Mobil Oil Corporation

3800 WEST ALAMEDA AVENUE, SUITE 700
BURBANK, CALIFORNIA 91505-4331

May 5, 1992

Mr. Ravi Arulanantham
Alameda County Health Agency
80 Swan Way, Room 200
Oakland, California 94621

FORMER MOBIL SS# 04-KNK
7197 VILLAGE PARKWAY
DUBLIN, CALIFORNIA

Dear Mr. Arulanantham,

Enclosed is the Quarterly Groundwater Monitoring and Sampling Report for the above-referenced location, as prepared by our consultant, Alton Geoscience.

The six existing MWs were monitored and sampled on February 25, 1992. With the exception of AW-6, none of the MWs contained detectable levels of TPHg or BTEX. The groundwater sample collected from AW-6 contained highly elevated TPHg and benzene concentrations (19,000- and 8,000-ppb, respectively).

Because the TPHg and BTEX concentrations in AW-6 had historically been very low, a confirmation sample was collected from this well on March 5, 1992. At that time, the TPHg and benzene concentrations were 14,000- and 5,200-ppb, respectively. A second confirmation sample was collected from AW-6 on April 15, 1992, at which time the TPHg and benzene concentrations were 1,100- and 400-ppb.

I have also enclosed a table that I prepared which shows the historical groundwater data for monitoring well AW-6. As you can see, benzene concentrations were ND for the two sampling rounds preceding the February 25, 1992 sampling event.

Based on the above information, it appears that a recent tank or product line release may have occurred at this site, which has been operated as a BP Oil Company service station since May 1989. For this reason and as part of the Mobil/BP exchange agreement of 1989, the management of this project is being turned over to BP. Future correspondence regarding this site should now be addressed to BP Oil Company.

Please review the enclosed report. Should you have any comments or require additional information, please contact me at (818) 953-2649.

Sincerely,

Randy Begier

Randy Begier
Environmental Project
Engineer

cc: Lester Feldman, CRWQCB - S.F. Bay Region (w/encl.)
Peter DeSantis, BP Oil Company (w/encl.)
D.J. Baker, Mobil
D.J. Hill, Mobil

QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

Prepared for

BP Oil Company Service Station No. 11116
7197 Village Parkway
Dublin, California

Project No. 10-017

Prepared by

Alisto Engineering Group
1000 Burnett Avenue, Suite 420
Concord, California

June 30, 1992

Brady Nagle
Project Manager

Al Sevilla, P.E.
Principal

QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11116
7197 Village Parkway
Dublin, California

Project No. 10-017

June 30, 1992

INTRODUCTION

This report presents the results and findings of the June 3, 1992 quarterly groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Service Station No. 11116, located at 7197 Village Parkway, Dublin, California. A site vicinity map is shown in Figure 1.

FIELD PROCEDURES

Field activities were performed in accordance with the guidelines and procedures of the Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), and the Alameda County Health Agency (ACHA).

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

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

SAMPLING AND ANALYTICAL RESULTS

The results of the monitoring and laboratory analyses 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 quarterly monitoring event are depicted in Figure 2. A map showing the lateral distribution of petroleum hydrocarbon constituents

detected in groundwater samples is presented as Figure 3. Laboratory reports and the chain of custody record are presented in Appendix B.

SUMMARY OF FINDINGS

The findings of the June 3, 1992 ground water monitoring and sampling event are summarized below:

- No free product or sheen was detected in any of the six monitoring wells.
- Groundwater elevation data indicate a gradient of approximately 0.002 ft./ft. in a general southwest direction across the site.
- Dissolved-phase total petroleum hydrocarbons as gasoline (TPH-G) and benzene were detected only in one of the six monitoring wells (MW-6) at concentrations of 77 parts per billion (ppb) TPH-G and 4.4 ppb benzene.
- Concentrations of petroleum hydrocarbon constituents detected in groundwater samples collected from Monitoring Well AW-6 have decreased between February and June 1992.

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION 11116
7197 VILLAGE PARKWAY, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-D (ppb)	TOG (ppb)	HVOC (ppb)		LAB
MW-1	10/12/90	335.17	9.92	325.25	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	ND<5,000	ND		ANA
MW-1	11/15/90	335.17	10.16	325.01	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	----	----	----		ANA
MW-1	12/11/90	335.17	9.97	325.20	----	----	----	----	----	----	----	----		----
MW-1	02/15/91	335.17	9.89	325.28	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	50*	ND<5,000	41	(c)	SUP
MW-1	05/14/91	335.17	8.43	326.74	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	7,500	ND		SUP
MW-1	08/23/91	335.17	9.98	325.19	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	ND<5,000	ND		ANA
MW-1	11/13/91	335.17	10.09	325.08	ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	ND<5,000	ND		SEQ
MW-1	02/25/92	335.17	8.28	326.89	ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	ND<5,000	ND		SEQ
MW-1	04/15/92	335.17	8.50	326.67	----	----	----	----	----	----	----	----		----
MW-1	06/03/92	335.17	9.06	326.11	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	ND<5,000	ND		ANA
MW-2	10/12/90	334.58	9.60	324.98	93	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	ND<5,000	ND		ANA
MW-2	11/15/90	334.58	9.68	324.90	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	----	----	----		ANA
MW-2	12/11/90	334.58	9.47	325.11	----	----	----	----	----	----	----	----		----
MW-2	02/15/91	334.58	9.28	325.30	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	60	ND<5,000	45	(c)	SUP
MW-2	05/14/91	334.58	7.74	326.84	130	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	6,000	ND		SUP
MW-2	08/23/91	334.58	9.81	324.77	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	ND<5,000	ND		ANA
MW-2	11/13/91	334.58	9.73	324.85	ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	ND<5,000	ND		SEQ
MW-2	02/25/92	334.58	7.55	327.03	ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	ND<5,000	ND		SEQ
MW-2	04/15/92	334.58	8.00	326.58	----	----	----	----	----	----	----	----		----
MW-2	06/03/92	334.58	8.56	326.02	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	ND<5,000	ND		ANA

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION 11116
7197 VILLAGE PARKWAY, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-D (ppb)	TOG (ppb)	HVOC (ppb)	LAB
MW-3	10/12/90	335.13	10.08	325.05	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	ND<5,000	ND	ANA
MW-3	11/15/90	335.13	10.12	325.01	76	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
MW-3	12/11/90	335.13	9.92	325.21	---	---	---	---	---	---	---	---	---
MW-3	02/15/90	335.13	9.84	325.29	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	ND<5,000	ND	SUP
MW-3	05/14/91	335.13	8.40	326.73	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	ND<5,000	ND	SUP
MW-3	08/23/91	335.13	10.27	324.86	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	ND<5,000	ND	ANA
MW-3	11/13/91	335.13	10.27	324.86	ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	ND<5,000	ND	SEQ
MW-3	02/25/92	335.13	8.15	326.98	ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND<50	ND<5,000	ND	SEQ
MW-3	04/15/92	335.13	8.63	326.50	---	---	---	---	---	---	---	---	---
MW-3	06/03/92	335.13	9.18	325.95	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<50	ND<5,000	ND	ANA
AW-4	11/15/90	333.41	8.51	324.90	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
AW-4	12/11/90	333.41	9.19	324.22	---	---	---	---	---	---	---	---	---
AW-4	02/15/91	333.41	8.32	325.09	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	SUP
AW-4	05/14/91	333.41	6.97	326.44	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	SUP
AW-4	08/23/91	333.41	8.59	324.82	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	ANA
AW-4	11/13/91	333.41	8.57	324.84	ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	SEQ
AW-4	02/25/92	333.41	6.26	327.15	ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	SEQ
AW-4	04/15/92	333.41	7.05	326.36	---	---	---	---	---	---	---	---	---
AW-4	06/03/92	333.41	7.41	326.00	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA
AW-5	11/15/90	334.81	9.67	325.14	ND<50	1.3	ND<0.5	ND<0.5	1.0	---	---	---	ANA
AW-5	12/11/90	334.81	9.44	325.37	---	---	---	---	---	---	---	---	---
AW-5	02/15/91	334.81	10.00	324.81	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	SUP
AW-5	05/14/91	334.81	8.64	326.17	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	SUP
AW-5	08/23/91	334.81	9.58	325.23	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	ANA
AW-5	11/13/91	334.81	9.80	325.01	100	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	SEQ
AW-5	02/25/92	334.81	7.89	326.92	ND<30	ND<0.3	ND<0.3	ND<0.3	ND<0.3	---	---	---	SEQ
AW-5	04/15/92	334.81	8.54	326.27	---	---	---	---	---	---	---	---	---
AW-5	06/03/92	334.81	8.97	325.84	ND<50	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	---	ANA

TABLE 1 - SUMMARY OF RESULTS OF GROUNDWATER SAMPLING
BP OIL COMPANY SERVICE STATION 11116
7197 VILLAGE PARKWAY, DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

WELL ID	DATE OF SAMPLING/ MONITORING	CASING ELEVATION (a)	DEPTH TO WATER (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TPH-D (ppb)	TOG (ppb)	HVOC (ppb)	LAB
AW-6	11/15/90	334.90	9.58	325.32	230	25	ND<0.5	ND<0.5	0.8	----	----	----	ANA
AW-6	12/11/90	334.90	9.58	325.32	----	----	----	----	----	----	----	----	----
AW-6	02/15/91	334.90	9.66	325.24	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	----	----	----	SUP
AW-6	05/14/91	334.90	8.38	326.52	90	2	ND<0.3	ND<0.3	ND<0.3	----	----	----	SUP
AW-6	08/23/91	334.90	9.61	325.29	57	ND<0.5	0.7	1.3	4.6	----	----	----	ANA
AW-6	11/13/91	334.90	9.58	325.32	200	ND<0.3	ND<0.3	ND<0.3	0.94	----	----	----	SEQ
AW-6	02/25/92	334.90	8.00	326.90	19000	8000	4700	600	2400	----	----	----	SEQ
AW-6	03/05/92	334.90	7.98	326.92	14000	5200	2500	550	2200	----	----	----	SEQ
AW-6	04/15/92	334.90	8.33	326.57	1100	400	ND<3.0	30	ND<3.0	----	----	----	SEQ
AW-6	06/03/92	334.90	8.91	325.99	77	4.4	ND<0.5	ND<0.5	ND<0.5	----	----	----	ANA

ABBREVIATIONS:

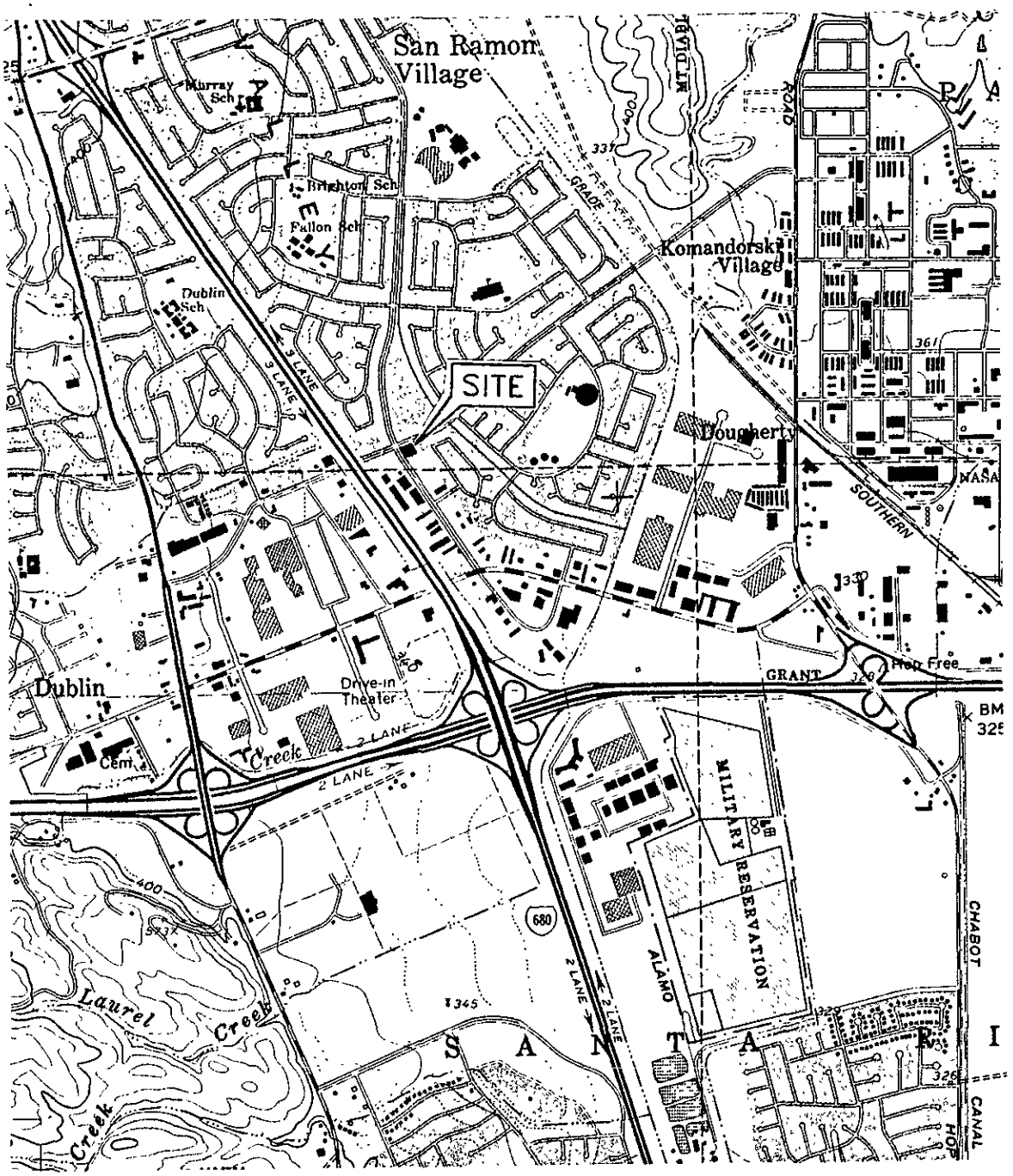
TPH-G	Total Petroleum Hydrocarbons as Gasoline
B	Benzene
T	Toluene
E	Ethylbenzene
X	Xylenes
TPH-D	Total Petroleum Hydrocarbons as Diesel
TOG	Total Oil and Grease
HVOC	Halogenated Volatile Organic Compounds
(ppb)	Parts per Billion
ND	Not detected above reported detection limits
ANA	Anametrix, Inc.
SEQ	Sequoia Analytical Lab
SUP	Superior Analytical Laboratory

NOTES:

(a) Top of casing elevation for all wells surveyed in reference to the City of Dublin monument in the intersection of Village Parkway and Amador Valley Boulevard with an elevation of 335.92 feet above Mean Sea Level.

(b) In feet above Mean Sea Level

(c) Methylene Chloride



N

0 1000' 2000'

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

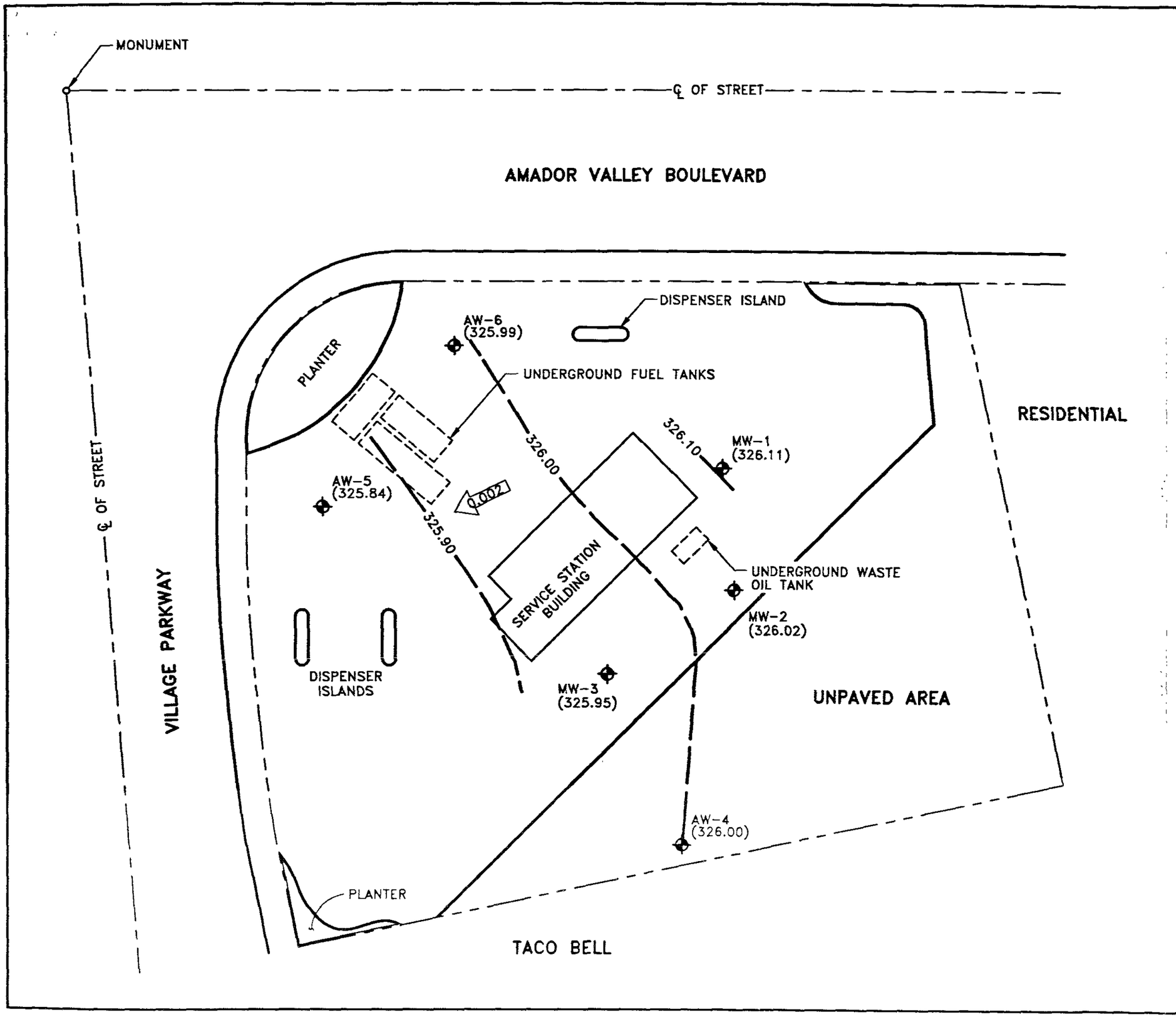
FIGURE 1

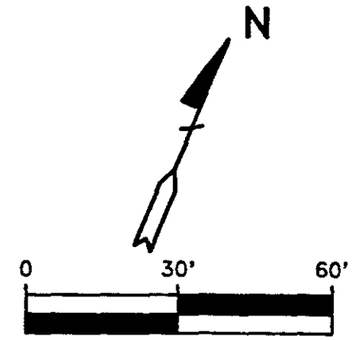
SITE VICINITY MAP

BP OIL SERVICE STATION NO. 11116
7197 VILLAGE PARKWAY
DUBLIN, CALIFORNIA

ALISTO PROJECT NO. 10-017

ALISTO ENGINEERING GROUP
CONCORD, CALIFORNIA





SCALE: 1" = 30"

LEGEND:

- ◆ GROUNDWATER MONITORING WELLS
- (11.90) GROUNDWATER ELEVATIONS IN FEET ABOVE MEAN SEA LEVEL
- 11.90 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL – 0.1 FOOT)
- 0.002 CALCULATED GROUNDWATER GRADIENT DIRECTION

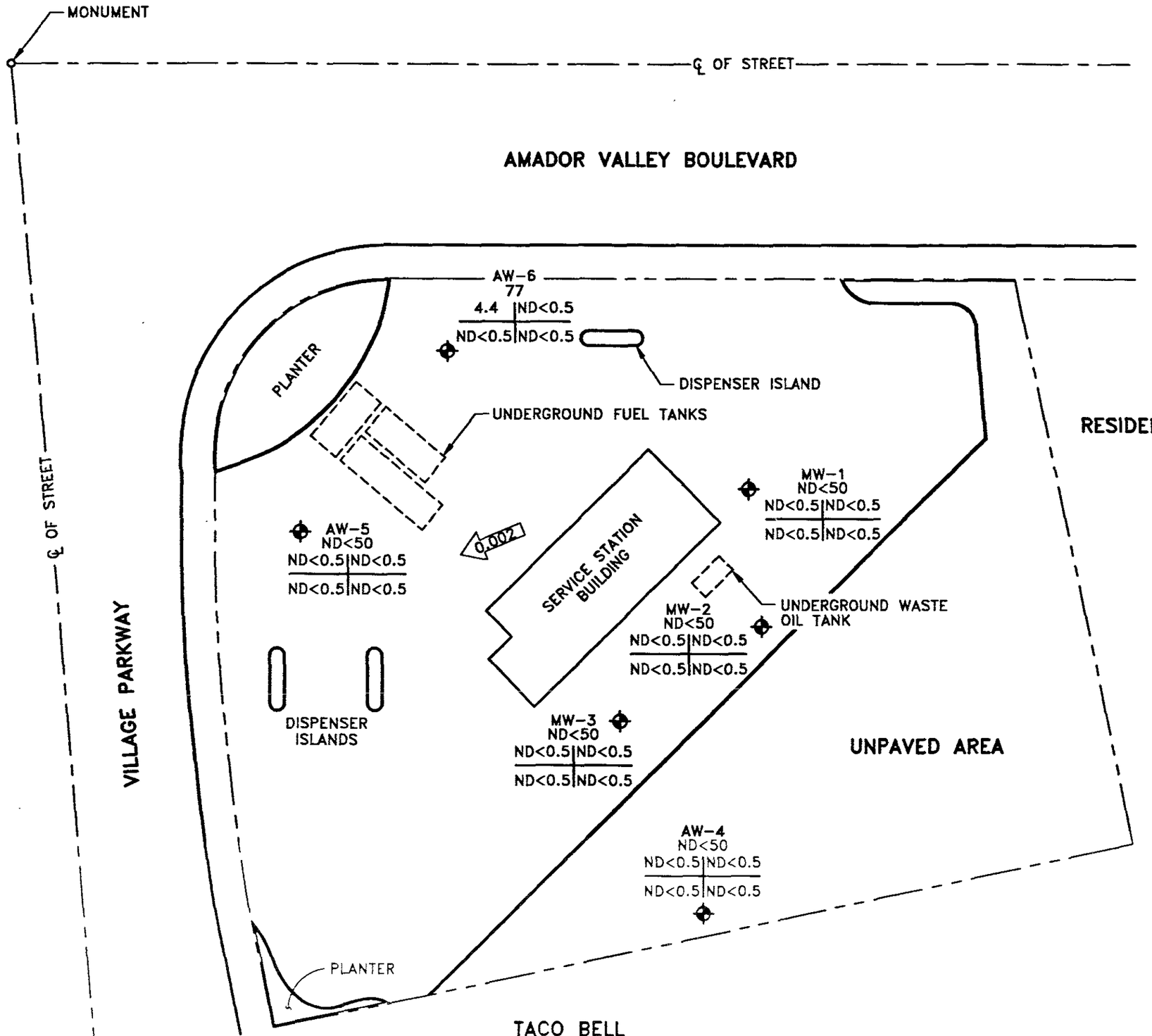
FIGURE 2

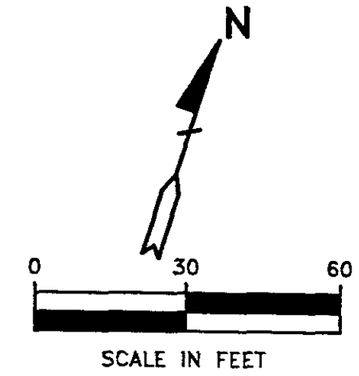
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP (JUNE 3, 1992)

BP OIL SERVICE STATION NO. 11116
7197 VILLAGE PARKWAY
DUBLIN, CALIFORNIA

PROJECT NO. 10-017

ALISTO ENGINEERING GROUP
CONCORD, CALIFORNIA





LEGEND:

⊕	GROUNDWATER MONITORING WELL
TPH-G / B T / E X	CONCENTRATION OF CONSTITUENTS IN PARTS PER BILLION (PPB)
TPH-G	TOTAL PETROLEUM HYDROCARBONS AS GASOLINE
B	BENZENE
T	TOLUENE
E	ETHYLBENZENE
X	TOTAL XYLENES
ND	NOT DETECTED ABOVE REPORTED DETECTION LIMIT
0.002 ⇦	CALCULATED GROUNDWATER GRADIENT DIRECTION AND HYDRAULIC MAGNITUDE IN FOOT PER FOOT

FIGURE 3

PETROLEUM HYDROCARBONS IN GROUNDWATER DISTRIBUTION MAP (JUNE 3, 1992)

BP OIL SERVICE STATION NO. 11116
7197 VILLAGE PARKWAY
DUBLIN, CALIFORNIA

PROJECT NO. 10-017

ALISTO ENGINEERING GROUP
CONCORD, CALIFORNIA

APPENDIX A

WATER SAMPLING FORMS

BIRCH TECHNICAL SERVICES
116 LIBERTY STREET
SANTA CRUZ, CALIFORNIA
(408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: MW-1

Job Number: 10-017
Location: BP 11116, DUBLIN
Date: 6-3-92

Well Type: ☒ Monitor ☐ Extraction ☐ Other:
Well Material: ☒ PVC ☐ Steel ☐ Other
Sampled By: DAN Birch

WELL PURGING

PURGE VOLUME
Casing diameter(ID in inches): ☒ 2" ☐ 4" ☐ 6" ☐ Other

Total Depth of Well (BOW) 25.90' Initial Water level: 9.06' Time:
Total Volume Purged: 8.5 Time Elapsed: 9 min
Water Level after purging: NM Time:

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	(0.1632)
3.0	0.3672
4.0	0.6528
4.5	0.826
6.0	1.469

Purge Volume:
25.90' (total depth) − 9.06' (water level) = 16.84 × .163 (Well Vol. Fac.) = 2.74 × 3 (# of vol. to purge) = 8.3 gallons (calculated purge volume)

PURGE METHOD ☒ Honda Pump ☐ Bailer ☐ Dedicated Pump ☐ Other

PARAMETER EQUIPMENT CALIBRATION:
pH meter #9112 Time: 5:45 Solution pH 4.00 4 at 69 °C pH 10.00 10 at 69 °C
Other solution: 7 - 7 at 69 °C
Conductivity meter # 9112 Time: ~~9~~ 5:45

Water Level Meter # 10337

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)
0				
2	1900	73.9	6.34	11.07
4	1901	72.4	6.34	11.94
6	1906	71.0	6.37	12.00
8.5	1909	71.0	6.37	12.01

SAMPLING METHOD: Time Sampled: 1915
☒ PVC Bailer ☐ Bladder Pump ☐ Other DISP

COMMENTS: Well checked for sheen prior to purging - none found.

SAMPLES COLLECTED INCLUDING QC SAMPLES			
ANALYSIS REQUIRED	No of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA ~~8010/8020~~ 601	3	Voas	Hcl
TPH-G/BTEX	3	Voas	Hcl
METALS			
INORGANICS			
TPH-D 3510/8015	2	Amber	
TOG 5520 DF	2	Amber	H_2SO_4

BIRCH TECHNICAL SERVICES
116 LIBERTY STREET
SANTA CRUZ, CALIFORNIA
(408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: MW-2

Well Type: ☒ Monitor ☐ Extraction ☐ Other:

Well Material: ☒ PVC ☐ Steel ☐ Other

Sampled By: DAN BIRCH

Job Number: 10-007
Location: BP 1116, Dublin
Date: 6-3-92

WELL PURGING

PURGE VOLUME
Casing diameter(ID in inches): ☒ 2" ☐ 4" ☐ 6" ☐ Other

Total Depth of Well (BOW) 25.70 Initial Water level: 8.56 Time:
Total Volume Purged: 9 Time Elapsed: 7
Water Level after purging: NM Time:

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	0.1632
3.0	0.3672
4.0	0.6528
4.5	0.826
6.0	1.469

Purge Volume:

25.90 (total depth) − 8.56 (water level) = 17.34 × .163 (Well Vol. Fac.) = 2.8 × 3 (# of vol. to purge) = 8.5 gallons (calculated purge volume)

PURGE METHOD ☒ Honda Pump ☐ Bailer ☐ Dedicated Pump ☐ Other

PARAMETER EQUIPMENT CALIBRATION:

pH meter #9112 Time: 5:45 Solution pH 4.00 4 at 69 °C pH 10.00 10 at 69 °C
Other solution: 7 - 7 at 69 °C
Conductivity meter # 9112 Time: 545

Water Level Meter #

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)
0	1958	66.5	6.69	12.71
3	1959	67.8	6.62	12.81
6	2002	67.8	6.62	12.84
9	2005	67.8	6.61	12.79

SAMPLING METHOD: Time Sampled: 2015
☒ PVC Bailer ☐ Bladder Pump ☐ Other DISP

COMMENTS: Well checked for sheen prior to purging, none was observed.

SAMPLES COLLECTED INCLUDING QC SAMPLES			
ANALYSIS REQUIRED	No. of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA ~~8010/8020~~ 601	3	VOAs	HCl
TPH-G/BTEX	3	VOAs	HCl
METALS			
INORGANICS			
TPH-D 5520DF	2	Amber	—
TOG 3510/~~8015~~	2	Amber	H_2SO_4

BIRCH TECHNICAL SERVICES
116 LIBERTY STREET
SANTA CRUZ, CALIFORNIA
(408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: MW-3

Well Type: ☒ Monitor ☐ Extraction ☐ Other:

Well Material: ☒ PVC ☐ Steel ☐ Other

Sampled By: DAN BIRCH

Job Number: 10-017
Location: BP 11116, DUBLIN
Date: 6-3-92

WELL PURGING

PURGE VOLUME
Casing diameter(ID in inches): ☒ 2" ☐ 4" ☐ 6" ☐ Other

Total Depth of Well (BOW) 25.44 Initial Water level: 9.18 Time:
Total Volume Purged: 9q Time Elapsed: 4 min
Water Level after purging: Time:

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	0.1632
3.0	0.3672
4.0	0.6528
4.5	0.826
6.0	1.469

Purge Volume:

25.44 (total depth) − 9.18 (water level) = 16.26 × .17 (Well Vol. Fac.) = 2.8 × 3 (# of vol. to purge) = 8.4 gallons (calculated purge volume)

PURGE METHOD ☒ Honda Pump ☐ Bailer ☐ Dedicated Pump ☐ Other

PARAMETER EQUIPMENT CALIBRATION:

pH meter # 9112 Time: 5:45 Solution pH 4.00 4 at 69 °C pH 10.00 40 at 69 °C
Other solution: 7.7 at 69 °C
Conductivity meter # 9112 Time: 5:45

Water Level Meter # 10337

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)
0				
~~2053~~	2033	67.4	6.73	12.79
6	2035	67.6	6.75	12.59
9	2037	67.6	6.75	12.59

SAMPLING METHOD: Time Sampled: 2045
☒ ~~Bailer~~ PVC DISP ☐ Bladder Pump ☐ Other

COMMENTS: Well checked for product prior to purging none was observed

SAMPLES COLLECTED INCLUDING QC SAMPLES			
ANALYSIS REQUIRED	No. of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA ~~8010/8020~~ 601	3	VOA's	HCl
TPH-G/BTEX	3	VOAS	HCl
METALS			
INORGANICS 3510/6015			
~~TPH-D 5520DF~~	2	Amber	—
TOC 5520DF	2	Amber	H_2SO_4

BIRCH TECHNICAL SERVICES
116 LIBERTY STREET
SANTA CRUZ, CALIFORNIA
(408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: AW-4

Well Type: ☒ Monitor ☐ Extraction ☐ Other:

Well Material: ☒ PVC ☐ Steel ☐ Other

Sampled By: DAN BIRCH

Job Number: 10-017
Location: BP 11114, Dublin
Date: 6-3-92

WELL PURGING

PURGE VOLUME

Casing Diameter(ID in inches):
☐ 2" ☒ 4" ☐ 6" ☐ Other

Total Depth of Well (BOW) 34.24

Water level: 7.41 Time:

Well Volumes To Be Purged: 3

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	0.1632
3.0	0.3672
4.0	0.6528
4.5	0.826
6.0	1.469

Purge Volume:

34.24 (total depth) − 7.41 (water level) = 26.83 × .65 (Well Vol. Fac.) = 17.4 × 3 (# of vol. to purge) = 52.3 gallons (calculated purge volume)

PURGE TIME

2229 Start 2250 Stop 21 Elapsed

ACTUAL VOLUME PURGED

53 gallons

PURGE METHOD

☒ Honda Pump ☐ Bailer ☐ Dedicated Pump ☐ Other

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)	M V	Turbidity (NTU)
-0-						
20	2229	63.7	6.41	10.91		
30	2239	64.9	6.73	10.96		
40	2241	65.0	6.75	10.97		
53	2250	65.0	6.75	10.96		
Meter Serial	Numbers =	#	#	#	#	#

SAMPLING METHOD:

Time Sampled: 2250

☒ Bailer ☐ Bladder Pump ☐ Other

DISP PVC

SAMPLES COLLECTED INCLUDING QC SAMPLES

ANALYSIS REQUIRED	No. of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA 8010			
TPH (Gas) + BTEX	3	VOA's	HCl
METALS			

COMMENTS: Well checked for product prior to purging - none observed

BIRCH TECHNICAL SERVICES
116 LIBERTY STREET
SANTA CRUZ, CALIFORNIA
(408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: AW-E5

Well Type: ☒ Monitor ☐ Extraction ☐ Other:

Well Material: ☒ PVC ☐ Steel ☐ Other

Sampled By: DAN BIRCH

Job Number: 10-017
Location: BP 1116, Dublin
Date: 6-3-92

WELL PURGING

PURGE VOLUME
Casing diameter(ID in inches): ☐ 2" ☒ 4" ☐ 6" ☐ Other

Total Depth of Well (BOW) 33.14 Initial Water level: 8.97 Time:
Total Volume Purged: 40 Time Elapsed: 26
Water Level after purging: NM Time:

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	0.1632
3.0	0.3672
4.0	0.6528
4.5	0.826
6.0	1.469

Purge Volume:
~~16.81~~ 33.14 (total depth) − 8.97 (water level) = 24.17 × .65 (Well Vol. Fac.) = 15.7 × 3 (# of vol. to purge) = 47.1 gallons (calculated purge volume)

PURGE METHOD ☒ Honda Pump ☐ Bailer ☐ Dedicated Pump ☐ Other

PARAMETER EQUIPMENT CALIBRATION:

pH meter #9112 Time: 545 Solution pH 4.00 4 at 69 °C pH 10.00 10 at 69 °C
Other solution: 7 · 7 at 69 °C
Conductivity meter # 9112 Time: 545

Water Level Meter # 10337

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)
0				
10	2149	66.3	6.76	3.98
20	2155	66.5	6.76	3.97
30	2207	64.6	6.77	3.97
40	2215	64.7	6.77	3.99

SAMPLING METHOD: Time Sampled: 2219
☒ Bailer ☐ Bladder Pump ☐ Other

COMMENTS: Well checked for sheen prior to Sampling - none observed. Parameters stabilized at 40 gallons.

SAMPLES COLLECTED INCLUDING QC SAMPLES			
ANALYSIS REQUIRED	No of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA 8010/8020			
TPH-G/BTEX	3	VOA's	HCl
METALS			
INORGANICS			

BIRCH TECHNICAL SERVICES
116 LIBERTY STREET
SANTA CRUZ, CALIFORNIA
(408) 459-0718

GROUND-WATER SAMPLING FORM

Well Number: AW-6

Job Number: 10-017
Location: BP 1116 Dublin
Date: 6-3-92

Well Type: ☒ Monitor ☐ Extraction ☐ Other:
Well Material: ☒ PVC ☐ Steel ☐ Other
Sampled By: DAN Birch

WELL PURGING

PURGE VOLUME
Casing diameter(ID in inches): ☐ 2" ☒ 4" ☐ 6" ☐ Other

Well Volume Factors:

Well Casing ID (inches)	(Vol. Factor)
2.0	0.1632
3.0	0.3672
4.0	0.6528
4.5	0.826
6.0	1.469

Total Depth of Well (BOW) 16.81 Initial Water level: 8.91 Time:
Total Volume Purged: 16 Time Elapsed: 9 m
Water Level after purging: NM Time:

Purge Volume:

16.81 (total depth) − 8.91 (water level) = 7.9 × .65 (Well Vol. Fac.) = 5.14 × 3 (# of vol. to purge) = 15.4 gallons (calculated purge volume)

PURGE METHOD ☒ Honda Pump ☐ Bailer ☐ Dedicated Pump ☐ Other

PARAMETER EQUIPMENT CALIBRATION:

pH meter # 9112 Time: 545 Solution pH 4.00 4 at 69 °C pH 10.00 10 at 69 °C
Other solution: 7 - 7 at 69 °C
Conductivity meter # 9112 Time: 545

Water Level Meter # 10337

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)
0				
5	2110	65.1	6.51	6.01
10	2113	67.2	6.65	6.07
15	2116	67.1	6.67	6.09
16	2119	67.1	6.67	6.09

SAMPLING METHOD: Time Sampled: 2125
☒ Bailer DSP PVC ☐ Bladder Pump ☐ Other

COMMENTS: Well checked for sheen prior to purging and none was observed.

SAMPLES COLLECTED INCLUDING QC SAMPLES			
ANALYSIS REQUIRED	No of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA 8010/8020			
TPH-G/BTEX	3	VOA's	HCl
METALS:			
INORGANICS:			

APPENDIX B

LABORATORY REPORTS AND CHAIN OF CUSTODY RECORDS

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

REPORT

MR. BRADY NAGLE
ALISTO ENGINEERING GROUP
1000 BURNETT AVENUE, SUITE 150
CONCORD, CA 94520

Workorder # : 9206092
Date Received : 06/05/92
Project ID : 10-017
Purchase Order: N/A

The following samples were received at Anametrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9206092- 1	MW-1
9206092- 2	MW-2
9206092- 3	MW-3
9206092- 4	AW-4
9206092- 5	AW-5
9206092- 6	AW-6

This report consists of 21 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anametrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anametrix.

Larry Kent for

Sarah Schoen, Ph.D.
Laboratory Director

06-17-92
Date

ANAMETRIX REPORT DESCRIPTION
GC

Organic Analysis Data Sheets (OADS)

OADS forms contain tabulated results for target compounds. The OADS are grouped by method and, within each method, organized sequentially in order of increasing Anametrix ID number.

Surrogate Recovery Summary (SRS)

SRS forms contain quality assurance data. An SRS form will be printed for each method, if the method requires surrogate compounds. They will list surrogate percent recoveries for all samples and any method blanks. Any surrogate recovery outside the established limits will be flagged with an "*", and the total number of surrogates outside the limits will be listed in the column labelled "Total Out".

Matrix Spike Recovery Form (MSR)

MSR forms contain quality assurance data. They summarize percent recovery and relative percent difference information for matrix spikes and matrix spike duplicates. This information is a statement of both accuracy and precision. Any percent recovery or relative percent difference outside established limits will be flagged with an "*", and the total number outside the limits will be listed at the bottom of the page. Not all reports will contain an MSR form.

Qualifiers

Anametrix uses several data qualifiers (Q) in it's report forms. These qualifiers give additional information on the compounds reported. They should help a data reviewer to verify the integrity of the analytical results. The following is a list of qualifiers and their meanings:

U - Indicates that the compound was analyzed for, but was not detected at or above the specified reporting limit.

B - Indicates that the compound was detected in the associated method blank.

J - Indicates that the compound was detected at an amount below the specified reporting limit. Consequently, the amount should be considered an approximate value. Tentatively identified compounds will always have a "J" qualifier because they are not included in the instrument calibration.

E - Indicates that the amount reported exceeded the linear range of the instrument calibration.

D - Indicates that the compound was detected in an analysis performed at a secondary dilution.

Absence of a qualifier indicates that the compound was detected at a concentration at or above the specified reporting limit.

REPORTING CONVENTIONS

- Due to a size limitation in our data processing step, only the first eight (8) characters of your project ID and sample ID will be printed on the report forms. However, the report cover letter and report summary pages display up to twenty (20) characters of your project and sample IDs.
- Amounts reported are gross values, i e , not corrected for method blank contamination

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. BRADY NAGLE
ALISTO ENGINEERING GROUP
1000 BURNETT AVENUE, SUITE 150
CONCORD, CA 94520

Workorder # : 9206092
Date Received : 06/05/92
Project ID : 10-017
Purchase Order: N/A
Department : GC
Sub-Department: VOA

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9206092- 1	MW-1	WATER	06/03/92	601
9206092- 2	MW-2	WATER	06/03/92	601
9206092- 3	MW-3	WATER	06/03/92	601

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. BRADY NAGLE
ALISTO ENGINEERING GROUP
1000 BURNETT AVENUE, SUITE 150
CONCORD, CA 94520

Workorder # : 9206092
Date Received : 06/05/92
Project ID : 10-017
Purchase Order: N/A
Department : GC
Sub-Department: VOA

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Corinne Chan 6/16/92
Department Supervisor Date

Michelle Young 6/16/92
Chemist Date

DESCRIPTIONS FOR SPECIFIC COMPOUNDS ANALYZED
EPA METHOD 601/8010

CAS #	COMPOUND NAME	ABBREVIATED NAME
74-87-3	Chloromethane	Chloromethane
74-83-9	Bromomethane	Bromoethane
75-71-8	Dichlorodifluoromethane	Freon 12
75-01-4	Vinyl Chloride	Vinyl Chloride
75-00-3	Chloroethane	Chloroethane
75-09-2	Methylene Chloride	Methylene Chlor
75-69-4	Trichlrofluoromethane	Freon 11
75-35-4	1,1-Dichloroethene	1,1-DCE
75-34-3	1,1-Dichloroethane	1,1-DCA
156-59-2	Cis-1,2-Dichloroethene	Cis-1,2-DCE
156-60-5	Trans-1,2-Dichloroethene	Trans-1,2-DCE
67-66-3	Chloroform	Chloroform
76-13-1	Trichlorotrifluoroethane	Freon 113
107-06-2	1,2-Dichloroethane	1,2-DCA
71-55-6	1,1,1-Trichloroethane	1,1,1-TCA
56-23-5	Carbon Tetrachloride	Carbon Tet
75-27-4	Bromodichloromethane	BromodichloroMe
78-87-5	1,2-Dichloropropane	1,2-DCPA
10061-02-6	Trans-1,3-Dichloropropene	Trans-1,3-DCPE
79-01-6	Trichloroethene	TCE
124-48-1	Dibromochloromethane	DibromochloroMe
79-00-5	1,1,2-Trichloroethane	1,1,2-TCA
10061-01-5	Cis-1,3-Dichloropropene	Cis-1,3-DCPE
110-75-8	2-Chloroethylvinylether	Chloroethylvinl
75-25-2	Bromoform	Bromoform
127-18-4	Tetrachloroethene	PCE
79-34-5	1,1,2,2-Tetrachloroethane	PCA
108-90-7	Chlorobenzene	Chlorobenzene
95-50-1	1,2-Dichlorobenzene	1,2-DCB
541-73-1	1,3-Dichlorobenzene	1,3-DCB
106-46-7	1,4-Dichlorobenzene	1,4-DCB
352-33-0	p-Chlorofluorobenzene	Chlorofluoroben

mh/3426 - 10MH

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 601
ANAMETRIX, INC. (408)432-8192

Project ID : 10-017
Sample ID : MW-1
Matrix : WATER
Date Sampled : 6/ 3/92
Date Analyzed : 6/15/92
Instrument ID : HP15

Anametrix ID : 9206092-01
Analyst : mf
Supervisor : cl

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 601
ANAMETRIX, INC. (408)432-8192

Project ID	: 10-017	Anametrix ID	: 9206092-02
Sample ID	: MW-2	Analyst	: mf
Matrix	: WATER	Supervisor	: CP
Date Sampled	: 6/ 3/92		
Date Analyzed	: 6/15/92	Dilution Factor	: 1.0
Instrument ID	: HP15	Conc. Units	: ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 601
ANAMETRIX, INC. (408)432-8192

Project ID : 10-017
Sample ID : MW-3
Matrix : WATER
Date Sampled : 6/ 3/92
Date Analyzed : 6/15/92
Instrument ID : HP15

Anametrix ID : 9206092-03
Analyst : mf
Supervisor : CL

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 601
ANAMETRIX, INC. (408)432-8192

Project ID : 10-017
Sample ID : VBLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed : 6/15/92
Instrument ID : HP15

Anametrix ID : 15B0615H01
Analyst : mf
Supervisor : CP

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	ND	U
74-83-9	Bromomethane	.50	ND	U
75-00-3	Chloroethane	.50	ND	U
75-69-4	Freon 11	.50	ND	U
76-13-1	Freon 113	.50	ND	U
75-35-4	1,1-DCE	.50	ND	U
75-09-2	Methylene Chlor	1.0	ND	U
156-60-5	Trans-1,2-DCE	.50	ND	U
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-TCA	.50	ND	U
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-DCPA	.50	ND	U
75-27-4	Bromodichlorome	.50	ND	U
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	U
10061-02-6	Trans-1,3-DCPE	.50	ND	U
79-00-5	1,1,2-TCA	.50	ND	U
127-18-4	PCE	.50	ND	U
124-48-1	Dibromochlorome	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-PCA	.50	ND	U
541-73-1	1,3-DCB	1.0	ND	U
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 601
ANAMETRIX, INC. (408)432-8192

Project ID : 10-017
Matrix : LIQUID

Anametrix ID : 9206092
Analyst : MP
Supervisor : CQ

	SAMPLE ID	SU1	SU2	SU3
1	VBLANK	100		
2	MW-1	99		
3	MW-2	97		
4	MW-3	100		
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

	QC LIMITS
SU1 = CHLOROFLUOROBEN	(51-136)

* Values outside of Anametrix QC limits

HALOGENATED VOLATILE RECOVERY REPORT
EPA METHOD 601/8010
ANAMETRIX, INC. (408)432-8192

Sample I.D. : METHOD SPIKE
Matrix : WATER
Date sampled : N/A
Date analyzed : 06/15/92

Anametrix I.D. : SPK061592
Analyst :
Supervisor :
Date released : 06/16/92
Instrument I.D.: HP15

COMPOUND	SPIKE AMT. (ug/L)	MS (ug/L)	REC MS	MSD (ug/L)	REC MSD	RPD	%REC LIMITS
FREON 113	10	8.2	82%	8.2	82%	-0%	50 - 150
1,1-DICHLOROETHENE	10	10.7	107%	10.5	105%	2%	41 - 110
trans-1,2-DICHLOROETHENE	10	10.0	100%	10.0	99%	1%	47 - 126
1,1-DICHLOROETHANE	10	9.2	92%	8.8	88%	4%	67 - 124
cis-1,2-DICHLOROETHENE	10	10.0	99%	9.5	95%	5%	50 - 150
1,1,1-TRICHLOROETHANE	10	11.0	110%	10.3	103%	7%	50 - 125
TRICHLOROETHENE	10	11.5	115%	11.3	113%	2%	51 - 131
TETRACHLOROETHENE	10	11.0	110%	11.2	112%	-2%	70 - 136
CHLOROBENZENE	10	11.4	114%	12.6	126%	-10%	72 - 128
1,3-DICHLOROBENZENE	10	10.4	104%	10.5	105%	-1%	67 - 120
1,4-DICHLOROBENZENE	10	10.0	100%	10.7	107%	-7%	61 - 109
1,2-DICHLOROBENZENE	10	10.4	104%	11.0	110%	-5%	70 - 119

* Limits based on data generated by Anametrix, Inc., July 1990.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. BRADY NAGLE
ALISTO ENGINEERING GROUP
1000 BURNETT AVENUE, SUITE 150
CONCORD, CA 94520

Workorder # : 9206092
Date Received : 06/05/92
Project ID : 10-017
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9206092- 1	MW-1	WATER	06/03/92	TPHd
9206092- 2	MW-2	WATER	06/03/92	TPHd
9206092- 3	MW-3	WATER	06/03/92	TPHd
9206092- 1	MW-1	WATER	06/03/92	TPHg/BTEX
9206092- 2	MW-2	WATER	06/03/92	TPHg/BTEX
9206092- 3	MW-3	WATER	06/03/92	TPHg/BTEX
9206092- 4	AW-4	WATER	06/03/92	TPHg/BTEX
9206092- 5	AW-5	WATER	06/03/92	TPHg/BTEX
9206092- 6	AW-6	WATER	06/03/92	TPHg/BTEX

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. BRADY NAGLE
ALISTO ENGINEERING GROUP
1000 BURNETT AVENUE, SUITE 150
CONCORD, CA 94520

Workorder # : 9206092
Date Received : 06/05/92
Project ID : 10-017
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Bodaness 6/16/92
Department Supervisor Date

Lucia Shen 6/17/92
Chemist Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9206092
Matrix : WATER
Date Sampled : 06/03/92

Project Number : 10-017
Date Released : 06/16/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-1 -01	Sample I.D.# MW-2 -02	Sample I.D.# MW-3 -03	Sample I.D.# AW-4 -04	Sample I.D.# AW-5 -05
Benzene	0.5	ND	ND	ND	ND	ND
Toluene	0.5	ND	ND	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND	ND	ND
TPH as Gasoline	50	ND	ND	ND	ND	ND
% Surrogate Recovery		102%	101%	111%	98%	103%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		06/12/92	06/12/92	06/12/92	06/12/92	06/12/92
RLMF		1	1	1	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst 6/17/92 Date

Supervisor 6/16/92 Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS
(GASOLINE WITH BTEX)
ANAMETRIX, INC. - (408) 432-8192

Anametrix W.O.: 9206092
Matrix : WATER
Date Sampled : 06/03/92

Project Number : 10-017
Date Released : 06/16/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# AW-6 -06	Sample I.D.# BU1201E2 BLANK	Sample I.D.# BU1501E2 BLANK
Benzene	0.5	4.4	ND	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	ND	ND
Total Xylenes	0.5	ND	ND	ND
TPH as Gasoline	50	77	ND	ND
% Surrogate Recovery		112%	91%	103%
Instrument I.D.		HP4	HP12	HP4
Date Analyzed		06/15/92	06/12/92	06/15/92
RLMF		1	1	1

ND - Not detected at or above the practical quantitation limit for the method.
TPHg - Total Petroleum Hydrocarbons as gasoline is determined by GCFID using modified EPA Method 8015 following sample purge and trap by EPA Method 5030.
BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes are determined by modified EPA Method 8020 following sample purge and trap by EPA Method 5030.
RLMF - Reporting Limit Multiplication Factor.

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 53-147%.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst 6/17/92 Date

Supervisor 6/16/92 Date

ANALYSIS DATA SHEET - TOTAL PETROLEUM HYDROCARBONS AS DIESEL
ANAMETRIX, INC. (408) 432-8192

Anametrix W.O.: 9206092
Matrix : WATER
Date Sampled : 06/03/92
Date Extracted: 06/10/92

Project Number : 10-017
Date Released : 06/16/92
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9206092-01	MW-1	06/12/92	50	ND
9206092-02	MW-2	06/12/92	50	ND
9206092-03	MW-3	06/12/92	50	ND
DWBL061092	METHOD BLANK	06/12/92	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 10 mg/Kg.
ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as diesel is determined by GCFID following sample extraction by EPA Method 3510.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

Analyst Date 6/17/92

Supervisor Date 6/16/92

TOTAL EXTRACTABLE HYDROCARBON METHOD SPIKE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD SPIKE
Matrix : REAGENT WATER
Date Sampled : N/A
Date Extracted: 06/10/92
Date Analyzed : 06/12/92

Anametrix I.D. : SPK00610A
Analyst : IS
Supervisor : CA
Date Released : 06/16/92
Instrument I.D.: HP 23

COMPOUND	SPIKE AMT. (ug/L)	MS (ug/L)	%REC MS	MSD (ug/L)	%REC MSD	RPD	%REC LIMITS
Diesel	1250	1400	112%	1400	112%	0%	50-130

* Limits established by Anametrix, Inc.

BTEX MATRIX SPIKE REPORT
EPA METHOD 5030 WITH GC/PID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : 10-017 AW-5
Matrix : WATER
Date Sampled : 06/03/92
Date Analyzed : 06/12/92

Anametrix I.D.: 06092-05
Analyst : JS
Supervisor : CM
Date Released : 06/16/92
Instrument ID : HP12

COMPOUND	SPIKE AMT. (ug/L)	MS (ug/L)	REC MS	MD (ug/L)	REC MD	RPD	%REC LIMITS
Benzene	10	10	100%	9.8	98%	-2%	49-159
Toluene	10	11	110%	9.6	96%	-14%	53-156
Ethylbenzene	10	10	100%	9.7	97%	-3%	54-151
M+P-Xylenes	6.7	6.9	103%	6.4	96%	-8%	56-157
O-Xylene	3.3	3.7	112%	3.4	103%	-8%	58-154
P-BFB			102%		116%		53-147

* Limits established by Anametrix, Inc.

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. BRADY NAGLE
ALISTO ENGINEERING GROUP
1000 BURNETT AVENUE, SUITE 150
CONCORD, CA 94520

Workorder # : 9206092
Date Received : 06/05/92
Project ID : 10-017
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9206092- 1	MW-1	WATER	06/03/92	5520BF
9206092- 2	MW-2	WATER	06/03/92	5520BF
9206092- 3	MW-3	WATER	06/03/92	5520BF

REPORT SUMMARY
ANAMETRIX, INC. (408)432-8192

MR. BRADY NAGLE
ALISTO ENGINEERING GROUP
1000 BURNETT AVENUE, SUITE 150
CONCORD, CA 94520

Workorder # : 9206092
Date Received : 06/05/92
Project ID : 10-017
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Carl Ralt 6.16.92
Department Supervisor Date

CRPatel 06.16.92
Chemist Date

ANALYSIS DATA SHEET - TOTAL OIL AND GREASE
ANAMETRIX, INC. (408) 432-8192

Project # : 10-017
Matrix : WATER
Date sampled : 06/03/92
Date ext. TOG : 06/08/92
Date anl. TOG : 06/08/92

Anametrix I.D. : 9206092
Analyst : AH
Supervisor : CeB
Date released : 06/16/92

Workorder #	Sample I.D.	Reporting Limit (mg/L)	Amount Found (mg/L)
9206092-01	MW-1	5	ND
9206092-02	MW-2	5	ND
9206092-03	MW-3	5	ND
GWBL060892	METHOD BLANK	5	ND

ND - Not detected at or above the practical quantitation limit for the method.
TOG - Total Oil & Grease is determined by Standard Method 5520BF.

All testing procedures follow California Department of Health Services (Cal-DHS) approved methods.

TOTAL OIL AND GREASE LAB CONTROL SAMPLE REPORT
STANDARD METHOD 5520BF
ANAMETRIX, INC. (408) 432-8192

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: SPK060892
Matrix	: WATER	Analyst	: AG
Date sampled	: 06/02/92	Supervisor	: CB
Date extracted	: 06/08/92	Date Released	: 06/16/92
Date analyzed	: 06/08/92		

COMPOUND	SPIKE AMT. (mg/L)	LCS (mg/L)	%REC LCS	LCSD (mg/L)	%REC LCSD	%RPD	%REC LIMITS
Motor Oil	50	37	74%	36	72%	3%	47-99%

* Quality control limits established by Anametrix, Inc.

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

9206092 (16) (2) (10/32) 14:15 dg

CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME
10-017	BP 11116

Send Report Attention of:	Report Due	Verbal Due
BRADY NAGLE	6/19/92	6/19/92

	Sample Number	Date	Time	Comp	Matrix	Station Location	Number of Cntnrs	Type of Containers	Type of Analysis: TPH-G/BTEX	EPA 601	TPH-D 3510 8015	TDG 5520 DF	Condition of Samples	Initial
(1)	MW-1	6/3/92	1915		W		10	VOA's AMBER	X	X	X	X	Samples	
(2)	MW-2	"	2015		W	DJB 9/10		"	X	X	X	X	were recd. cool & in	
(3)	MW-3	"	2045		W		10	"	X	X	X	X	proper containers	DJ
(4)	AW-4	"	~~2219~~ 2250	~~2219~~	W		3	VOAS	X					
(5)	AW-5	"	~~225~~ 2219		W		3	"	X					
(6)	AW-6	"	2125		W		3	"	X					

Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
David J Burk	6/5/92 17:40	[illegible]	6-5-92 11:40
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received by Lab:	Date/Time

Remarks: NORMAL TURNAROUND. Anametrix # 398.

COMPANY: ALISTO ENGINEERING GROUP
ADDRESS:
PHONE : FAX :