Weiss Associates Environmental and Geologic Services

5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: **510-547-5420**

ALCO HAZMAT

94 JAN 31 PM 2:46

January 10, 1994

Juliet Shin
Alameda County Department of
Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621-1426

Re: Shell Service Station
WIC #204-0072-0502
2160 Otis Drive
Alameda, California
WA Job #81-429-203

Dear Ms. Shin:

This letter describes recently completed and anticipated activities at the Shell service station referenced above (Figure 1). This status report satisfies the quarterly reporting requirements prescribed by California Administrative Code Title 23 Waters, Chapter 3, Subchapter 16, Article 5, Section 265.d. Included below are descriptions and results of activities performed in the fourth quarter 1993 and proposed work for the first quarter 1994.

Fourth Quarter 1993 Activities:

- Blaine Tech Services, Inc., (BTS) of San Jose, California measured depths to ground water in the three site wells and collected ground water samples from one of the three site wells. Wells MW-1 and S-1 are sampled annually during the first quarter and were not sampled this quarter. BTS' report describing these sampling activities and including the laboratory analytic report for ground water samples is included as Attachment A.

- Weiss Associates (WA) compiled the ground water elevation data (Table 1) and the laboratory analytic results (Tables 2A and 2B) and prepared a ground water elevation contour map (Figure 2).

- WA requested that the analytical laboratory review the chromatograms for the MW-2 Total Petroleum Hydrocarbons as Gasoline (TPH-G) analytic results from July 1992 to October 1993. The Laboratory reported that all positive results for TPH-G included discrete peaks not indicative of gasoline.

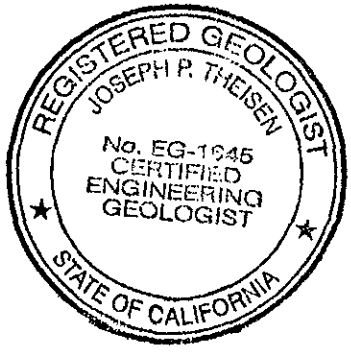
Anticipated First Quarter 1994 Activities:

WA will submit a report presenting the results of the first quarter 1994 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results, ground water elevations and a ground water elevation contour map.

Conclusions and Recommendations

- The ground water flow direction has shifted from the north to the northeast since the third quarter 1993.
- Hydrocarbon and volatile organic compound (VOC) concentrations are consistent with previous results.

Please call if you have any questions.



Sincerely,
Weiss Associates

Malieka Bundy
Technical Assistant

Joseph P. Theisen, C.E.G.
Senior Hydrgeologist

MB/JPT:mb
J:\SHELL\425\QMRPTS\429QMNO3.WP
Attachments: Figures
Tables
A - BTS's Ground Water Monitoring Report

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, CA 94520
Tom Callaghan, Water Quality Control Board, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, CA 94612

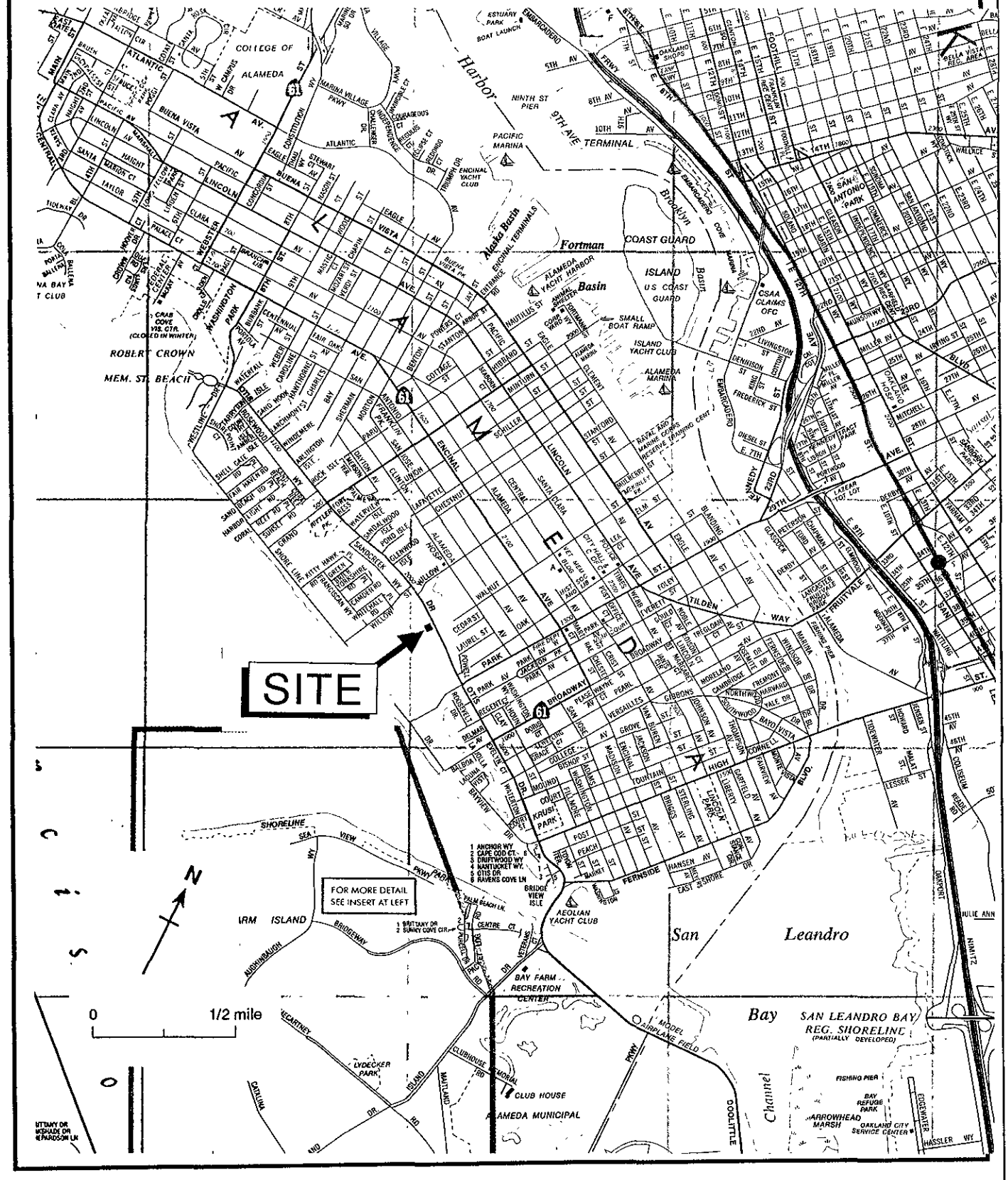


Figure 1. Site Location Map - Shell Service Station, WIC# 204-0072-0502, 2160 Otis Drive, Alameda, CA

8/21/90

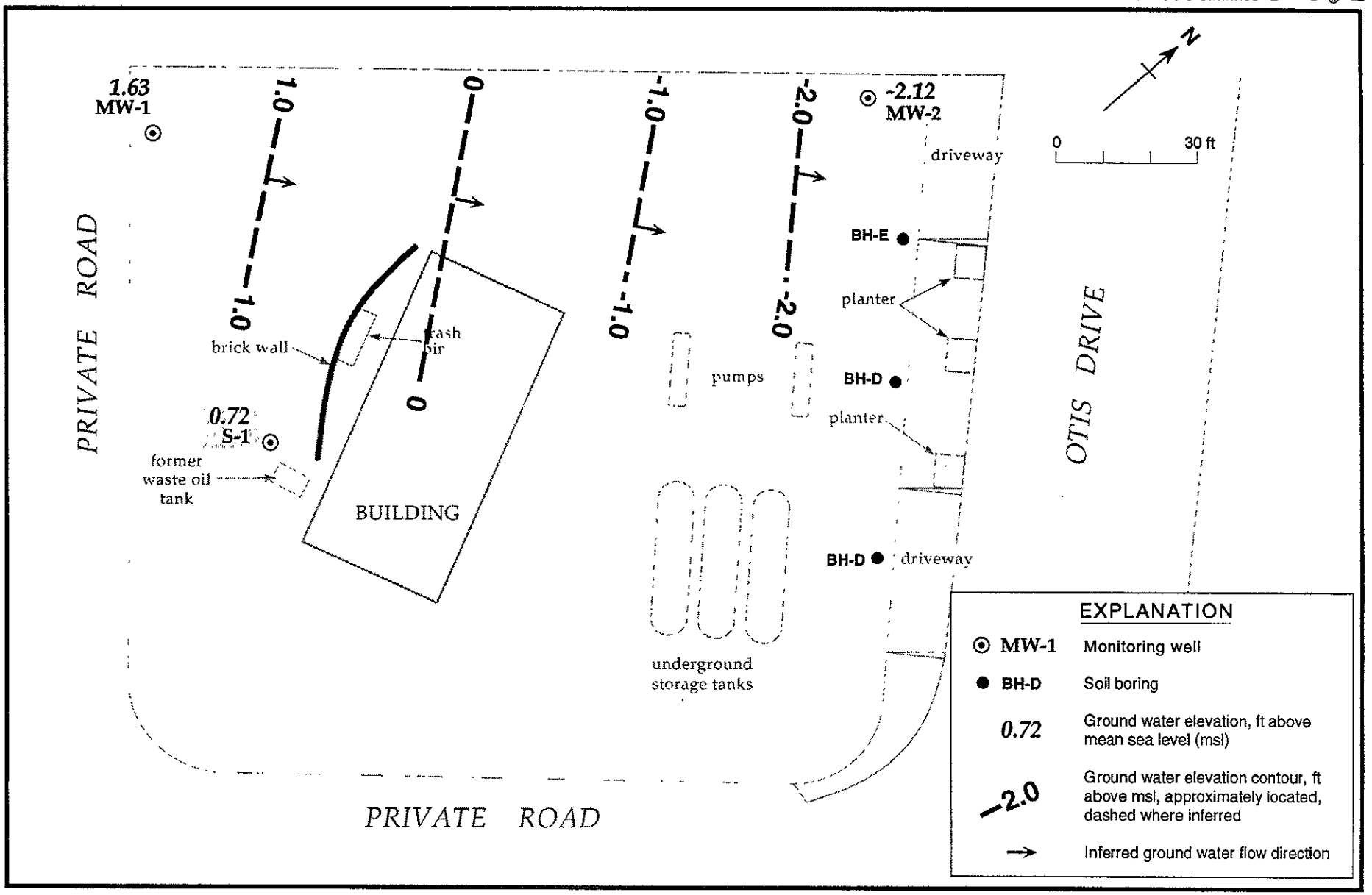


Figure 2. Monitoring Well Locations, Soil Boring Locations and Ground Water Elevation Contours - October 15, 1993
Shell Service Station WIC #204-0072-2160, 2160 Otis Drive, Alameda, California

Table 1. Ground Water Elevations - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MW-1	04/11/90	6.00	5.23	0.77
	07/10/90		5.40	0.60
	10/09/90		5.61	0.39
	01/17/91		5.66	0.34
	04/09/91		4.96	1.04
	07/10/91		5.52	0.48
	10/09/91		5.70	0.30
	01/24/92		5.51	0.49
	04/23/92		5.14	0.86
	07/01/92		4.48	1.52
	10/02/92		5.80	0.20
	01/05/93		5.34	0.66
	04/08/93		4.62	1.38
	07/20/93		5.20	0.80
	10/15/93		**4.37**	**1.63**
MW-2	04/11/90	3.29	4.51	-1.22
	07/10/90		4.61	-1.32
	10/09/90		4.74	-1.45
	01/17/91		4.73	-1.44
	04/09/91		4.09	-0.80
	07/10/91		4.66	-1.37
	10/09/91		4.81	-1.52
	01/24/92		4.66	-1.37
	04/23/92		4.51	-1.22
	07/01/92		4.57	-1.28
	10/02/92		4.80	-1.51
	01/05/93		4.39	-1.1
	04/08/93		4.15	-0.86
	07/20/93		4.40	-1.11
	10/15/93		**5.41**	**-2.12**
S-1	09/11/90	5.10	4.29	0.81
	04/11/90		4.00	1.10
	07/10/90		4.25	0.85
	10/09/90		4.46	0.64
	01/17/91		4.53	0.57
	04/09/91		4.20	0.90
	07/10/91		4.42	0.68
	10/09/91		4.87	0.23

-- Table 1 continues on next page --

Table 1. Ground Water Elevations - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
	01/24/92		4.90	0.20
	04/23/92		4.66	0.44
	07/01/92		4.85	0.25
	10/02/92		4.80	0.30
	01/05/93		5.38	-0.28
	04/08/93		3.69	1.41
	07/20/93		4.20	0.90
	10/15/93		**4.38**	**0.72**

Table 2A. Analytic Results for Ground Water - Petroleum Hydrocarbons - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	TOG
			<----------parts per billion (µg/L)---------->						
S-1	09/04/87		---	---	<5	<5	<5	<5	---
(Annually	09/11/89[a]	4.29	<50	<100	<0.5	<1	<1	<3	<1,000
1st Qtr)	04/11/90	4.00	<50	<50	<0.5	<0.5	<0.5	<0.5	<10,000
	07/10/90	4.25	<90	---	<0.5	<0.5	<0.5	<0.5	<10,000
	10/09/90	4.46	<50	---	<0.5	<0.5	<0.5	<0.5	<5,000
	01/17/91	4.53	<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/09/91	4.20	<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/10/91	4.42	<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/09/91	4.87	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/24/92	4.90	<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/23/92	4.66	<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/01/92	4.85	<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/02/92	5.80	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/05/93	5.38	<50	---	<0.5	<0.5	<0.5	<0.5	---
MW-1	04/11/90	5.23	<50	<50	<0.5	<0.5	<0.5	<0.5	<10,000
(Annually	07/10/90	5.40	100	---	<0.5	<0.5	<0.5	<0.5	<10,000
1st Qtr)	10/09/90	5.61	<50	---	<0.5	<0.5	<0.5	<0.5	<5,000
	01/17/91	5.66	<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/09/91	4.96	<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/10/91	5.52	<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/09/91	5.70	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/24/92	5.51	<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/23/92	5.14	<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/01/92	4.48	<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/02/92	4.80	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/05/93	5.34	<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/05/93[dup]	5.34	<50	---	<0.5	<0.5	<0.5	<0.5	---
MW-2	04/11/90	4.51	200[b]	220	2.7	<0.5	0.5	2.4	<10,000
(Quarterly)	07/10/90	4.61	570[b]	450	150	<0.5	0.9	3.1	<10,000
	10/09/90	4.74	190[b]	51	55	<0.5	<0.5	<0.5	<5,000
	01/17/91	4.73	350[b]	<50	51	<0.5	<0.5	<0.5	---
	04/09/91	4.09	---	<50	21	<5	<5	<5	---
	07/10/91	4.66	50[b]	<50	8.4	<0.5	<0.5	<0.5	---
	10/09/91	4.81	150	---	22	<0.5	<0.5	<0.5	---
	01/24/92	4.66	<50	---	4.8	<0.5	<0.5	<0.5	---
	04/23/92	4.51	<50	---	2.3	1.5	<0.5	<0.5	---
	07/01/92	4.57	130[d]	---	19	<0.5	<0.5	<0.5	---
	10/02/92	4.80	120[d]	---	7.8	<0.5	<0.5	<0.8	---
	01/05/93	4.39	200[d]	---	9.0	<0.5	0.6	1.8	---
	04/08/93	4.15	170[d]	---	9.6	<0.5	<0.5	1.6	---

-- Table 2A continues on next page --

Table 2A. Analytic Results for Ground Water - Petroleum Hydrocarbons - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California (continued)

Well ID (Sampling Frequency)	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	B	E	T	X	TOG
			<----------parts per billion (µg/L)---------->						
	07/20/93	4.40	80[c]	---	16	1.3	1.4	6.1	---
	10/15/93	**4.38**	**400[d]**	**---**	**37**	**0.6**	**1.1**	**4.7**	**---**
BH-C	12/17/92	5.0	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---
BH-D	12/17/92	5.0	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---
BH-E	12/17/92	5.5	<50	<0.5	<0.5	<0.5	<0.5	<0.5	---
Trip Blank	07/10/90		<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/09/90		<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/17/91		<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/09/91		<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/10/91		<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/09/91		<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/24/92		<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/23/92		<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/01/92		<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/02/92		<50	---	<0.5	<0.5	<0.5	<0.5	---
	01/05/93		<50	---	<0.5	<0.5	<0.5	<0.5	---
	04/08/93		<50	---	<0.5	<0.5	<0.5	<0.5	---
	07/20/93		<50	---	<0.5	<0.5	<0.5	<0.5	---
	10/15/93		**<50**	**---**	**<0.5**	**<0.5**	**<0.5**	**<0.5**	**---**
DTSC MCLs			NE	NE	1	680	100[d]	1,750	---

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
TPH-D = Total petroleum hydrocarbons as diesel by Modified EPA Method 8015
B = Benzene by EPA Method 8020, or 8240
E = Ethylbenzene by EPA Method 8020, or 8240
T = Toluene by EPA Method 8020, or 8240
X = Xylenes by EPA Method 8020, or 8240
POG = Petroleum oil and grease by American Public Health Association Standard Methods 503
DTSC MCLs = Department of Toxic Substances Control maximum contaminant levels
<n = Not detected above detection limit of n ppb
NE = DTSC MCL not established
BH-C = Grab Ground Water Sample

Notes:

a = 0.090 ppm chromium, 0.090 ppm lead and 0.10 ppm Zn detected; no cadmium detected above detection limit of 0.010 ppm by EPA Method 6010. No semi-volatile organic compounds or PCBs detected by EPA Method 625. DHS MCLs for Cr = 0.05 ppm; Pb = 0.05 ppm; secondary MCL for Zn = 5 ppm.
b = Chromatographic pattern not typical for gasoline; the concentration is due mostly to lighter hydrocarbon compounds.
c = The concentration reported as gasoline is primarily due to the presence of discrete peaks not indicative of gasoline.
d = DTSC recommended action level for drinking water; MCL not established
e = The concentration reported as gasoline is partially due to the presence of discrete peaks not indicative of gasoline

Table 2B. Analytic Results for Ground Water - Volatile Organic Compounds - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, California

Well ID	Date Sampled	Depth to Water (ft)	TCE	TCA	PCE	Cloroform	cis-1,2-DCE	trans-1,2-DCE	1,2-DCA	Carbon Disulfate	Vinyl Chloride
			<----------Parts Per Billion (µg/l)---------->								
S-1	09/04/87[a]	---	---	---	---	---	---	---	---	---	---
	09/11/89	4.29	ND	ND	ND	ND	ND	ND	ND	ND	ND
	04/11/90	4.00	<0.4	<0.4	<0.4	1.7	<0.4	<0.4	<0.4	---	<0.4
	07/10/90	9.25	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	---	<2
	10/09/90	4.96	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2
MW-1	04/11/90	5.23	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	---	<0.4
	07/10/90	5.40	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	<0.4	---	<2
	10/09/90	5.61	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	---	<2
MW-2	04/11/90	4.51	1.2	<0.4	<0.4	4.5	<0.4	16	<0.4	---	<2
	07/10/90	4.61	0.93	<0.4	<0.4	1.7	<0.4	11	0.44	---	<2
	10/09/90	4.74	1.3	<0.5	1.6	15	46	6.7	<0.5	---	2.5
	01/17/91[b]	4.73	1.2	<0.5	0.6	2.6	74	12	0.5	---	3.0
	04/09/91	4.09	<5	<5	<5	<5	64	<5	<5	<0.5	<10
	07/10/91	4.66	<0.5	<0.5	6.9	43	<0.5	<0.5	<0.5	14	<10
	10/09/91	4.81	1.9	<1	28	7.4	54	16	<1	---	1.7
	01/24/92	4.66	2.5	<0.5	7.0	19	16	4.3	0.6	---	<0.5
	04/23/92	4.51	<3	<3	3.0	<3	84	18	<3	---	<3
	07/01/92	4.57	2.0	<1	2.0	<1	54	14	<1	---	1.0
	10/92/92	4.80	1.0	<1	<1	<1	61	12	<1	---	<1
	01/05/93	4.39	1.7	<0.5	2.2	<0.5	33	8.7	<0.5	---	.67
	04/08/93	4.15	1.3	<1	<1	<1	38	7.8	<1	---	<1
	07/20/93	4.40	2.4	<1	4.7	2.3	43	10	<0.5	---	<0.5
	10/15/93	4.38	<2.5	<2.5	<2.5	<2.5	110	25	<2.5	---	<2.5
BH-C	12/17/93	5.0	<2	<2	<2	<2	<2	<2	<2	---	2
BH-D	12/17/93	5.0	<2	<2	<2	<2	<2	<2	<2	---	2
BH-E	12/17/93	5.5	<2	<2	<2	<2	<2	<2	<2	---	2
DTSC MCLs			5	200	5	NE	6	10	0.5	NE	0.5

Abbreviations:

TCE = Trichloroethene by EPA Method 601/8010 or 8240
TCA = 1,1,1-Trichloroethane by EPA Method 601/8010 or 8240
PCE = Tetrachloroethene by EPA Method 601/8010 or 8240
cis-1,2-DCE = cis-1,2-Dichloroethene by EPA Method 601/8010 or 8240
trans-1,2-DCE = trans-1,2-Dichloroethene by EPA Method 601/8010 or 8240
--- = Not analyzed
<n = Not detected above detection limit of n ppb
1,2-DCA = 1,2 dichloroethane by EPA Method 601/8010 or 8240
DTCS MCLs = Department of Toxic Substance control maximum contaminant levels
NE = DTSC MCL not established
ND = Analyte not detected, detection limit not known

Notes:

a = 7.0 ppb unknown alcohol and 270 ppb acetone detected
b = 5.0 ppb chlorobenzene detected

ATTACHMENT A

BTS GROUND WATER MONITORING REPORT

BLAINE
TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 95133
(408) 995-5535
FAX (408) 293-8773

November 2, 1993

Shell Oil Company
P.O. Box 5278
Concord, CA 94520-9998

Attn: Daniel T. Kirk

SITE:
Shell WIC #204-0072-0502
2160 Otis Drive
Alameda, California

QUARTER:
4th quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 931015-J-1

This report contains data collected during routine inspection, gauging and sampling of groundwater monitoring wells performed by Blaine Tech Services, Inc. in reponse to the request of the consultant who is overseeing work at this site on behalf of our mutual client, Shell Oil Company. Data collected in the course of our field work is presented in a TABLE OF WELL GAUGING DATA. The field information was collected during our preliminary gauging and inspection of the wells, the subsequent evacuation of each well prior to sampling, and at the time of sampling.

Measurements taken include the total depth of the well and the depth to water. The surface of water was further inspected for the presence of immiscibles which may be present as a thin film (a sheen on the surface of the water) or as a measurable free product zone (FPZ). At intervals during the evacuation phase, the purge water was monitored with instruments that measure electrical conductivity (EC), potential hydrogen (pH), temperature (degrees Fahrenheit), and turbidity (NTU). In the interest of simplicity, fundamental information is tabulated here, while the bulk of the information is turned over directly to the consultant who is making professional interpretations and evaluations of the conditions at the site.

STANDARD PROCEDURES

Evacuation

Groundwater wells are thoroughly purged before sampling to insure that the sample is collected from water that has been newly drawn into the well from the surrounding geologic formation. The selection of equipment to evacuate each well is based on the physical characteristics of the well and what is known about the performance of the formation in which the well has been installed. There are several suitable devices which can be used for evacuation. The most commonly employed devices are air or gas actuated pumps, electric submersible pumps, and hand or mechanically actuated bailers. Our personnel frequently employ USGS/Middleburg positive displacement pumps or similar air actuated pumps which do not agitate the water standing in the well.

Normal evacuation removes three case volumes of water from the well. More than three case volumes of water are removed in cases where more evacuation is needed to achieve stabilization of water parameters and when requested by the local implementing agency. Less water may be removed in cases where the well dewaters and does not recharge to 80% of its original volume within two hours and any additional time our personnel have reason to remain at the site. In such cases, our personnel return to the site within twenty four hours and collect sample material from the water which has recharged into the well case.

Decontamination

All apparatus is brought to the site in clean and serviceable condition. The equipment is decontaminated after each use and before leaving the site. Effluent water from purging and on-site equipment cleaning is collected and transported to Shell's Martinez Manufacturing Complex in Martinez, California.

Free Product Skimmer

The column headed, VOLUME OF IMMISCIBLES REMOVED (ml) is included in the TABLE OF WELL GAUGING DATA to cover situations where a free product skimming device must be removed from the well prior to gauging. Skimmers are installed in wells with a free product zone on the surface of the water. The skimmer is a free product recovery device which often prevents normal well gauging and free product zone measurements. The 2.0" and 3.0" PetroTraps fall into the category of devices that obstruct normal gauging. In cases where the consultant elects to have our personnel pull the skimmers out of the well and gauge the well, our personnel perform the additional task of draining the accumulated free product out of the PetroTrap before putting it back in the well. This

recovered free product is measured and logged in the VOLUME OF IMMISCIBLES REMOVED column. Gauging at such sites is performed in accordance with specific directions from the professional consulting firm overseeing work at the site on Shell's behalf.

Sample Containers

Sample material is collected in specially prepared containers which are provided by the laboratory that performs the analyses.

Sampling

Sample material is collected in stainless steel bailer type devices normally fitted with both a top and a bottom check valve. Water is promptly decanted into new sample containers in a manner which reduces the loss of volatile constituents and follows the applicable EPA standard for handling volatile organic and semi-volatile compounds.

Following collection, samples are promptly placed in an ice chest containing prefrozen blocks of an inert ice substitute such as Blue Ice or Super Ice. The samples are maintained in either an ice chest or a refrigerator until delivered into the custody of the laboratory.

Sample Designations

All sample containers are identified with a site designation and a discrete sample identification number specific to that particular groundwater well. Additional standard notations (e.g. time, date, sampler) are also made on the label.

Chain of Custody

Samples are continuously maintained in an appropriate cooled container while in our custody and until delivered to the laboratory under a standard Shell Oil Company chain of custody. If the samples are taken charge of by a different party (such as another person from our office, a courier, etc.) prior to being delivered to the laboratory, appropriate release and acceptance records are made on the chain of custody (time, date, and signature of the person releasing the samples followed by the time, date and signature of the person accepting custody of the samples).

Hazardous Materials Testing Laboratory

The samples obtained at this site were delivered to Anametrix, Inc. in San Jose, California. Anametrix, Inc. is a California Department of Health Services certified Hazardous Materials Testing Laboratory and is listed as DOHS HMTL #1234.

Objective Information Collection

Blaine Tech Services, Inc. performs specialized environmental sampling and documentation as an independent third party. In order to avoid compromising the objectivity necessary for the proper and disinterested performance of this work, Blaine Tech Services, Inc. performs no consulting and does not become involved in the marketing or installation of remedial systems of any kind. Blaine Tech Services, Inc. is concerned only with the generation of objective information, not with the use of that information to support evaluations and recommendations concerning the environmental condition of the site. Even the straightforward interpretation of objective analytical data is better performed by interested regulatory agencies, and those engineers and geologists who are engaged in the work of providing professional opinions about the site and proposals to perform additional investigation or design remedial systems.

Reportage

Submission of this report and the attached laboratory report to interested regulatory agencies is handled by the consultant in charge of the project. Any professional evaluations or recommendations will be made by the consultant under separate cover.

Please call if we can be of any further assistance.

Richard C. Blaine

RCB/lp

attachments: table of well gauging data
chain of custody
certified analytical report

cc: Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608-2411
ATTN: Michael Asport

TABLE OF WELL GAUGING DATA

WELL I.D.	DATA COLLECTION DATE	MEASUREMENT REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLES LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
S-1	10/15/93	TOC	--	NONE	--	--	4.37	18.77
MW-1	10/15/93	TOC	--	NONE	--	--	5.41	16.56
MW-2	10/15/93	TOC	ODOR	NONE	--	--	4.38	12.12

9310232 (16) (18)

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 931015-J1

Date:
Page 1 of 1

Site Address: 2160 Otis Drive, Alameda

WIC#: 204-0072-0502

Shell Engineer: Dan Kirk
Phone No.: (510) 675-6168
Fax #: 675-6160

Consultant Name & Address: Blaine Tech Services, Inc.
985 Timothy Drive San Jose, CA 95133

Consultant Contact: Jim Keller
Phone No.: (408) 995-5535
Fax #: 293-8773

Comments:

Sampled by: [signature]

Printed Name: JERRI BOTTORFF

LAB: Anametrix

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
Quarterly Monitoring [X]	5461	24 hours [ ]
Site Investigation [ ]	5441	48 hours [ ]
Soil Classify/Disposal [ ]	5442	16 days [X] (Normal)
Water Classify/Disposal [ ]	5443	Other [ ] ______
Soil/Air Rem. or Sys. O & M [ ]	5462	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M [ ]	5463	
Other [ ]		

Analysis Required

	Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	EPA 601		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(1)	MW-2	10/15			X		6						X	X							
(2)	TB	10/15			X		2						X								

Relinquished By (signature):	Printed Name:	Date/Time:	Received (signature):	Printed Name:	Date/Time:
[signature]		Date: 10-18-93 Time: 0910	[signature]	BENNY S. CARRIZOSA	Date: 10-18-93 Time: 0910
[signature]	BENNY S. CARRIZOSA	Date: 10-18-93 Time: 0955	[signature]	Maria Barajas	Date: 10/18/93 Time: 09:55
		Date: Time:			Date: Time:

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Inchcape Testing Services
Anametrix Laboratories

1961 Concourse Drive
Suite E
San Jose, CA 95131
Tel: 408-432-8192
Fax: 408-432-8198

MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9310232
Date Received : 10/18/93
Project ID : 204-0072-0502
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9310232- 1	MW-2
9310232- 2	TB

This report consists of 11 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.

Corinne Kham for
Sarah Schoen, Ph.D.
Laboratory Director

10/29/93
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 its 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 reported amount 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. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9310232
Date Received : 10/18/93
Project ID : 204-0072-0502
Purchase Order: MOH-B813
Department : GC
Sub-Department: VOA

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9310232- 1	MW-2	WATER	10/15/93	8010

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

MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9310232
Date Received : 10/18/93
Project ID : 204-0072-0502
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentration reported as gasoline for sample MW 2 is partially due to the presence of discrete peaks not indicative of gasoline.

Cheryl Balmer 11/23/93
Department Supervisor Date

C R Patel 11123193
Chemist Date

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

Project ID : 204-0072
Sample ID : MW-2
Matrix : WATER
Date Sampled :10/15/93
Date Analyzed :10/21/93
Instrument ID : AD14

Anametrix ID : 9310232-01
Analyst : TM
Supervisor : DL

Dilution Factor : 5.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Dichlorodifluoromethane	5.0	ND	U
74-87-3	Chloromethane	5.0	ND	U
75-01-4	Vinyl chloride	2.5	ND	U
74-83-9	Bromomethane	2.5	ND	U
75-00-3	Chloroethane	2.5	ND	U
75-69-4	Trichlorofluoromethane	2.5	ND	U
76-13-1	Trichlorotrifluoroethane	2.5	ND	U
75-35-4	1,1-Dichloroethene	2.5	ND	U
75-09-2	Methylene chloride	5.0	ND	U
156-60-5	trans-1,2-Dichloroethene	2.5	25.	
75-34-3	1,1-Dichloroethane	2.5	ND	U
156-59-2	cis-1,2-Dichloroethene	2.5	110.	
67-66-3	Chloroform	2.5	ND	U
71-55-6	1,1,1-Trichloroethane	2.5	ND	U
56-23-5	Carbon tetrachloride	2.5	ND	U
107-06-2	1,2-Dichloroethane	2.5	ND	U
79-01-6	Trichloroethene	2.5	ND	U
78-87-5	1,2-Dichloropropane	2.5	ND	U
75-27-4	Bromodichloromethane	2.5	ND	U
110-75-8	2-Chloroethylvinylether	5.0	ND	U
10061-01-5	cis-1,3-Dichloropropene	2.5	ND	U
10061-02-6	trans-1,3-Dichloropropene	2.5	ND	U
79-00-5	1,1,2-Trichloroethane	2.5	ND	U
127-18-4	Tetrachloroethene	2.5	ND	U
124-48-1	Dibromochloromethane	2.5	ND	U
108-90-7	Chlorobenzene	2.5	ND	U
75-25-2	Bromoform	2.5	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	2.5	ND	U
541-73-1	1,3-Dichlorobenzene	5.0	ND	U
106-46-7	1,4-Dichlorobenzene	5.0	ND	U
95-50-1	1,2-Dichlorobenzene	5.0	ND	U

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

Project ID : 204-00
Sample ID : B1021
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed :10/21/93
Instrument ID : AD14

Anametrix ID : METHOD BLK
Analyst : TM
Supervisor : DL

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Dichlorodifluoromethane	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	Trichlorofluoromethane	.50	ND	U
76-13-1	Trichlorotrifluoroethane	.50	ND	U
75-35-4	1,1-Dichloroethene	.50	ND	U
75-09-2	Methylene chloride	1.0	ND	U
156-60-5	trans-1,2-Dichloroethene	.50	ND	U
75-34-3	1,1-Dichloroethane	.50	ND	U
156-59-2	cis-1,2-Dichloroethene	.50	ND	U
67-66-3	Chloroform	.50	ND	U
71-55-6	1,1,1-Trichloroethane	.50	ND	U
56-23-5	Carbon tetrachloride	.50	ND	U
107-06-2	1,2-Dichloroethane	.50	ND	U
79-01-6	Trichloroethene	.50	ND	U
78-87-5	1,2-Dichloropropane	.50	ND	U
75-27-4	Bromodichloromethane	.50	ND	U
110-75-8	2-Chloroethylvinylether	1.0	ND	U
10061-01-5	cis-1,3-Dichloropropene	.50	ND	U
10061-02-6	trans-1,3-Dichloropropene	.50	ND	U
79-00-5	1,1,2-Trichloroethane	.50	ND	U
127-18-4	Tetrachloroethene	.50	ND	U
124-48-1	Dibromochloromethane	.50	ND	U
108-90-7	Chlorobenzene	.50	ND	U
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	.50	ND	U
541-73-1	1,3-Dichlorobenzene	1.0	ND	U
106-46-7	1,4-Dichlorobenzene	1.0	ND	U
95-50-1	1,2-Dichlorobenzene	1.0	ND	U

SURROGATE RECOVERY SUMMARY -- EPA METHOD 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 204-0072
Matrix : LIQUID

Anametrix ID : 9310232
Analyst : TM
Supervisor : DL

	SAMPLE ID	SU1	SU2	SU3
1	B1021	102		
2	MW-2	87		
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
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17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

	QC LIMITS
SU1 = Chlorofluorobenzene	(51-136)

* Values outside of Anametrix QC limits

LABORATORY CONTROL SAMPLE
EPA METHOD 601/8010
ANAMETRIX, INC. (408)432-8192

Sample I.D. : LABORATORY CONTROL SAMPLE
Matrix : WATER
SDG/Batch : N/A
Date analyzed : 10/21/93

Anametrix I.D. : WO102193
Analyst : TM
Supervisor : [illegible]
Instrument I.D.: AD14

COMPOUND	SPIKE AMOUNT (ug/L)	AMOUNT RECOVERED (ug/L)	PERCENT RECOVERY	%RECOVERY LIMITS
Trichlorotrifluoroethane	10	8.1	81%	34 - 128
1,1-Dichloroethene	10	9.2	92%	63 - 133
trans-1,2-Dichloroethene	10	9.8	98%	55 - 145
1,1-Dichloroethane	10	10.7	107%	49 - 121
cis-1,2-Dichloroethene	10	10.4	104%	66 - 168
1,1,1-Trichloroethane	10	10.7	107%	72 - 143
Trichloroethene	10	9.2	92%	63 - 147
Tetrachloroethene	10	10.1	101%	60 - 133
Chlorobenzene	10	10.9	109%	70 - 148
1,3-Dichlorobenzene	10	10.1	101%	49 - 139
1,4-Dichlorobenzene	10	10.7	107%	70 - 133
1,2-Dichlorobenzene	10	10.7	107%	69 - 140

* Limits based on data generated by Anametrix, Inc., August, 1992.

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

MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9310232
Date Received : 10/18/93
Project ID : 204-0072-0502
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9310232- 1	MW-2	WATER	10/15/93	TPHgBTEX
9310232- 2	TB	WATER	10/15/93	TPHgBTEX

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

MR. JIM KELLER
BLAINE TECH
985 TIMOTHY DRIVE
SAN JOSE, CA 95133

Workorder # : 9310232
Date Received : 10/18/93
Project ID : 204-0072-0502
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Cheryl Bachman 10/29/93
Department Supervisor Date

Lucia Shor 10/29/93
Chemist Date

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

Anametrix W.O.: 9310232
Matrix : WATER
Date Sampled : 10/15/93

Project Number : 204-0072-0502
Date Released : 10/25/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# MW-2 -01	Sample I.D.# TB -02	Sample I.D.# B02002E3 BLANK
Benzene	0.5	37	ND	ND
Toluene	0.5	1.1	ND	ND
Ethylbenzene	0.5	0.6	ND	ND
Total Xylenes	0.5	4.7	ND	ND
TPH as Gasoline	50	400	ND	ND
% Surrogate Recovery		103%	98%	98%
Instrument I.D.		HP12	HP12	HP12
Date Analyzed		10/20/93	10/20/93	10/20/93
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 (Dilution).

Anametrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

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

Irina Shor 10/29/93
Analyst Date

Cheryl Balmer 10/29/93
Supervisor Date

TOTAL VOLATILE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 5030 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Analyzed : 10/20/93

Anametrix I.D. : MO1902E1
Analyst : IS
Supervisor : CM
Date Released : 10/29/93
Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS *
GASOLINE	250	240	96%	67-127
p-BFB		109%		61-139

* Quality control limits established by Anametrix, Inc.

ATTACHMENT B

PREVIOUS GROUND WATER ELEVATION CONTOUR MAPS

ATTACHMENT B

PREVIOUS GROUND WATER ELEVATION CONTOUR MAPS