BP OIL

BP Oil Company
Aetna Bldg., Suite 360
2868 Prospect Park Drive
Rancho Cordova, California 95670-6020
(916) 631-0733

May 22, 1992

Mr. Brian Olivas
Alameda County Health Agency
80 Swan Way, Room 200
Oakland, CA 94621

RE: **BP FACILITY #11109**
4280 FOOTHILL BLVD
OAKLAND, CALIFORNIA

Dear Mr. Olivas,

Attached please find results of the **quarterly** sampling and analysis performed a the above referenced facility.

Please call me a 916/631-6919 with any questions regarding this submission.

Respectfully,

Peter J. DeSantis
Environmental Resource Management

PJD:lk

cc: Dave Baker - Mobil Oil Corporation
Eddy So - RWQCB, San Francisco Bay Region
Site File

QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

Prepared for

BP Oil Company Service Station No. 11109
4280 Foothill Boulevard
Oakland, California

Project No. 10-005

Prepared by

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

May 19, 1992

Brady Nagle
Project Manager

Al Sevilla, P.E.
Principal

QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

BP Oil Company Service Station No. 11109
4280 Foothill Boulevard
Oakland, California

Project No. 10-005

May 19, 1992

INTRODUCTION

This report presents the results and findings of the April 8, 1992 quarterly groundwater monitoring and sampling conducted by Alisto Engineering Group at BP Oil Service Station No. 11109, located at 4280 Foothill Boulevard, Oakland, California. Also included are the groundwater sampling forms and laboratory analytical data sheets from the January 6, 1992 groundwater sampling event performed by Alton Geoscience of Pleasanton, 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 groundwater 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 groundwater and the top of casing elevation data were used to calculate the groundwater elevation within each well in reference to Mean Sea Level. The survey data and groundwater 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 from the January 6, 1992 and the April 8, 1992 sampling events are presented in Appendices A and B, respectively. Monitoring Well MW-5 was not purged or sampled due to the presence of free product.

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 the April 8, 1992 quarterly sampling event are depicted in Figure 2. Isoconcentration maps of total petroleum hydrocarbons as gasoline (TPH-G) and benzene in groundwater samples collected during the April 8, 1992 sampling event are shown in Figures 3 and 4. Laboratory reports and the chain of custody from the January 6, 1992 and the April 8, 1992 sampling events are presented in Appendices A and B, respectively.

SUMMARY OF FINDINGS

The findings of the April 8, 1992 groundwater monitoring and sampling event are summarized below:

- Free product at a maximum thickness of 0.04 foot was detected in Monitoring Well MW-5. Weekly monitoring and free product removal has been performed as an interim remedial measure, and has removed less than one liter of product from MW-5.

- Groundwater elevation data indicate a gradient of approximately 0.026 ft./ft. in a general west direction across the study area. The higher groundwater elevation in Monitoring Well MW-5 may be due to inconsistences in the stratigraphy beneath the site and low hydraulic transmissivity between MW-5 and the other monitoring wells.

- Dissolved-phase TPH-G and benzene, toluene, ethylbenzene, and total xylenes (BTEX) constituents were detected in three of the eight monitoring wells.

TABLE 1 - SUMMARY OF RESULTS OF GROUND WATER MONITORING AND SAMPLING
BP OIL COMPANY, SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-005

WELL ID	DATE OF SAMPLING/ MONITORING (a)	CASING ELEVATION (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	LAB
MW-1	01/31/90	38.19	15.41	0.00	22.78	---	---	---	---	---	---	---	---	---
MW-1 (c)	02/05/90	---	---	0.00	---	---	---	---	---	---	---	---	---	---
MW-2	02/05/90	38.21	21.91	0.00	16.30	1300	---	14	ND<1.0	9	13	---	---	SUP
MW-2	02/14/91	38.21	21.16	0.00	17.05	ND<50	ND<10000	ND<0.3	ND<0.3	ND<0.3	ND<0.3	51 (d)	ND<5000	SUP
MW-2	05/13/91	38.21	21.32	0.00	16.89	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	0.5 (e)	6000	SUP
MW-2	07/24/91	38.21	22.92	0.00	15.29	---	---	---	---	---	---	---	---	---
MW-2	10/03/91	38.21	24.90	0.00	13.31	ND<50	ND<50	ND<0.3	0.8	ND<0.3	ND<0.3	0.7 (e)	ND<5000	SUP
MW-2	10/15/91	38.21	24.10	0.00	14.11	---	---	---	---	---	---	---	---	---
MW-2	12/04/91	38.21	INACCESSABL	0.00	38.21	---	---	---	---	---	---	---	---	---
MW-2	12/16/91	38.21	23.95	0.00	14.26	---	---	---	---	---	---	---	---	---
MW-2	01/06/92	38.21	23.30	0.00	14.91	ND<50	ND<50	ND<0.3	ND<0.3	ND<0.3	ND<0.3	ND	ND<5000	ANA
MW-2	01/22/92	38.21	23.14	0.00	15.07	---	---	---	---	---	---	---	---	---
MW-2	01/28/92	38.21	22.99	0.00	15.22	---	---	---	---	---	---	---	---	---
MW-2	02/05/92	38.21	22.63	0.00	15.58	---	---	---	---	---	---	---	---	---
MW-2	02/12/92	38.21	22.04	0.00	16.17	---	---	---	---	---	---	---	---	---
MW-2	02/17/92	38.21	20.84	0.00	17.37	---	---	---	---	---	---	---	---	---
MW-2	04/03/92	38.21	18.29	0.00	19.92	---	---	---	---	---	---	---	---	---
MW-2	04/08/92	38.21	18.86	0.00	19.35	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-2	04/14/92	38.21	19.45	0.00	18.76	---	---	---	---	---	---	---	---	---
MW-3	02/05/90	37.74	17.45	0.00	20.29	1400	---	15	ND<2.5	11	8	---	---	SUP
MW-3	02/14/91	37.74	18.52	0.00	19.22	320	---	8	ND<0.3	6	1	---	---	SUP
MW-3	05/13/91	37.74	19.32	0.00	18.42	640	---	13	ND<0.3	18	1	---	---	SUP
MW-3	07/24/91	37.74	20.69	0.00	17.05	---	---	---	---	---	---	---	---	---
MW-3	10/03/91	37.74	19.47	0.00	18.27	940	---	21	ND<0.3	23	2.1	---	---	SUP
MW-3	10/15/91	37.74	20.46	0.00	17.28	---	---	---	---	---	---	---	---	---
MW-3	12/04/91	37.74	18.29	0.00	19.45	---	---	---	---	---	---	---	---	---
MW-3	12/16/91	37.74	18.34	0.00	19.40	---	---	---	---	---	---	---	---	---
MW-3	01/06/92	37.74	18.50	0.00	19.24	590	---	6.1	1	6.1	7.1	---	---	ANA
MW-3	01/22/92	37.74	17.86	0.00	19.88	---	---	---	---	---	---	---	---	---
MW-3	01/28/92	37.74	15.84	0.00	21.90	---	---	---	---	---	---	---	---	---
MW-3	02/05/92	37.74	17.53	0.00	20.21	---	---	---	---	---	---	---	---	---
MW-3	02/12/92	37.74	17.15	0.00	20.59	---	---	---	---	---	---	---	---	---
MW-3	02/17/92	37.74	16.18	0.00	21.56	---	---	---	---	---	---	---	---	---
MW-3	04/03/92	37.74	14.80	0.00	22.94	---	---	---	---	---	---	---	---	---
MW-3	04/08/92	37.74	17.06	0.00	20.68	1100	---	30	4.6	32	11	---	---	ANA
MW-3	04/14/92	37.74	15.22	0.00	22.52	---	---	---	---	---	---	---	---	

TABLE 1 - SUMMARY OF RESULTS OF GROUND WATER MONITORING AND SAMPLING
BP OIL COMPANY, SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-005

WELL ID	DATE OF SAMPLING/ MONITORING (a)	CASING ELEVATION (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	LAB
MW-4	02/05/90	37.09	20.75	0.00	16.34	620	--	ND<0.5	9	ND<0.5	10	--	---	SUP
MW-4	02/14/91	37.09	21.73	0.00	15.36	180	--	ND<0.3	ND<0.3	0.4	2	--	--	SUP
MW-4	05/13/91	37.09	18.55	0.00	18.54	72	--	0.7	ND<0.3	ND<0.3	ND<0.3	--	---	SUP
MW-4	07/24/91	37.09	21.31	0.00	15.78	---	---	---	---	---	---	---	---	---
MW-4	10/03/91	37.09	22.57	0.00	14.52	57	--	ND<0.3	ND<0.3	ND<0.3	ND<0.3	--	---	SUP
MW-4	10/15/91	37.09	22.88	0.00	14.21	---	---	---	---	---	---	--	---	---
MW-4	12/04/91	37.09	22.54	0.00	14.55	---	---	---	---	---	---	--	---	---
MW-4	12/16/91	37.09	22.59	0.00	14.50	---	---	---	---	---	---	--	---	---
MW-4	01/06/92	37.09	22.00	0.00	15.09	480	--	0.8	3.2	1.9	7.7	--	---	ANA
MW-4	01/22/92	37.09	21.58	0.00	15.51	---	---	---	---	---	---	--	---	---
MW-4	01/28/92	37.09	21.42	0.00	15.67	---	---	---	---	---	---	--	---	---
MW-4	02/05/92	37.09	21.10	0.00	15.99	---	---	---	---	---	---	--	---	---
MW-4	02/12/92	37.09	20.74	0.00	16.35	---	---	---	---	---	---	--	---	---
MW-4	02/17/92	37.09	19.78	0.00	17.31	---	---	---	---	---	---	--	---	---
MW-4	04/03/92	37.09	16.80	0.00	20.29	---	---	---	---	---	---	--	---	ANA
MW-4	04/08/92	37.09	17.13	0.00	19.96	ND<50	--	ND<0.5	ND<0.5	ND<0.5	ND<0.5	--	---	---
MW-4	04/14/92	37.09	17.74	0.00	19.35	---	---	---	---	---	---	--		
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
MW-5	12/04/91	36.55	18.44	[redacted]	[redacted]	---	---	---	---	---	---	---	---	---
MW-5	12/16/91	36.55	18.66	[redacted]	[redacted]	---	---	---	---	---	---	---	---	---
MW-5	01/06/92	36.55	19.12	[redacted]	[redacted]	---	---	---	---	---	---	---	---	---
MW-5 (I)	01/22/92	36.55	14.59	[redacted]	[redacted]	---	---	---	---	---	---	---	---	---
MW-5	01/28/92	36.55	15.25	[redacted]	[redacted]	---	---	---	---	---	---	---	---	---
MW-5	02/05/92	36.55	15.58	[redacted]	[redacted]	---	---	---	---	---	---	---	---	---
MW-5	02/12/92	36.55	15.54	[redacted]	[redacted]	---	---	---	---	---	---	---	---	---
MW-5	02/17/92	36.55	13.98	[redacted]	[redacted]	---	---	---	---	---	---	---	---	---
MW-5	04/03/92	36.55	13.63	[redacted]	[redacted]	---	---	---	---	---	---	---	---	---
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	---	---	---	---	---	---	---	---	---
MW-6	10/03/91	38.57	20.73	0.00	17.84	ND<50	--	0.7	0.8	ND<0.3	1.3	--	---	SUP
MW-6	10/15/91	38.57	21.20	0.00	17.37	---	---	---	---	---	---	--	---	---
MW-6	12/04/91	38.57	21.26	0.00	17.31	---	---	---	---	---	---	--	---	---
MW-6	12/16/91	38.57	21.12	0.00	17.45	---	---	---	---	---	---	--	---	---
MW-6	01/06/92	38.57	20.29	0.00	18.28	ND<50	--	ND<0.5	ND<0.5	ND<0.5	1.6	--	---	ANA
MW-6	01/22/92	38.57	20.12	0.00	18.45	---	---	---	---	---	---	--	---	---
MW-6	01/28/92	38.57	20.20	0.00	18.37	---	---	---	---	---	---	--	---	---
MW-6	02/05/92	38.57	20.09	0.00	18.48	---	---	---	---	---	---	--	---	---
MW-6	02/12/92	38.57	19.15	0.00	19.42	---	---	---	---	---	---	--	---	---
MW-6	02/17/92	38.57	18.02	0.00	20.55	---	---	---	---	---	---	--	---	---
MW-6	04/03/92	38.57	16.62	0.00	21.95	---	---	---	---	---	---	--	---	ANA
MW-6	04/08/92	38.57	17.06	0.00	21.51	ND<50	--	0.6	ND<0.5	0.8	ND<0.5	--	---	---
MW-6	04/14/92	38.57	17.23	0.00	21.34	---	---	---	---	---	---	--		

TABLE 1 - SUMMARY OF RESULTS OF GROUND WATER MONITORING AND SAMPLING
BP OIL COMPANY, SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-005

WELL ID	DATE OF SAMPLING/ MONITORING (a)	CASING ELEVATION (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	LAB
MW-7	10/03/91	37.64	14.93	0.00	22.71	360	—	62	13	3.4	20	---	---	SUP
MW-7	10/15/91	37.64	15.16	0.00	22.48	---	—	---	---	---	---	---	---	---
MW-7	12/04/91	37.64	15.41	0.00	22.23	---	---	---	---	---	---	---	---	---
MW-7	12/16/91	37.64	15.21	0.00	22.43	---	—	---	---	---	---	---	---	---
MW-7	01/06/92	37.64	14.56	0.00	23.08	1100	---	170	ND<0.5	24	23	—	---	ANA
MW-7	01/22/92	37.64	14.63	0.00	23.01	—	—	---	---	---	---	---	---	---
MW-7	01/28/92	37.64	14.73	0.00	22.91	---	---	---	---	---	---	---	---	---
MW-7	02/05/92	37.64	14.58	0.00	23.06	---	—	---	---	---	---	---	---	---
MW-7	02/12/92	37.64	13.94	0.00	23.70	---	---	---	---	---	---	---	---	---
MW-7	02/17/92	37.64	13.10	0.00	24.54	---	—	—	---	---	---	---	---	---
MW-7	04/03/92	37.64	12.66	0.00	24.98	---	—	---	---	—	---	---	---	---
MW-7	04/08/92	37.64	12.77	0.00	24.87	750	—	150	ND<0.5	23	9.9			ANA
MW-7	04/14/92	37.64	13.02	0.00	24.62	---	---	—	---	---	---	—	---	---
MW-8	10/03/91	35.18	22.37	0.00	12.81	ND<50	—	ND<0.3	0.6	ND<0.3	0.9	---	---	SUP
MW-8	10/15/91	35.18	22.70	0.00	12.48	---	—	---	---	---	---	---	---	---
MW-8	12/04/91	35.18	22.44	0.00	12.74	---	—	—	---	---	---	---	---	---
MW-8	12/16/91	35.18	22.47	0.00	12.71	---	—	---	---	---	---	---	---	---
MW-8	01/06/92	35.18	21.94	0.00	13.24	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	—	---	ANA
MW-8	01/22/92	35.18	21.44	0.00	13.74	---	---	---	---	---	---	---	---	---
MW-8	01/28/92	35.18	21.20	0.00	13.98	---	---	---	---	---	---	---	---	---
MW-8	02/05/92	35.18	20.88	0.00	14.30	---	---	---	---	---	---	---	---	---
MW-8	02/12/92	35.18	20.54	0.00	14.64	---	---	---	---	---	---	---	---	---
MW-8	02/17/92	35.18	19.99	0.00	15.19	---	---	---	---	---	---	---	---	---
MW-8	04/03/92	35.18	16.75	0.00	18.43	---	---	---	---	---	---	---	---	---
MW-8	04/08/92	35.18	16.57	0.00	18.61	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-8	04/14/92	35.18	INACCESSABL	0.00	35.18	---	---	---	---	---	---	---	---	---

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4280 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-005

WELL ID	DATE OF SAMPLING/ MONITORING (a)	CASING ELEVATION (Feet)	DEPTH TO WATER (Feet)	PRODUCT THICKNESS (Feet)	GROUNDWATER ELEVATION (b) (Feet)	TPH-G (ppb)	TPH-D (ppb)	B (ppb)	T (ppb)	E (ppb)	X (ppb)	TOG (ppb)	HVOC (ppb)	LAB
MW-9	10/03/91	38.24	14.12	0.00	24.12	ND<50	---	ND<0.3	0.4	ND<0.3	ND<0.3	---	---	SUP
MW-9	10/15/91	38.24	14.27	0.00	23.97	---	---	---	---	---	---	---	---	---
MW-9	12/04/91	38.24	13.84	0.00	24.40	---	---	---	---	---	---	---	---	---
MW-9	12/16/91	38.24	14.18	0.00	24.06	---	---	---	---	---	---	---	---	---
MW-9	01/06/92	38.24	13.42	0.00	24.82	ND<50	---	ND<0.5	ND<0.5	ND<0.5	0.9	---	---	ANA
MW-9	01/22/92	38.24	13.75	0.00	24.49	---	---	---	---	---	---	---	---	---
MW-9	01/28/92	38.24	14.76	0.00	23.48	---	---	---	---	---	---	---	---	---
MW-9	02/05/92	38.24	13.38	0.00	24.86	---	---	---	---	---	---	---	---	---
MW-9	02/12/92	38.24	11.86	0.00	26.38	---	---	---	---	---	---	---	---	---
MW-9	02/17/92	38.24	10.78	0.00	27.46	---	---	---	---	---	---	---	---	---
MW-9	04/03/92	38.24	11.63	0.00	26.61	---	---	---	---	---	---	---	---	---
MW-9	04/08/92	38.24	12.25	0.00	25.99	ND<50	---	ND<0.5	ND<0.5	ND<0.5	ND<0.5	---	---	ANA
MW-9	04/14/92	38.24	12.32	0.00	25.92	---	---	---	---	---	---	---	---	---

ABBREVIATIONS:

TPH-G	Total Petroleum Hydrocarbons as Gasoline
TPH-D	Total Petroleum Hydrocarbons as Diesel
B	Benzene
T	Toluene
E	Ethylbenzene
X	Xylenes
TOG	Total Oil and Grease
HVOC	Halogenated Volatile Organic Compounds
ND	Not detected above reported detection limits
---	Not analyzed/not applicable
ANA	Anametrix, Inc.
SUP	Superior Analytical Laboratory

NOTES:

(a) Top of casing elevations for all wells are surveyed relative to the City of Oakland survey station, with an elevation of 42.19 feet avoe Mean Sea Level.

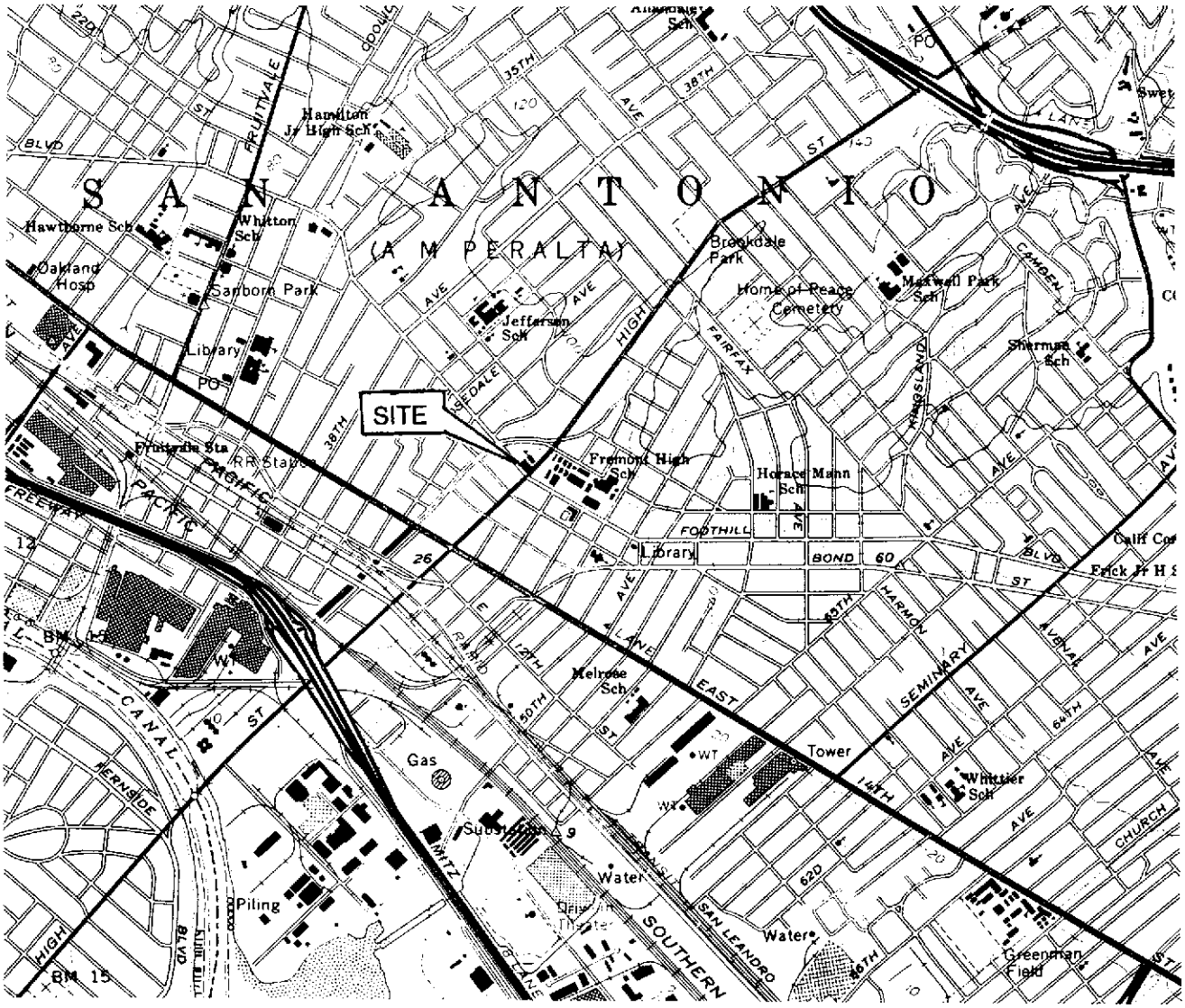
(b) Groundwater elevations in feet above Mean Sea Level.

(c) Monitoring Well MW-1 was destroyed during tank removal activities in November 1990.

(d) Methylene Chloride

(e) 1,2-Dichloroethane

(f) Well was not sampled due to the presence of free product. Groundwater elevations were adjusted assuming a specific gravity of 0.75 for the free product.



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

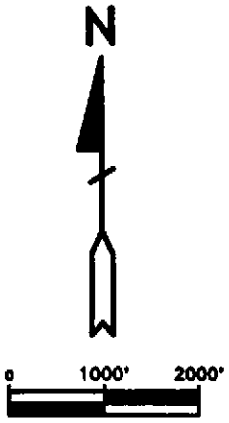


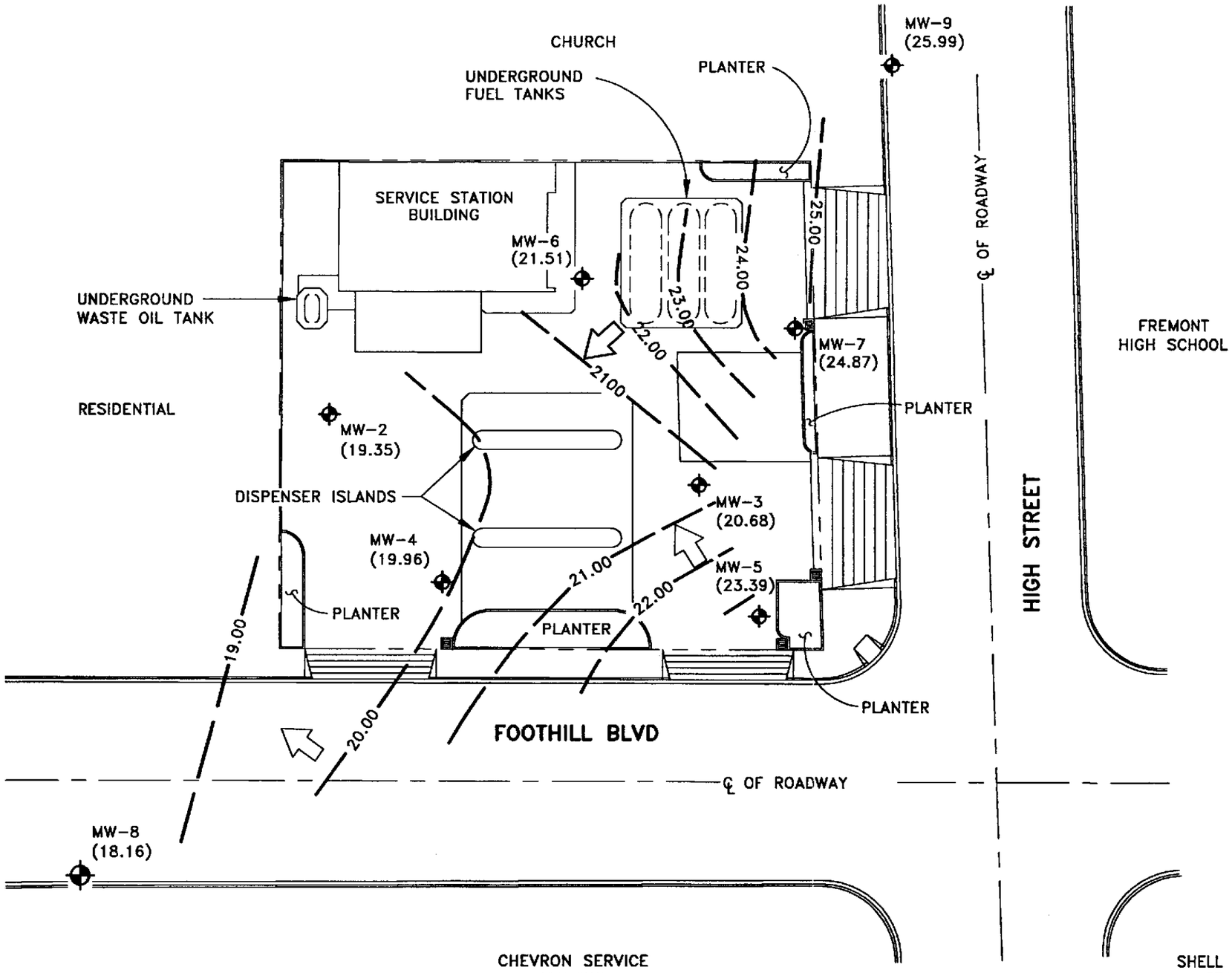
FIGURE 1

SITE VICINITY MAP

BP OIL COMPANY SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD
OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-005

ALISTO ENGINEERING GROUP
CONCORD, CALIFORNIA



N

0 30' 60'

SCALE: 1" = 30'

LEGEND:

- ⌖ GROUNDWATER MONITORING WELL
- (24.87) GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- 20.00 GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MEAN SEA LEVEL (CONTOUR INTERVAL – 1.0 FOOT)
- ⇨ CALCULATED GROUNDWATER GRADIENT DIRECTION

FIGURE 2

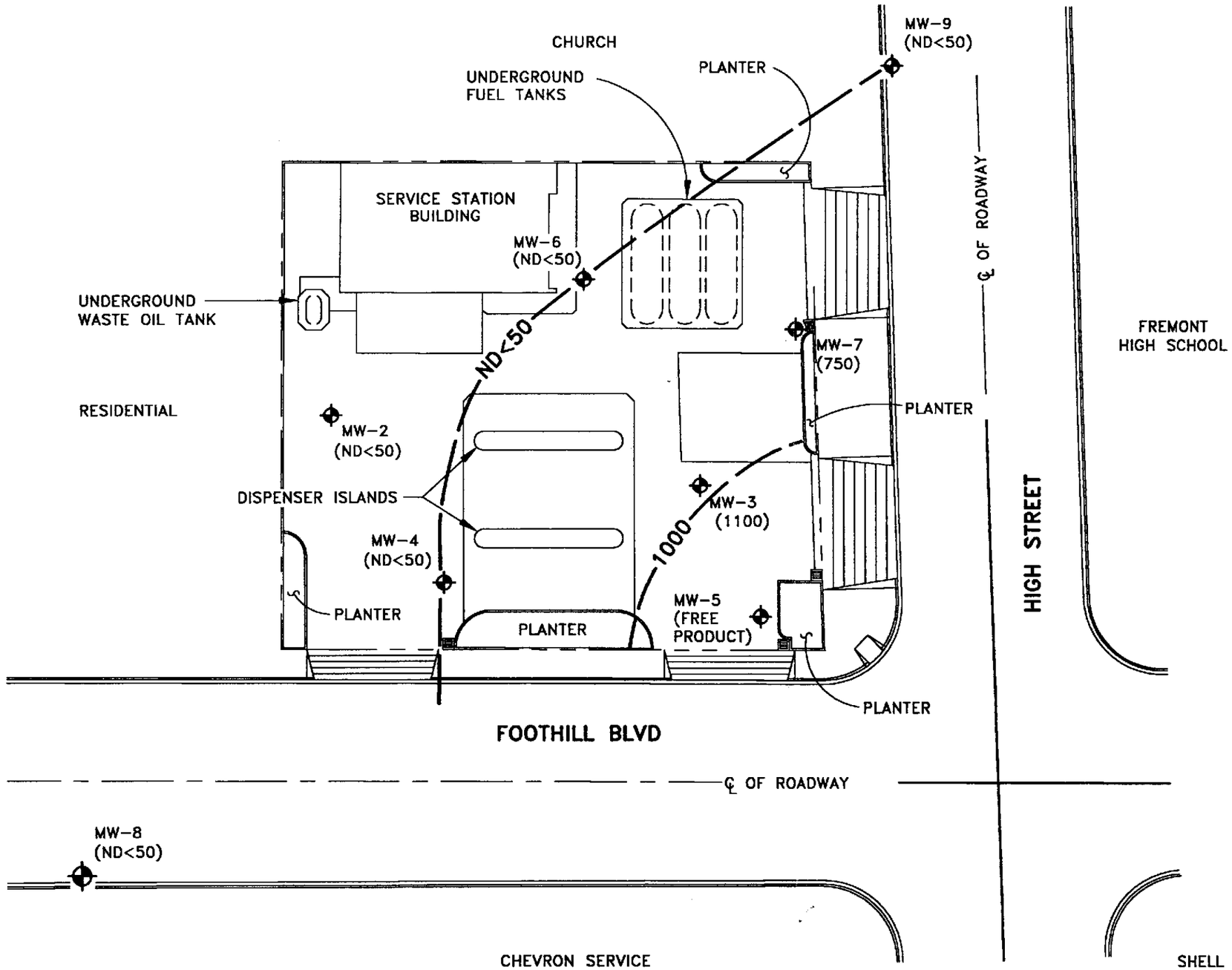
POTENTIOMETRIC GROUNDWATER ELEVATION CONTOUR MAP (APRIL 8, 1992)

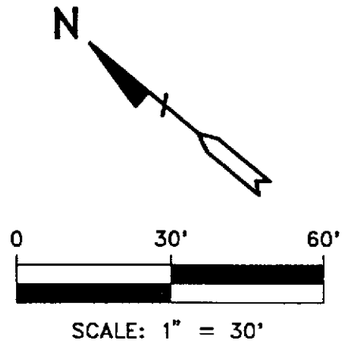
BP OIL SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO. 10-005

ALISTO ENGINEERING GROUP
CONCORD, CALIFORNIA

R11109-2.DWG 5-18-92 JWB 1=30'





LEGEND:

- ⌖ GROUNDWATER MONITORING WELL
- (750) TOTAL PETROLEUM HYDROCARBONS AS GASOLINE CONCENTRATION IN PARTS PER BILLION
- 1000 TOTAL PETROLEUM HYDROCARBONS AS GASOLINE ISOCONCENTRATION CONTOUR IN PARTS PER BILLION

FIGURE 3

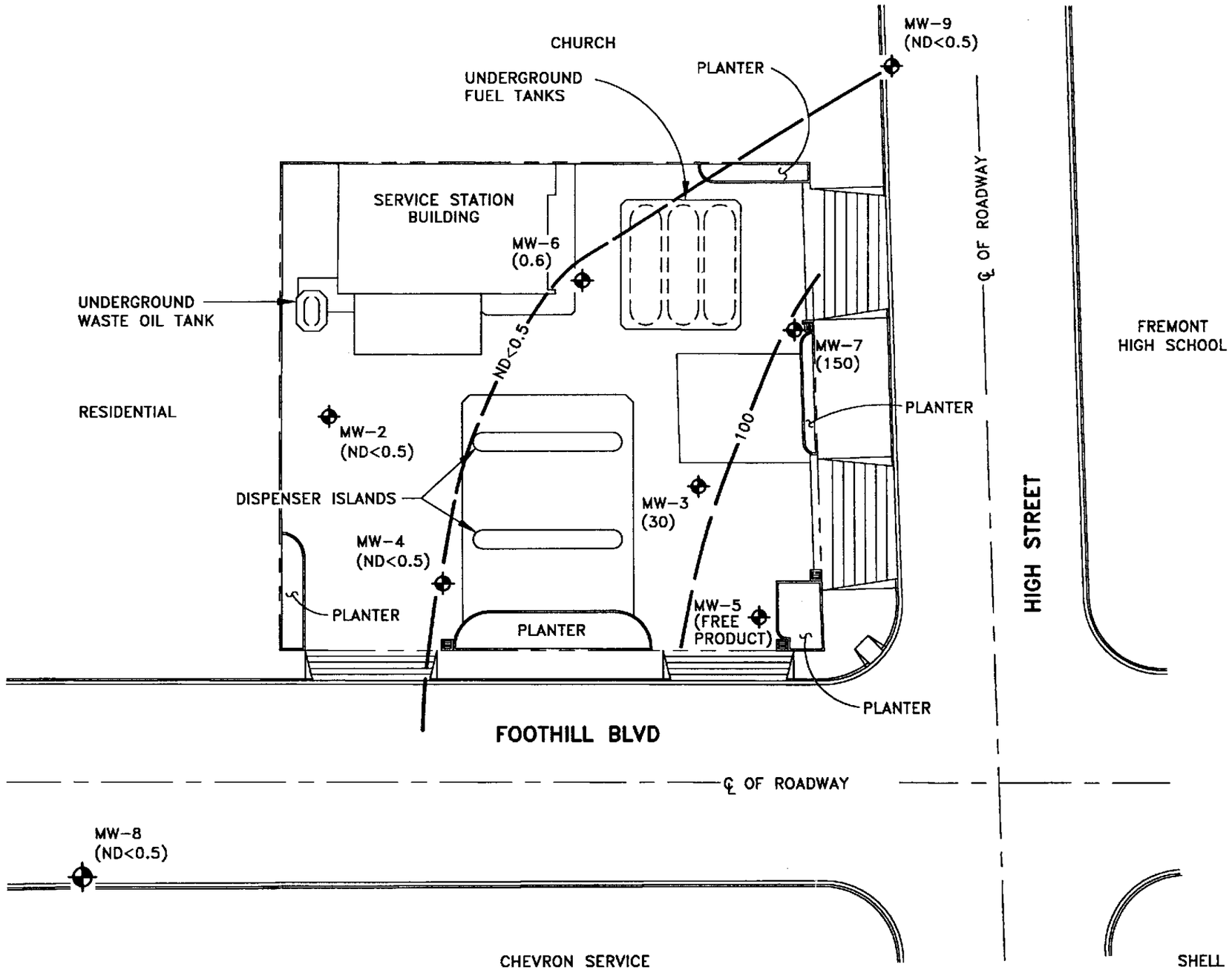
TOTAL PETROLEUM HYDROCARBONS AS GASOLINE ISOCONCENTRATION MAP (APRIL 8, 1992)

BP OIL SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO. 10-005

ALISTO ENGINEERING GROUP
CONCORD, CALIFORNIA

R1109-3.DWG 5-18-92 JWB 1=30'



N

0 30' 60'

SCALE: 1" = 30'

LEGEND:

- GROUNDWATER MONITORING WELL
- (150) BENZENE CONCENTRATION IN PARTS PER BILLION
- 100 BENZENE ISOCONCENTRATION CONTOUR IN PARTS PER BILLION

FIGURE 4

BENZENE ISOCONCENTRATION CONTOUR MAP (APRIL, 8 1992)

BP OIL SERVICE STATION NO. 11109
4280 FOOTHILL BOULEVARD
OAKLAND, CALIFORNIA

PROJECT NO. 10-005

ALISTO ENGINEERING GROUP
CONCORD, CALIFORNIA

R11109-4.DWG 5-18-92 JWB 1=30

APPENDIX A

WATER SAMPLING FORMS
AND
LABORATORY REPORTS AND CHAIN OF CUSTODY RECORDS

JANUARY 6, 1992 QUARTERLY SAMPLING EVENT PERFORMED BY OTHERS

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

TASK # 0011

WELL # MW-2 PROJECT# 30-0248 LOCATION Oakland DATE 1-6-92

SAMPLING TEAM Dan Birch SAMPLING METHOD: BAILER X PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER X
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 23.30 ft

TOTAL DEPTH 30.10 ft

HT. WATER COL 6.80 ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 1.08 gal

Volumes to Purge X 4 Vol

Total Volume to Purge 4.4 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
62.4	1.27×10^3	6.85	1:50		0
64.3	1.01×10^3	6.69	1:55		1
64.0	$.94 \times 10^3$	6.61	2:00		2
62.8	$.89 \times 10^3$	6.68	2:05		3
63.3	$.94 \times 10^3$	6.60	2:10		4
63.0	$.95 \times 10^3$	6.61	2:15		5
				ACTUAL VOLUME PURGED	5 /gal

COMMENTS: The First bailer was dipped just enough to sample the wells surface water. No product or sheen observed. Sampled at 2:20 For TPH-G (5030/8015) + BTEX (5030/8020), TOG (5520BF), TPH-D (5030/8015) and HVOC (8010). Sampled with a disposable bailer.

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

TASK # 0011
WELL # MW-3 PROJECT# 30-0248 LOCATION OAKLAND DATE 1-6-92

SAMPLING TEAM Dan Birch SAMPLING METHOD: BAILER X PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER X
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 16.5 ft
TOTAL DEPTH 31.80' ft
HT. WATER COL 13.3 ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 8.65 gal
Volumes to Purge X 3 Vol
Total Volume to Purge 26 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
58.6	1.10×10^3	6.67	5:50		0
62.3	1.16×10^3	6.68	5:55		5
63.1	1.13×10^3	6.71	6:05		10
63.2	1.16×10^3	6.72	6:10		15
63.8	1.21×10^3	6.69	6:16		20
63.5	1.20×10^3	6.70	6:22		25
63.5	[illegible]	[illegible]	6:24		26
				ACTUAL VOLUME PURGED	26 /gal

COMMENTS: Each bail was inspected for product or sheen. No product or sheen was observed. Sampled at 6:30 for TPH w/ Btex using a disposable bailer.

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

TASK # 0011
WELL # MW-4 PROJECT# 30-0248 LOCATION OAKLAND DATE 1-6-92

SAMPLING TEAM Dan Birch SAMPLING METHOD: BAILER X PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER X
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 22.0 ft
TOTAL DEPTH 34.28 ft
HT. WATER COL 12.28 ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 7.98 gal
Volumes to Purge X 3 Vol
Total Volume to Purge 24 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
62.1	$.75 \times 10^3$	6.75	3:20		5
60.3	$.71 \times 10^3$	6.62	3:40	Bailed dry at 8 gal.	8
60.9	$.69 \times 10^3$	6.69	5:30		10

ACTUAL VOLUME PURGED 10 /gal

COMMENTS: First bailer was dipped just enough to sample the wells surface water. No product or sheen was noted. Returned to well at 5:20 bailed 2 more gallons then sampled at 5:30 For tPH-G w/ BTEX.

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

TASK # 0011

WELL # MW-6 PROJECT# 30-0248 LOCATION OAKLAND DATE 1-6-92

SAMPLING TEAM DAN BIRCH SAMPLING METHOD: BAILER X PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER X
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 20.29 ft

TOTAL DEPTH 34.28 ft

HT. WATER COL 13.99 ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 9.09 gal

Volumes to Purge X 3 Vol

Total Volume to Purge 27.2 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
57.7	$.98 \times 10^3$	6.70	8:25		0
59.4	1.09×10^3	6.73	8:30		5
59.9	1.19×10^3	6.32	8:34		10
60.8	1.16×10^3	6.32	8:41		15
60.1	1.19×10^3	6.30	8:45		20
60.2	1.17×10^3	6.80	8:50		25
60.3	1.18×10^3	6.81	8:55		28

ACTUAL VOLUME PURGED 23 /gal

COMMENTS: No product or sheen. Sampled at 9:00.

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

TASK # 0011
WELL # MW-7 PROJECT# 30-0298 LOCATION OAKLAND DATE 1-6-92

SAMPLING TEAM Dan Birch SAMPLING METHOD: BAILER X PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER X
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 14.56 ft
TOTAL DEPTH 33.42 ft
HT. WATER COL 18.86 ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 27.16 gal
Volumes to Purge X 3 Vol
Total Volume to Purge 81.5 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
60.1	$.66 \times 10^3$	7.05	6:45		0
60.8	$.67 \times 10^3$	6.99	7:00		5
61.1	$.72 \times 10^3$	6.96	7:10		10
61.1	$.78 \times 10^3$	6.94	7:20		20
61.2	$.76 \times 10^3$	6.95	7:30		40
61.4	$.78 \times 10^3$	6.94	7:45		60
61.2	$.78 \times 10^3$	6.95	8:05		82
				ACTUAL VOLUME PURGED	82 /gal

COMMENTS: First bailer checked for product or sheen. After 20 gallons 3 bailers were tie wrapped together to increase yield. No product or sheen was noted on First bailer. Sampled at 8:10 with disposable bailer.

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

TASK # 0011

WELL # MW-8 PROJECT# 30-0248 LOCATION OAKLAND DATE 1-6-92

SAMPLING TEAM DAN Birch SAMPLING METHOD: BAILER X PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER X
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 21.94 ft

TOTAL DEPTH 29.31 ft

HT. WATER COL 7.37 ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 1.17 gal

Volumes to Purge X 3 Vol

Total Volume to Purge 3.5 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
60.1	$.65 \times 10^3$	7.01	9:30		0
60.0	$.72 \times 10^3$	7.10	9:32		1
57.2	$.68 \times 10^3$	7.17	9:34		2
56.1	$.63 \times 10^3$	7.19	9:35		3
56.3	$.63 \times 10^3$	7.20	9:37		3.5
				ACTUAL VOLUME PURGED	3.5 /gal

COMMENTS: No product or sheen observed. Sampled For TPH-Gas at 9:30 with a disposable bailer.

ALTON GEOSCIENCE, INC.
Water Sampling Field Survey

TASK # 0011
WELL # MW-9 PROJECT# 30-0248 LOCATION OAKLAND DATE 1-6-92

SAMPLING TEAM Dan Birch SAMPLING METHOD: BAILER X PUMP ___

DECONTAMINATION METHOD: TRIPLE RINSE W/TSP AND DEIONIZED WATER X
STEAM CLEAN ___

WELL DATA:

DEPTH TO WATER 13.42 ft

TOTAL DEPTH 29.31 ft

HT. WATER COL 15.89 ft

CONVERSION	
diam	gal/ft
2 in	X0.16
3 in	X0.36
4 in	X0.65
6 in	X1.44

Volume of Water Column 2.54 gal

Volumes to Purge X 3 Vol

Total Volume to Purge 7.62 gal

CHEMICAL DATA:

T (F)	SC/umhos	pH	Time	Comments	Volume (gal)
62.1	$.63 \times 10^3$	6.81	4:25		0
64.2	$.65 \times 10^3$	6.84	4:30		2
60.3	$.62 \times 10^3$	7.11	4:40		4
60.8	$.61 \times 10^3$	7.06	4:50		6
61.0	$.63 \times 10^3$	7.08	5:00		7
61.2	$.62 \times 10^3$	7.10	5:05		8
				ACTUAL VOLUME PURGED	/gal

COMMENTS: First bailer checked For product or sheen, none observed. Sampled at 5:10 For TPH-G w/ BTEX.

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
ALTON GEOSCIENCE
1000 BURNETT AVE, SUITE 140
CONCORD, CA 94520

Workorder # : 9201032
Date Received : 01/07/92
Project ID : 30-0248
Purchase Order: 413644

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

ANAMETRIX ID	CLIENT SAMPLE ID
9201032- 1	MW-2
9201032- 2	MW-7
9201032- 3	MW-9
9201032- 4	MW-6
9201032- 5	MW-4
9201032- 6	MW-3
9201032- 7	MW-8

This report consists of 17 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.

Sarah Schoen, Ph.D.
Laboratory Manager

1-22-92
Date

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

MR. BRADY NAGLE
ALTON GEOSCIENCE
1000 BURNETT AVE, SUITE 140
CONCORD, CA 94520

Workorder # : 9201032
Date Received : 01/07/92
Project ID : 30-0248
Purchase Order: 413644
Department : GC
Sub-Department: VOA

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Corinne Pham 1/13/92
Department Supervisor Date

Kamel G. Kamel 1/13/92
Chemist 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
ALTON GEOSCIENCE
1000 BURNETT AVE, SUITE 140
CONCORD, CA 94520

Workorder # : 9201032
Date Received : 01/07/92
Project ID : 30-0248
Purchase Order: 413644
Department : GC
Sub-Department: VOA

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9201032- 1	MW-2	WATER	01/06/92	8010

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

mh/3426 - 10MH

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 601/8010
ANAMETRIX, INC. (408)432-8192

Project ID : 30-0248
Sample ID : MW-2
Matrix : WATER
Date Sampled : 1/ 6/92
Date Analyzed : 1/ 8/92
Instrument ID : HP14

Anametrix ID : 9201032-01
Analyst : KE
Supervisor : CP

Dilution Factor : 1.00
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	.50	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	1.0	ND	U
110-75-8	Chloroethylvinl	.50	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	1.0	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			

ORGANIC ANALYSIS DATA SHEET -- EPA METHOD 601/8010
ANAMETRIX, INC. (408)432-8192

Project ID : 30-024
Sample ID : VBLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed : 1/ 8/92
Instrument ID : HP14

Anametrix ID : 14B0108H01
Analyst : KK
Supervisor : CP

Dilution Factor : 1.00
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	.50	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 601/8010
ANAMETRIX, INC. (408)432-8192

Project ID : 30-0248
Matrix : LIQUID

Anametrix ID : 9201032
Analyst : KK
Supervisor : CP

	SAMPLE ID	SU1	TOTAL OUT
1	VBLANK	101	0
2	MW-2	87	0
3			
4			
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 = Surrogate	(51-136)

* Values outside of Anametrix QC limits

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

MR. BRADY NAGLE
ALTON GEOSCIENCE
1000 BURNETT AVE, SUITE 140
CONCORD, CA 94520

Workorder # : 9201032
Date Received : 01/07/92
Project ID : 30-0248
Purchase Order: 413644
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9201032- 1	MW-2	WATER	01/06/92	TPHd
9201032- 1	MW-2	WATER	01/06/92	TPHg/BTEX
9201032- 2	MW-7	WATER	01/06/92	TPHg/BTEX
9201032- 3	MW-9	WATER	01/06/92	TPHg/BTEX
9201032- 4	MW-6	WATER	01/06/92	TPHg/BTEX
9201032- 5	MW-4	WATER	01/06/92	TPHg/BTEX
9201032- 6	MW-3	WATER	01/06/92	TPHg/BTEX
9201032- 7	MW-8	WATER	01/06/92	TPHg/BTEX

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

MR. BRADY NAGLE
ALTON GEOSCIENCE
1000 BURNETT AVE, SUITE 140
CONCORD, CA 94520

Workorder # : 9201032
Date Received : 01/07/92
Project ID : 30-0248
Purchase Order: 413644
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Balmer 1/21/92
Department Supervisor Date

Chemist 1.21.92
Date

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

Anametrix W.O.: 9201032
Matrix : WATER
Date Sampled : 01/06/92

Project Number : 30-0248
Date Released : 01/21/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-2 -01	Sample I.D.# MW-7 -02	Sample I.D.# MW-9 -03	Sample I.D.# MW-6 -04	Sample I.D.# MW-4 -05
Benzene	0.5	ND	170	ND	ND	0.8
Toluene	0.5	ND	ND	ND	ND	3.2
Ethylbenzene	0.5	ND	24	ND	ND	1.9
Total Xylenes	0.5	ND	23	0.9	1.6	7.7
TPH as Gasoline	50	ND	1100	ND	ND	480
% Surrogate Recovery		118%	104%	107%	110%	103%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		01/14/92	01/15/92	01/14/92	01/15/92	01/15/92
RLMF		1	5	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 1.22.92 Date

Supervisor Cheryl Balmer 1/22/92 Date

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

Anametrix W.O.: 9201032
Matrix : WATER
Date Sampled : 01/06/92

Project Number : 30-0248
Date Released : 01/21/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-3 -06	Sample I.D.# MW-8 -07	Sample I.D.# 04B0114D BLANK	Sample I.D.# 04B0115E BLANK
Benzene	0.5	6.1	ND	ND	ND
Toluene	0.5	1.0	ND	ND	ND
Ethylbenzene	0.5	6.1	ND	ND	ND
Total Xylenes	0.5	7.1	ND	ND	ND
TPH as Gasoline	50	580	ND	ND	ND
% Surrogate Recovery		104%	111%	92%	104%
Instrument I.D.		HP4	HP4	HP4	HP4
Date Analyzed		01/15/92	01/15/92	01/14/92	01/15/92
RLMF		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 1.21.92 Date

Supervisor Cheryl Balmer 1/21/92 Date

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

Anametrix W.O.: 9201032
Matrix : WATER
Date Sampled : 01/06/92
Date Extracted: 01/08/92

Project Number : 30-0248
Date Released : 01/21/92
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9201032-01	MW-2	01/09/92	50	ND
DWBL010992	METHOD BLANK	01/09/92	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 50ug/L.
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 1.21.92 Date

Supervisor 1/21/92 Date

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

Sample I.D.	: 30-0248 MW-3	Anametrix I.D.	: 9201032-06
Matrix	: WATER	Analyst	: CF
Date Sampled	: 01/06/92	Supervisor	:
Date Analyzed	: 01/15/92	Date Released	: 01/21/92
		Instrument ID	: HP4

COMPOUND	SPIKE AMT. (ug/L)	MS (ug/L)	REC MS	MSD (ug/L)	REC MSD	RPD	%REC LIMITS
Benzene	20.0	19	93%	18	91%	-1%	46-149
Toluene	20.0	20	101%	20	101%	0%	43-146
Ethylbenzene	20.0	18	92%	18	92%	1%	51-138
M+P-Xylenes	13.3	12	87%	12	87%	0%	39-161
O-Xylene	6.7	6.9	88%	7.0	105%	1%	37-156
P-BFB			110%		116%		53-147%

* Limits established by Anametrix, Inc.

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

MR. BRADY NAGLE
ALTON GEOSCIENCE
1000 BURNETT AVE, SUITE 140
CONCORD, CA 94520

Workorder # : 9201032
Date Received : 01/07/92
Project ID : 30-0248
Purchase Order: 413644
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9201032- 1	MW-2	WATER	01/06/92	5520BF

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

MR. BRADY NAGLE
ALTON GEOSCIENCE
1000 BURNETT AVE, SUITE 140
CONCORD, CA 94520

Workorder # : 9201032
Date Received : 01/07/92
Project ID : 30-0248
Purchase Order: 413644
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for sample.

Department Supervisor 1/17/92 Date

Chemist 1/17/92 Date

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

Project #	: 30-0248	Anametrix I.D.	: 9201032
Matrix	: WATER	Analyst	: EY
Date sampled	: 01/06/92	Supervisor	: [illegible]
Date ext. TOG	: 01/10/92	Date released	: 01/17/92
Date anl. TOG	: 01/10/92		

Workorder #	Sample I.D.	Reporting Limit (mg/L)	Amount Found (mg/L)
9201032-01	MW-2	5	ND
GWBL011092	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 MATRIX SPIKE REPORT
STANDARD METHOD 5520BF
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : METHOD SPIKE
Matrix : WATER
Date sampled : N/A
Date extracted : 01/10/92
Date analyzed : 01/10/92

Anametrix I.D. : SPK011092
Analyst : EF
Supervisor : CB
Date Released : 01/17/92

COMPOUND	SPIKE AMT. (mg/L)	MS (mg/L)	%REC MS	MSD (mg/L)	%REC MSD	%RPD	%REC LIMITS
Motor Oil	50	36	72%	36	72%	0%	47-99%

* Quality control limits established by Anametrix, Inc.

ALTON GEOSCIENCE
1000 BURNETT ST., #140
CONCORD, CA 94520 (415) 682-1582

CHAIN of CUSTODY RECORD

9201132

PAGE 1 of 1

DATE: 1-7-92

RESULTS DUE BY: NORMAL T.A.

PROJECT NUMBER: 30-0248

PROJECT NAME AND ADDRESS: BP ST.# 11109, 4280 FOOTHILL BLVD.

PROJECT MANAGER: BRADY NAGLE

SAMPLER'S SIGNATURE: David J. Buck

LABORATORY: ANAMETRIX

REMARKS OR SPECIAL INSTRUCTIONS:

NOTE: PLEASE INDICATE VERBAL REQUESTS FOR ADDITIONAL ANALYSES IN THIS BOX.

	SAMPLE NUMBER	SAMPLE DATE/TIME	LOCATION/ DESCRIPTION	SAMPLE MATERIAL	SAMPLE TYPE: GRAB	SAMPLE TYPE: COMP.	NUMBER OF CONTAINERS	SAMPLE PREP. 3510: SOLV. EXTR.	SAMPLE PREP. 3810: HEAD SPACE	SAMPLE PREP. 5030: PURGE & TRAP	SOIL ANALYSIS 418.1: TPHC (IR)	SOIL ANALYSIS 8010: HALOCARBONS	SOIL ANALYSIS 8020: BTXE	SOIL ANALYSIS DHS METHOD: TPHC (GC)	SOIL ANALYSIS 7420: TOTAL Pb	WATER ANALYSIS ~~418.1: TPHC (IR)~~ TOG 552 DBE	WATER ANALYSIS 601: HALOCARBONS	WATER ANALYSIS ~~602~~ BTXE/TPH-G	WATER ANALYSIS DHS METHOD: TPHC (GC)	WATER ANALYSIS 7421: TOTAL Pb	WATER ANALYSIS TPH-D
1	MW-2	1-6/2:20	BP/OAK	WATER		X	8		ONE VOA WITH BUBBLE							X	X	X			X
2	MW-7	1-6/8:10	BP/OAK	WATER		X	3											X			
3	MW-9	1-6/5:10	BP/OAK	WATER		X	3											X			
4	MW-6	1-6/9:00	BP/OAK	WATER		X	3											X			
5	MW-4	1-6/5:30	BP/OAK	WATER		X	3		ONE VOA WITH BUBBLE									X			
6	MW-3	1-6/6:30	BP/OAK	WATER		X	3											X			
7	MW-8	1-6/9:30	BP/OAK	WATER		X	3		ONE VOA WITH BUBBLE									X			
							TOTAL NO. OF CONTAINERS:	26	ALL OTHER SAMPLES COLD PROPER CONTAINERS NO BUBBLES												

RELINQUISHED BY: David J. Buck	RECEIVED BY: Calvin Robinson	DATE/TIME: 1-7-92 1710	METHOD OF SHIPMENT:
RELINQUISHED BY:	RECEIVED BY:	DATE/TIME:	SHIPPED BY:
RELINQUISHED BY:	RECEIVED BY:	DATE/TIME:	COURIER:

APPENDIX B

WATER SAMPLING FORMS
AND
LABORATORY REPORTS AND CHAIN OF CUSTODY RECORDS

APRIL 8, 1992 QUARTERLY SAMPLING EVENT PERFORMED BY ALISTO ENGINEERING GROUP

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: 10-005
Location: 11109
Date: 4-8-92

WELL PURGING

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

Total Depth of Well (BOW) 30.02' Initial Water level: 18.86 Time: 2:00
Total Volume Purged: 12 Time Elapsed: 10
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:

30.02 (total depth) − 18.86' (water level) = 11.16 × .163 (Well Vol. Fac.) = 1.8 × 3 (# of vol. to purge) = 5.5 gallons (calculated purge volume)

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

PARAMETER EQUIPMENT CALIBRATION:

pH meter # 9112 Time: 10:00 Solution pH 4.00 4.0 at 75 °C pH 10.00 ____ at ____ °C
Other solution: 7.0 - 7.0 at 75 °C
Conductivity meter # 9112 Time: 10:00

Water Level Meter # 10337

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)
0				
3	3:27	75.6	7.67	1.02
6	3:30	70.1	6.71	1.03
9	3:33	70.3	6.43	1.07
12	3:37	70.2	6.45	1.05

SAMPLING METHOD: Time Sampled: 3:40
☒ ~~Bailer~~ DISP PVC ☐ Bladder Pump ☐ Other

COMMENTS:

SAMPLES COLLECTED INCLUDING QC SAMPLES			
ANALYSIS REQUIRED	No. of	Container type	Preservatives
EPA 8240			
EPA ~~602~~ 601	3	VOA's	
EPA 8010/8020			
TPH-G/BTEX	3	VOA's	HCl
METALS:			
INORGANICS:			
TOG 552.0B4	2	Ambers	H_2SO_4
TPH-Diesel	2	Ambers	

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: 10-005
Location: BP No 11109
Date: 4-8-92

WELL PURGING

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

Total Depth of Well (BOW) 32.1' Initial Water level: 15.04 Time:
Total Volume Purged: 35 Time Elapsed: 20
Water Level after purging: NM Time:

Purge Volume:

32.1' (total depth) − 15.04' (water level) = 17.06' × .653 (Well Vol. Fac.) = 11.14 × 3 (# of vol. to purge) = 33.4 gallons (calculated purge volume)

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 METHOD ☐ Honda Pump ☐ Bailer ☐ Dedicated Pump ☐ Other

PARAMETER EQUIPMENT CALIBRATION:

pH meter #9112 Time: 10:00 Solution pH 4.00 4.0 at 75 °C pH 10.00 ____ at ____ °C
Other solution: 7.0 - 7.0 at 75 °C
Conductivity meter # 9112 Time: 10:00

Water Level Meter # 10337

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. F	pH	Cond. (umhos/cm)
0				
7	11:25	75.6	7.91	1.17
14	11:30	72.6	7.95	1.02
21	11:35	72.9	7.92	1.01
28	11:40	72.9	7.92	0.99
35	11:45	72.9	7.92	0.97

SAMPLING METHOD: Time Sampled: 12:00
☒ PVC Bailer ☐ Bladder Pump ☐ Other DISP.

COMMENTS:

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: MW-4

Well Type: ☒ Monitor ☐ Extraction ☐ Other:

Well Material: ☒ PVC ☐ Steel ☐ Other

Sampled By: DAN BIRCH

Job Number: 10-005
Location: BP 11109
Date: 4-8-92

WELL PURGING

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

Total Depth of Well (BOW) 26.8' Initial Water level: 17.13 Time: 1:00

Total Volume Purged: 20 Time Elapsed:

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:

26.8' (total depth) − 17.13 (water level) = 9.67 × .653 (Well Vol. Fac.) = 6.3 × 3 (# of vol. to purge) = 18.9 gallons (calculated purge volume)

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

PARAMETER EQUIPMENT CALIBRATION:

pH meter #9112 Time: 10:00 Solution pH 4.00 4.0 at 75 °C pH 10.00 at °C
Other solution: 7.0 - 7.0 at 75 °C
Conductivity meter # 9112 Time: 10:00

Water Level Meter # 10337

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)
0				
5	12:30	80.6	7.82	1.09
10	12:37	75.7	7.91	1.75
15	12:45	76.1	7.81	1.63
20	12:55	76.2	7.81	1.62

SAMPLING METHOD: Time Sampled: 1:00
☒ Bailer PVC DISP. ☐ Bladder Pump ☐ Other

COMMENTS:

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: MW-5

Well Type: ☒ Monitor ☐ Extraction ☐ Other:_____

Well Material: ☒ PVC ☐ Steel ☐ Other_____

Sampled By:_____

Job Number: 10-005
Location: BP 11109
Date: 4-8-92

WELL PURGING

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

Total Depth of Well (BOW)_____ Initial Water level : 13.17' Time: _____

Total Volume Purged: _____ Time Elapsed: _____

Water Level after purging: _____ Time: _____

Purge Volume:

_____ (total depth) – _____ (water level) = _____ X _____ (Well Vol. Fac.) = _____ X _____ (# of vol. to purge) = _____ gallons (calculated purge volume)

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 METHOD ☐ Honda Pump ☐ Bailer ☐ Dedicated Pump ☐ Other_____

PARAMETER EQUIPMENT CALIBRATION :

pH meter #_____ Time:_____ Solution pH 4.00_____at_____°C pH 10.00_____ at _____°C
Other solution:_____ - _____ at _____°C

Conductivity meter #_____Time: _____

Water Level Meter #_____

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)
0				

SAMPLING METHOD: Time Sampled:_____

☐ Bailer ☐ Bladder Pump ☐ Other _____

COMMENTS:

Not sampled because of 0.01' product. Bailed 5 gallons.

SAMPLES COLLECTED INCLUDING QC SAMPLES			
ANALYSIS REQUIRED	No. of	Container type	Preservatives
EPA 8240			
EPA 8270			
EPA 8010/8020			
TPH -			
METALS:			
INORGANICS:			

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

GROUND-WATER SAMPLING FORM

Well Number: MW-6

Well Type: ☒ Monitor ☐ Extraction ☐ Other:

Well Material: ☒ PVC ☐ Steel ☐ Other

Sampled By: DAN Birch

Job Number: 10-005
Location: BP 11109
Date: 4-8-92

WELL PURGING

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

Total Depth of Well (BOW) 34.6' Initial Water level: 17.06 Time: 1:50

Total Volume Purged: 35 Time Elapsed:

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:

34.6' (total depth) − 17.06 (water level) = 17.54 × .653 (Well Vol. Fac.) = 11.5 × 3 (# of vol. to purge) = 34.5 gallons (calculated purge volume)

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

PARAMETER EQUIPMENT CALIBRATION:

pH meter #9112 Time 10:00 Solution pH 4.00 4.0 at 75 °C pH 10.00 at °C
Other solution: 7.0 - 7.0 at 75 °C

Conductivity meter # 9112 Time: 10:00

Water Level Meter # 10337

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)
0				
10	1:50	79.6	7.61	1.17
15	2:00	77.1	7.72	1.09
20	2:30	78.5	7.69	1.11
30	2:40	77.2	7.68	1.08
35	2:45	77.3	7.67	1.06

← STOP PUMPING ALLOW Recharge.

SAMPLING METHOD: Time Sampled: 3:00
☐ PVC Bailer ☐ Bladder Pump ☐ Other DISP

COMMENTS: Pumped down to 31' @ 15 gallons allowed to recharge.

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: MW-7

Well Type: ☒ Monitor ☐ Extraction ☐ Other:

Well Material: ☒ PVC ☐ Steel ☐ Other

Sampled By: Dan Burt

Job Number: 10-095

Location: BP No 11107

Date: 4-[illegible]

WELL PURGING

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

Total Depth of Well (BOW) 33.7' Initial Water level: 12.77 Time:

Total Volume Purged: 50 Time Elapsed: 30

Water Level after purging: NM Time:

Purge Volume:

33.7 (total depth) − 12.77 (water level) = 20.93 × 1.47 (Well Vol. Fac.) = 30.8 × 3 (# of vol. to purge) = 92.3 gallons (calculated purge volume)

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 METHOD ☒ Honda Pump ☐ Bailer ☐ Dedicated Pump ☐ Other

PARAMETER EQUIPMENT CALIBRATION:

pH meter # 9112 Time: 10:00 Solution pH 4.00 4.0 at 75 °C pH 10.00 ____ at ____ °C

Other solution: 7.0 - 7.0 at 75° °C

Conductivity meter # 9112 Time: 10:00

Water Level Meter # 10337

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. °F	pH	Cond. (umhos/cm)
0				
10	10:07	80.6	8.17	1.07
20	10:15	77.9	7.65	0.95
40	10:25	77.6	7.69	0.92
50	10:30	77.6	7.68	0.93

SAMPLING METHOD: Time Sampled: 11:00

☒ Bailer (N.C. Disp.) ☐ Bladder Pump ☐ Other

COMMENTS:

Purged dry at 50 gallons. Allowed to recharge before sampling at 11:00

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: MW-8

Well Type: ☒ Monitor ☐ Extraction ☐ Other:_____

Well Material: ☒ PVC ☐ Steel ☐ Other_____

Sampled By: Dan Birch

Job Number: 10-005
Location: BD 11109
Date: 4-8-92

WELL PURGING

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

Total Depth of Well (BOW) 29.6' Initial Water level: 16.57' Time: _____

Total Volume Purged: 10 Time Elapsed: 15

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:

29.6 (total depth) − 16.57 (water level) = 13.03 × .163 (Well Vol. Fac.) = 2.12 × 3 (# of vol. to purge) = 6.37 gallons (calculated purge volume)

PURGE METHOD ☐ Honda Pump ☐ Bailer ☐ Dedicated Pump ☐ Other_____

PARAMETER EQUIPMENT CALIBRATION:

pH meter #9112 Time: 10:00 Solution pH 4.00 4.0 at 75 °C pH 10.00_____ at _____°C
Other solution: 7.0 - 7.0 at 75 °C
Conductivity meter # 9112 Time: 10:00

Water Level Meter # 10337

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)
0				
3	3:57	75.6	8.17	2.77
6	4:04	71.1	8.21	2.16
9	4:09	69.6	8.23	2.01
10	4:12	69.6	8.27	2.01

SAMPLING METHOD: Time Sampled: 4:15
☒ PVC Bailer ☐ Bladder Pump ☐ Other _____
COMMENTS:

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: MW-9

Well Type: ☒ Monitor ☐ Extraction ☐ Other:

Well Material: ☒ PVC ☐ Steel ☐ Other

Sampled By: DAN BIRCL

Job Number: 10-005
Location: BP11109
Date: 4-8-92

WELL PURGING

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

Total Depth of Well (BOW) 29.6 Initial Water level : 12.25 Time:

Total Volume Purged: 12 Time Elapsed:

Water Level after purging: Time:

Purge Volume:

29.6 (total depth) − 12.25 (water level) = 17.35 × .163 (Well Vol. Fac.) = 2.8 × 3 (# of vol. to purge) = 8.4 gallons (calculated purge volume)

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 METHOD ☒ Honda Pump ☐ Bailer ☐ Dedicated Pump ☐ Other

PARAMETER EQUIPMENT CALIBRATION:

pH meter #9112 Time: 10:00 Solution pH 4.00 4.0 at 75 °C pH 10.00 at °C
Other solution: 7.0 - 7.0 at 75 °C

Conductivity meter # 9112 Time: 10:00

Water Level Meter # 10337

WELL SAMPLING PARAMETERS:

Gallons Removed	Time	Temp. C	pH	Cond. (umhos/cm)
0				
3	4:29	77.9	8.09	1.01
6	4:33	76.5	7.75	.65
9	4:38	67.9	7.72	.67
12	4:42	67.8	7.73	.69

SAMPLING METHOD: Time Sampled: 4:45

☒ PVC Bailer, DISP. ☐ Bladder Pump ☐ Other

COMMENTS:

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:			

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 # : 9204132
Date Received : 04/08/92
Project ID : 10-005
Purchase Order: N/A

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

ANAMETRIX ID	CLIENT SAMPLE ID
9204132- 1	MW-7
9204132- 2	MW-3
9204132- 3	MW-4
9204132- 4	MW-2
9204132- 5	MW-8
9204132- 6	MW-9
9204132- 7	MW-6

This report consists of 17 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.

Sarah Schoen, Ph.D.
Laboratory Director

4-22-92
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
LISTO ENGINEERING GROUP
000 BURNETT AVENUE, SUITE 150
CONCORD, CA 94520

Workorder # : 9204132
Date Received : 04/08/92
Project ID : 10-005
Purchase Order: N/A
Department : GC
Sub-Department: VOA

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9204132- 4	MW-2	WATER	04/08/92	601

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

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

Workorder # : 9204132
Date Received : 04/08/92
Project ID : 10-005
Purchase Order: N/A
Department : GC
Sub-Department: VOA

QA/QC SUMMARY :

- No QA/QC problems encountered for this sample.

Corinne Rham 4/20/92
Department Supervisor Date

Kamel G. Kamel 4/20/92
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 601/8010
ANAMETRIX, INC. (408)432-8192

Project ID : 10-005
Sample ID : MW-2
Matrix : WATER
Date Sampled : 4/ 8/92
Date Analyzed : 4/17/92
Instrument ID : HP14

Anametrix ID : 9204132-04
Analyst : KK
Supervisor : CP

Dilution Factor : 1.00
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 601/8010
ANAMETRIX, INC. (408)432-8192

Project ID : 10-005
Sample ID : VBLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed : 4/17/92
Instrument ID : HP14

Anametrix ID : 14B0417H01
Analyst : KK
Supervisor : CP
Dilution Factor : 1.00
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 601/8010
ANAMETRIX, INC. (408)432-8192

Project ID : 10-005
Matrix : LIQUID

Anametrix ID : 9204132
Analyst : kk
Supervisor : CP

	SAMPLE ID	SU1	TOTAL OUT
1	VBLANK	90	0
2	MW-2	100	0
3			
4			
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

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

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

Workorder # : 9204132
Date Received : 04/08/92
Project ID : 10-005
Purchase Order: N/A
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9204132- 4	MW-2	WATER	04/08/92	TPHd
9204132- 1	MW-7	WATER	04/08/92	TPHg/BTEX
9204132- 2	MW-3	WATER	04/08/92	TPHg/BTEX
9204132- 3	MW-4	WATER	04/08/92	TPHg/BTEX
9204132- 4	MW-2	WATER	04/08/92	TPHg/BTEX
9204132- 5	MW-8	WATER	04/08/92	TPHg/BTEX
9204132- 6	MW-9	WATER	04/08/92	TPHg/BTEX
9204132- 7	MW-6	WATER	04/08/92	TPHg/BTEX

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

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

Workorder # : 9204132
Date Received : 04/08/92
Project ID : 10-005
Purchase Order: N/A
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Bulmer 4/21/92
Department Supervisor Date

Reggie Davison 4/21/92
Chemist Date

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

Anametrix W.O.: 9204132
Matrix : WATER
Date Sampled : 04/08/92

Project Number : 10-005
Date Released : 04/21/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-7 -01	Sample I.D.# MW-3 -02	Sample I.D.# MW-4 -03	Sample I.D.# MW-2 -04	Sample I.D.# MW-8 -05
Benzene	0.5	150	30	ND	ND	ND
Toluene	0.5	ND	4.6	ND	ND	ND
Ethylbenzene	0.5	23	32	ND	ND	ND
Total Xylenes	0.5	9.9	11	ND	ND	ND
TPH as Gasoline	50	750	1100	ND	ND	ND
% Surrogate Recovery		102%	88%	101%	100%	97%
Instrument I.D.		HP4	HP4	HP4	HP4	HP4
Date Analyzed		04/15/92	04/15/92	04/15/92	04/15/92	04/15/92
RLMF		5	5	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.

Reggie Davison 4/21/92
Analyst Date

Cheryl Bauman
Supervisor Date

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

Anametrix W.O.: 9204132
Matrix : WATER
Date Sampled : 04/08/92

Project Number : 10-005
Date Released : 04/21/92

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-9 -06	Sample I.D.# MW-6 -07	Sample I.D.# 04B0415A BLANK
Benzene	0.5	ND	0.6	ND
Toluene	0.5	ND	ND	ND
Ethylbenzene	0.5	ND	0.8	ND
Total Xylenes	0.5	ND	ND	ND
TPH as Gasoline	50	ND	ND	ND
% Surrogate Recovery		96%	94%	103%
Instrument I.D.		HP4	HP4	HP4
Date Analyzed		04/15/92	04/15/92	04/15/92
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.

Reggie Davison 4/21/92
Analyst Date

Cheryl Balmer 4/21/92
Supervisor Date

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

Anametrix W.O.: 9204132
Matrix : WATER
Date Sampled : 04/08/92
Date Extracted: 04/14/92

Project Number : 10-005
Date Released : 04/21/92
Instrument I.D.: HP23

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)
9204132-04	MW-2	04/16/92	50	63
DWBL041492	METHOD BLANK	04/15/92	50	ND

Note : Reporting limit is obtained by multiplying the dilution factor times 50ug/L.
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.

Reggie Davison 4/21/92
Analyst Date

Cheryl Bateman 4/21/92
Supervisor Date

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

Sample I.D. : 10-005 MW-8
Matrix : WATER
Date Sampled : 04/08/92
Date Analyzed : 04/15/92

Anametrix I.D.: 9204132-05
Analyst : RD
Supervisor : CB
Date Released : 04/21/92
Instument ID : HP4

COMPOUND	SPIKE AMT. (ug/L)	MS (ug/L)	REC MS	MSD (ug/L)	REC MSD	RPD	%REC LIMITS
Benzene	20	15.0	75%	16.0	80%	6%	46-149
Toluene	20	15.0	75%	16.0	80%	6%	43-146
Ethylbenzene	20	15.0	75%	16.0	80%	6%	51-138
M+P-Xylenes	13.3	10.0	75%	11.0	83%	10%	39-161
O-Xylene	6.7	5.0	75%	5.2	78%	4%	37-156
P-BFB			100%		99%		53-147

* Limits established by Anametrix, Inc.

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: 04/14/92
Date Analyzed : 04/15/92

Anametrix I.D. : SPK0414A
Analyst : RD
Supervisor : CB
Date Released : 04/21/92
Instrument I.D.: HP23

COMPOUND	SPIKE AMT. (ug/L)	MS (ug/L)	%REC MS	MSD (ug/L)	%REC MSD	RPD	%REC LIMITS
Diesel	1250	1690	135%	1690	135%	0%	36-150

* Limits established by Anametrix, Inc.

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

R. BRADY NAGLE
LISTO ENGINEERING GROUP
1000 BURNETT AVENUE, SUITE 150
CONCORD, CA 94520

Workorder # : 9204132
Date Received : 04/08/92
Project ID : 10-005
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

SAMPLE INFORMATION:

NAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
204132- 4	MW-2	WATER	04/08/92	5520BF

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

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

Workorder # : 9204132
Date Received : 04/08/92
Project ID : 10-005
Purchase Order: N/A
Department : PREP
Sub-Department: PREP

QA/QC SUMMARY :

- No QA/QC problems encountered for sample.

QC Brad 4/21/92
Department Supervisor Date

CRPatel 04-20-92
Chemist Date

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

roject # : 10-005
a rix : WATER
a e sampled : 04/08/92
ate ext. TOG : 04/14/92
ate anl. TOG : 04/14/92

Anametrix I.D. : 9204132
Analyst : ARR
Supervisor : CeB
Date released : 04/20/92

orkorder #	Sample I.D.	Reporting Limit (mg/L)	Amount Found (mg/L)
9204132-04	MW-2	5	ND
GWBL041492	METHOD BLANK	5	ND

N - 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.

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

(16) (2) 9204132 10/30

CHAIN-OF-CUSTODY RECORD

PROJECT NUMBER	PROJECT NAME
10-005	BP No. 11109

Send Report Attention of:	Report Due	Verbal Due
BRADY NAGLE	/ /	/ /

	Sample Number	Date	Time	Comp	Matrix	Station Location	Number of Cntnrs	Type of Containers	Type of Analysis: TPH-GIBTEX	EPA 601	TO-5 5520 BF	TPH-Diesel	Condition of Samples	Initial
1	MW-7	4/8/92	11:00		WATER		3	VOA's	X				Cool	
2	MW-3	" "	12:00		"		3	VOA's	X					
3	MW-4	" "	1:00		"		3	VOA's	X					
4	MW-2	" "	3:40		"		10	VOA's AMBERS	X	X	X	X		
5	MW-8	" "	4:15		"		3	VOA's	X					
6	MW-9	" "	4:45		"		3	VOA's	X					
7	MW-6	" "	3:00		"		3	VOA's	X					

Relinquished by:(Signature)	Date/Time	Received by: (Signature)	Date/Time
D J Burl	4/8 6:30	Josephine DeCarli	4/8/92 18:30
Relinquished by:(Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by:(Signature)	Date/Time	Received by Lab:	Date/Time

Remarks: 1280 FOOTHILL BLVD, OAKLAND

COMPANY: ALISTO ENGINEERING
ADDRESS: 1000 BURNETT AVE STE 150 CONCORD
PHONE : 510 798 4010 FAX :