID	Depth to Wate	Diam	Cap/Lock	Product Dept	Iridescence	Gal.	Time	Temp *F	pH	E.C.	D.O.
MW-4	6.42	2"	OIC	Ø	Y (N)	2	1342	67.2	7.92	1.36	6.9
						4		66.1	7.63	1.21	.
						7	1357	65.6	7.52	1.17	7.1

Total Depth - Water Level= x Well Vol. Factor= x#Vol. to Purge PurgeVol.
20.00-6.42=13.58X.16=2.17X3=6.51

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

Comments: DC-1 (8-4) from this well

- O EPA 601_____
- ⊗ TPH-G/BTEX HCL
- O TPH Diesel_____
- O TOG 5520 ___

TIME/SAMPLE ID
1406

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.: 512286

January 09, 1996

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

Project Name: BP SITE #11120 DUBLIN, CA
Project # : G602092/10-170-03

Attention: BRADY NAGLE

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

Date Received	Quantity	Matrix
December 23, 1995	5	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

FOR
ALAN J. KLEINSCHMIDT
LABORATORY MANAGER

SAMPLE CROSS REFERENCE

Client : ALISTO ENGINEERING
Project # : G602092/10-170-03
Project Name: BP SITE #11120 DUBLIN, CA

Report Date: January 09, 1996
ATI I.D. : 512286

ATI #	Client Description	Matrix	Date Collected
1	S-1	WATER	22-DEC-95
2	S-2	WATER	22-DEC-95
3	S-3	WATER	22-DEC-95
4	S-4	WATER	22-DEC-95
5	S-5	WATER	22-DEC-95

---TOTALS---

Matrix	# Samples
WATER	5

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 # : G602092/10-170-03 ATI I.D.: 512286
Project Name: BP SITE #11120 DUBLIN, CA

Analysis	Technique/Description
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

GAS CHROMATOGRAPHY RESULTS

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS: C7-C24)
Client : ALISTO ENGINEERING ATI I.D. : 512286
Project # : G602092/10-170-03
Project Name: BP SITE #11120 DUBLIN, CA

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
1	S-1	WATER	22-DEC-95	27-DEC-95	29-DEC-95	1.00
2	S-2	WATER	22-DEC-95	27-DEC-95	29-DEC-95	1.00
3	S-3	WATER	22-DEC-95	27-DEC-95	29-DEC-95	1.00

Parameter	Units	1	2	3
FUEL HYDROCARBONS	MG/L	<0.05	2.5	4.7
HYDROCARBON RANGE		-	C7-C24	C7-C24
HYDROCARBONS QUANTITATED USING		-	DIESEL	DIESEL
SURROGATES				
BIS(2-ETHYLHEXYL)PHTHALATE	%	96	82	88

GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS)
Blank I.D. : 37724
Client : ALISTO ENGINEERING
Project # : G602092/10-170-03
Project Name: BP SITE #11120 DUBLIN, CA

ATI I.D. : 512286
Date Extracted: 27-DEC-95
Date Analyzed : 29-DEC-95
Dil. Factor : 1.00

Parameters	Units	Results
FUEL HYDROCARBONS	MG/L	<0.05
YDROCARBON RANGE		-
YDROCARBONS QUANTITATED USING		-
SURROGATES		
BIS(2-ETHYLHEXYL)PHTHALATE	%	96

GAS CHROMATOGRAPHY - QUALITY CONTROL

MSMSD

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS)
MSMSD # : 80997
Client : ALISTO ENGINEERING

Project # : G602092/10-170-03
Project Name: BP SITE #11120 DUBLIN, CA

ATI I.D. : 512286
Date Extracted: 27-DEC-95
Date Analyzed : 29-DEC-95
Sample Matrix : WATER
REF I.D. : REAGENT WATER

Parameters	Units	Sample Result	Conc Spike	Spiked Sample	% Rec	Dup Spike	Dup % Rec	RPD
FUEL HYDROCARBONS	MG/L	<0.050	1.0	1.0	100	1.0	100	0

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

GAS CHROMATOGRAPHY RESULTS

Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)
Client : ALISTO ENGINEERING ATI I.D. : 512286
Project # : G602092/10-170-03
Project Name: BP SITE #11120 DUBLIN, CA

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
1	S-1	WATER	22-DEC-95	N/A	05-JAN-96	1.00
2	S-2	WATER	22-DEC-95	N/A	05-JAN-96	100.00
3	S-3	WATER	22-DEC-95	N/A	05-JAN-96	25.00

Parameter	Units	1	2	3
METHYL T-BUTYL ETHER	UG/L	7.2	29000	9200
BENZENE	UG/L	<0.50	<50	15
TOLUENE	UG/L	<0.50	<50	<13
ETHYLBENZENE	UG/L	<0.50	<50	<13
XYLENES (TOTAL)	UG/L	<1.0	<100	<25
FUEL HYDROCARBONS	UG/L	<50	9200	3800
HYDROCARBON RANGE		C6-C12	C6-C12	C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE	GASOLINE	GASOLINE
SURROGATES				
TRIFLUOROTOLUENE	%	102	90	92

GAS CHROMATOGRAPHY RESULTS

Test : MOD EPA 8015-CDOHS/8020 (HYDROCARBONS C6-C12/BTXE)
Client : ALISTO ENGINEERING ATI I.D. : 512286
Project # : G602092/10-170-03
Project Name: BP SITE #11120 DUBLIN, CA

Sample #	Client ID	Matrix	Date Sampled	Date Extracted	Date Analyzed	Dil. Factor
4	S-4	WATER	22-DEC-95	N/A	05-JAN-96	25.00
5	S-5	WATER	22-DEC-95	N/A	05-JAN-96	1.00

Parameter	Units	4	5
METHYL T-BUTYL ETHER	UG/L	8600	<5.0
BENZENE	UG/L	16	<0.50
TOLUENE	UG/L	<13	<0.50
ETHYLBENZENE	UG/L	<13	<0.50
XYLENES (TOTAL)	UG/L	<25	<1.0
FUEL HYDROCARBONS	UG/L	3900	<50
HYDROCARBON RANGE		C6-C12	C6-C12
HYDROCARBONS QUANTITATED USING		GASOLINE	GASOLINE
SURROGATES			
TRIFLUOROTOLUENE	%	92	93

GAS CHROMATOGRAPHY - QUALITY CONTROL

REAGENT BLANK

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE)
Blank I.D. : 37788
Client : ALISTO ENGINEERING
Project # : G602092/10-170-03
Project Name: BP SITE #11120 DUBLIN, CA

ATI I.D. : 512286
Date Extracted: N/A
Date Analyzed : 05-JAN-96
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

MSMSD

Test : MOD EPA 8015-CDOHS (FUEL HYDROCARBONS/BTXE)
MSMSD # : 81122
Client : ALISTO ENGINEERING

Project # : G602092/10-170-03
Project Name: BP SITE #11120 DUBLIN, CA

ATI I.D. : 512286
Date Extracted: N/A
Date Analyzed : 04-JAN-96
Sample Matrix : WATER
REF I.D. : 512284-01

Parameters	Units	Sample Result	Conc Spike	Spiked Sample	% Rec	Dup Spike	Dup % Rec	RPD
BENZENE	UG/L	<0.50	5.0	5.5	110	5.5	110	0
TOLUENE	UG/L	<0.50	5.0	5.2	104	5.2	104	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 #: 60879
Client : ALISTO ENGINEERING
Project # : G602092/10-170-03
Project Name : BP SITE #11120 DUBLIN, CA

ATI I.D. : 512286
Date Extracted: N/A
Date Analyzed : 05-JAN-96
Sample Matrix : WATER

Parameters	Units	Blank Result	Spiked Sample	Spike Conc.	% Rec
BENZENE	UG/L	<0.50	5.1	5.0	102
TOLUENE	UG/L	<0.50	5.1	5.0	102

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

ACCESSION #: 512286 INITIALS: [illegible]

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
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 ? (N/A)	YES	NO
	b) are Custody Seals present on the sample ?	YES	(NO)
	If yes, are seals intact ? (N/A)	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.	2.4°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: *8) S-1 = 1X1l A/G partially full 7) S-1 1X1l A/G preserved in lab - HCl

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

512286

CHAIN OF CUSTODY

No. 075843 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
11120	Dublin, Ca	10-170-03

CONSULTANT PROJECT MANAGER	PHONE NUMBER	FAX NUMBER	CONSULTANT CONTRACT NUMBER
Sindy Nagle	(510) 295-1650	295-1823	6602092

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

LAB CONTACT	LABORATORY ADDRESS	PHONE NUMBER	FAX NO.
ATL	San Diego	-	-

SAMPLED BY (Please Print Name)	SAMPLED BY (Signature)	SHIPMENT DATE	SHIPMENT METHOD
Larry R		12.22.95	Fed Express

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

AIRBILL NUMBER: 6678023503O

ANALYSIS REQUIRED

SAMPLE DESCRIPTION	COLLECTION DATE / TIME	MATRIX SOIL/WATER	CONTAINERS NO.	CONTAINERS TYPE (VOL.)	PRESERVATIVE LAB SAMPLE #	TPH-D	BTEX	TPH-G
S-1	12/22/95	W	3	HCL	01	X	X	X
S-2	↓	↓	↓	↓	02	↓	↓	X
S-3	↓	↓	↓	↓	03	↓	↓	X
S-4	↓	↓	2	↓	04	↓	↓	
S-5	↓	↓	2	↓	05	↓	↓	

COMMENTS

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
[signature]	12/22/95	1510	P. Gelton	12/22/95	1513
P. Gelton	12/22/95	1510	[signature]	12/23/95	10:25

ADDITIONAL COMMENTS

CLV-16722
PKG/50

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