Weiss Associates Environmental and Geologic Services

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

March 30, 1993

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 first quarter 1993 and proposed work for the second quarter 1993.

First Quarter 1993 Activities:

- Blaine Tech Sevices, Inc., (BTS) of San Jose, California measured depths to ground water and collected ground water samples from the three site wells. BTS' report describing these sampling activities, including the laboratory analytic report for ground water samples, is included as Attachment A. BTS sampled monitoring well MW-1 twice. The duplicate sample is called MW-3 on the chain-of-custody and in the laboratory report.

- 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).

- On December 17, 1992, WA drilled three soil borings downgradient of the underground storage tanks (USTs) and pump islands to assess whether hydrocarbons detected in well MW-2 were from the USTs or pump islands. Since no hydrocarbons were detected in ground water samples from the borings, the tanks and pump islands do not appear to be the source of hydrocarbons in well MW-2. Results of the investigation are presented in our February 24, 1993 investigaton report.

Weiss Associates

Anticipated Second Quarter 1993 Activities:

WA will submit a report presenting the results of the second quarter 1993 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

Ground water levels rose by about 0.4 to 0.6 ft in the wells compared to the fourth quarter 1992, and ground water appears to flow more easterly than in previous quarters. These changes are probably due to the recent heavy rain. WA will monitor analytic results to assess whether the ground water rise will affect hydrocarbon concentrations detected in the wells.

Please call if you have any questions.

Sincerely,
Weiss Associates

REGISTERED GEOLOGIST
JAMES W. CARMODY
No. EG 1576
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

J. Michael Asport
Technical Assistant

for Joseph P. Theisen, C.E.G.
Senior Hydrogeologist

JMA/JPT:jma
J:\SHELL\400\QMRPTS\429QMMA3.WP

Attachments: Figures
Tables
A - EMCON'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

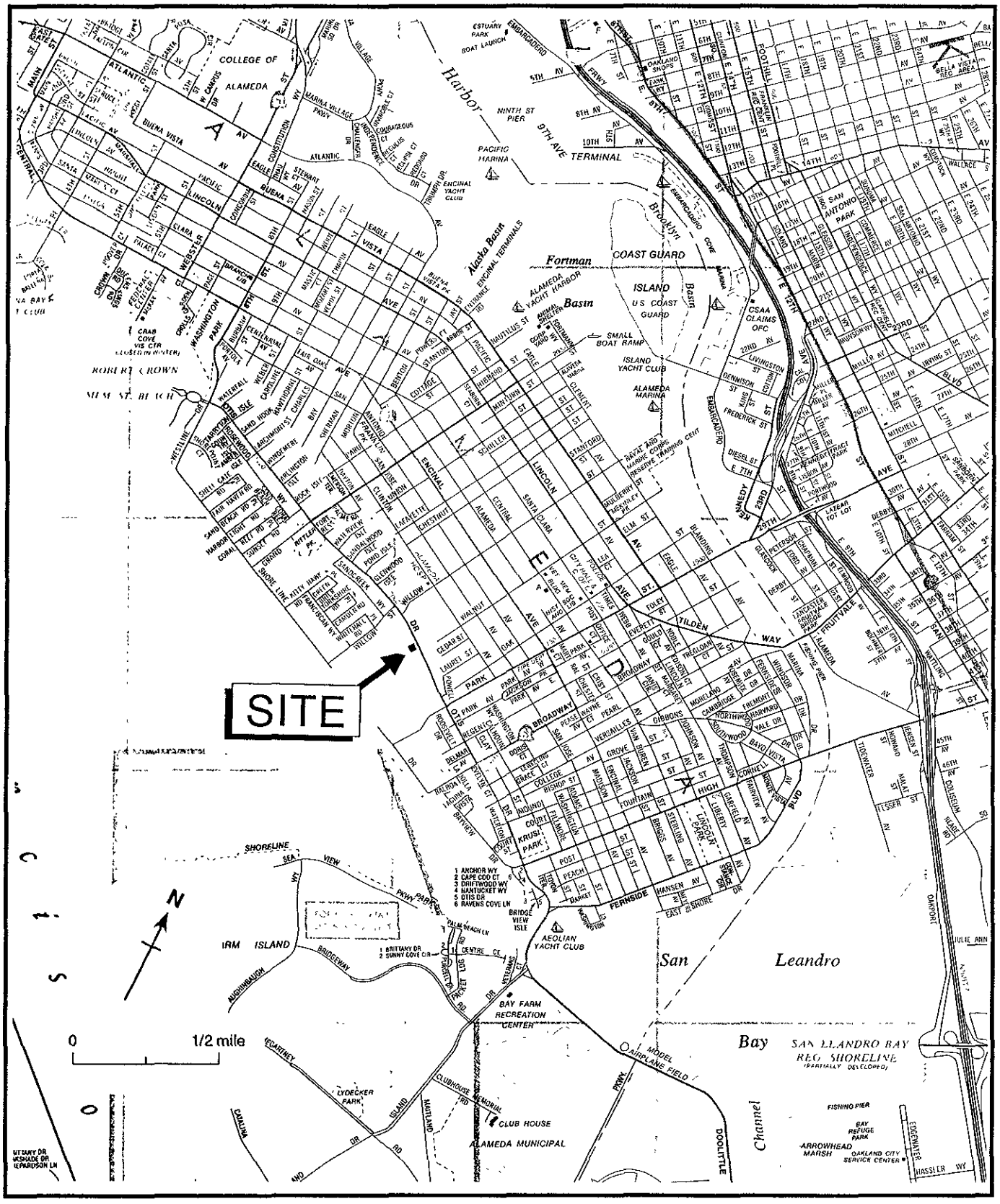

Figure 1. Site Location Map - Shell Service Station, WIC# 204-0072-0502, 2160 Otis Drive, Alameda, CA

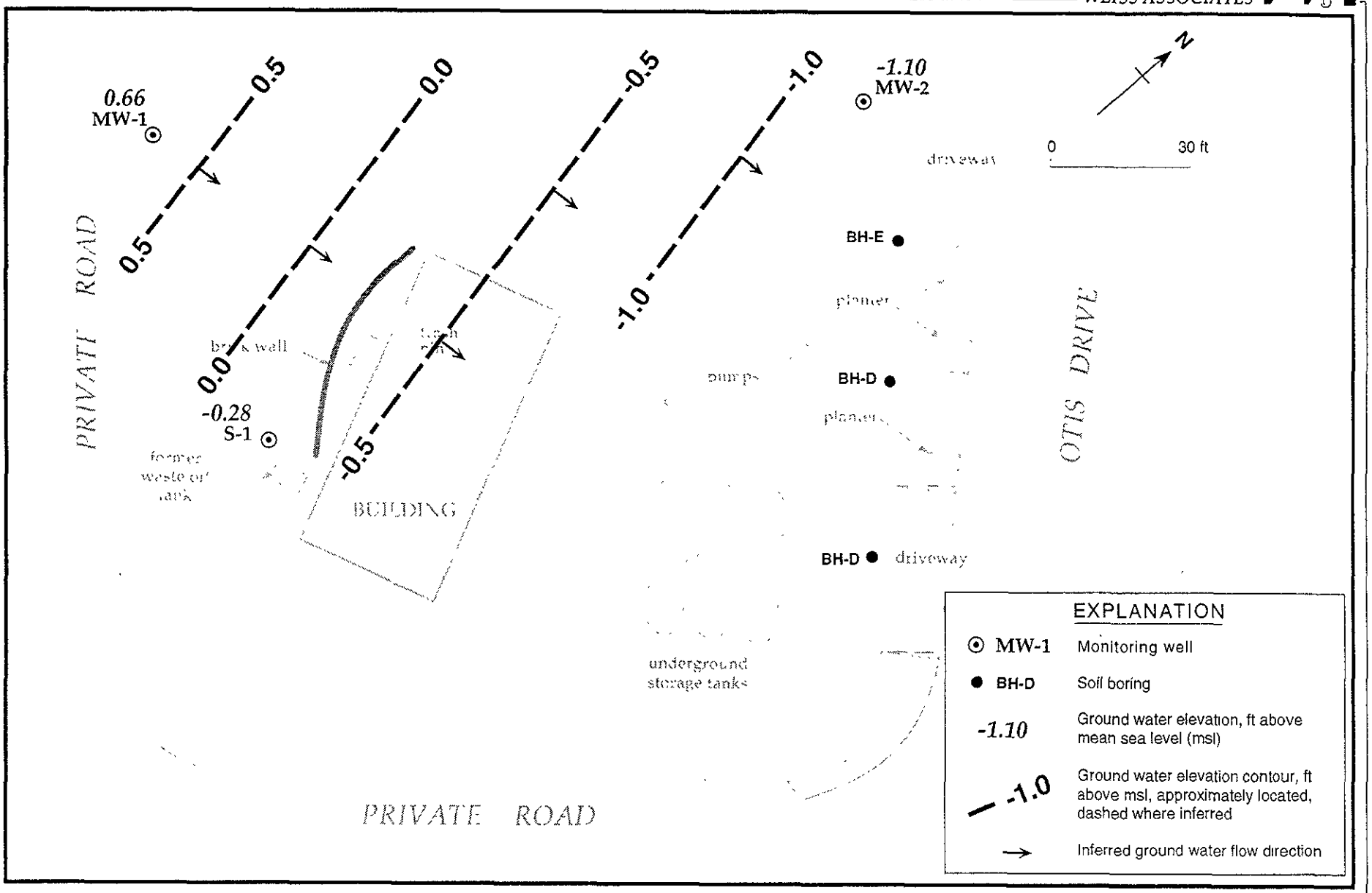

Figure 2. Monitoring Well Locations and Ground Water Elevation Contourss - January 5, 1993 - Shell Service Station WIC #204-0072-0502, 2160 Otis Drive, Alameda, Califolrnia

3/8/93

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
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	-1.10
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
	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

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

Well ID	Date Sampled	Depth to Water (ft)	Analytical Lab	TPH-G	TPH-D	B	E	T	X	TOG
				<----------parts per million (mg/L)---------->						
S-1	09/04/87		IT	---	---	<0.005	<0.005	<0.005	<0.005	---
	09/11/89[a]	4.29	IT	<0.05	<0.1	<0.0005	<0.001	<0.001	<0.003	<1.0
	04/11/90	4.00	NET	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<10
	07/10/90	4.25	NET	<0.090	---	<0.0005	<0.0005	<0.0005	<0.0005	<10
	10/09/90	4.46	IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	<5
	01/17/91	4.53	IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/09/91	4.20	IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/10/91	4.42	IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/09/91	4.87	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/24/92	4.90	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/23/92	4.66	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/01/92	4.85	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/02/92	5.80	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/05/93	5.38	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
MW-1	04/11/90	5.23	NET	<0.050	<0.050	<0.0005	<0.0005	<0.0005	<0.0005	<10
	07/10/90	5.40	NET	0.10	---	<0.0005	<0.0005	<0.0005	<0.0005	<10
	10/09/90	5.61	IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	<5
	01/17/91	5.66	IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/09/91	4.96	IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/10/91	5.52	IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/09/91	5.70	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/24/92	5.51	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/23/92	5.14	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/01/92	4.48	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/02/92	4.80	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/05/93	5.34	AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
MW-2	04/11/90	4.51	NET	0.20[b]	0.22	0.0027	<0.0005	0.0005	0.0024	<10
	07/10/90	4.61	NET	0.57[b]	0.45	0.15	<0.0005	0.0009	0.0031	<10
	10/09/90	4.74	IT	.190[b]	0.051	55	<0.0005	<0.0005	<0.0005	<5
	01/17/91	4.73	IT	0.35[b]	<0.05	0.051	<0.0005	<0.0005	<0.0005	---
	04/09/91	4.09	IT	---	<0.05	0.021	<0.005	<0.005	<0.005	---
	07/10/91	4.66	IT	0.05[b]	<0.05	0.0084	<0.0005	<0.0005	<0.0005	---
	10/09/91	4.81	AMX	0.15	---	0.022	<0.0005	<0.0005	<0.0005	---
	01/24/92	4.66	AMX	<0.05	---	0.0048	<0.0005	<0.0005	<0.0005	---
	04/23/92	4.51	AMX	<0.05	---	0.0023	0.0015	<0.0005	<0.0005	---
	07/01/92	4.57	AMX	0.13	---	0.019	<0.0005	<0.0005	<0.0005	---
	10/02/92	4.80	AMX	0.12	---	0.0078	<0.0005	<0.0005	<0.0008	---
	01/05/93	4.39	AMX	0.20	---	0.009	<0.0005	0.0006	0.0018	---
BH-C	12/17/92	5.0		<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	---
BH-D	12/17/92	5.0		<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	---

-- 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	Date Sampled	Depth to Water (ft)	Analytical Lab	TPH-G	TPH-D	B	E	T	X	TOG
				<----------parts per million (mg/L)---------->						
BH-E	12/17/92	5.5		<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	---
Trip Blank	07/10/90		NET	<0.050	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/09/90		IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/17/91		IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/09/91		IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/10/91		IT	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/09/91		AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/24/92		AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	04/23/92		AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	07/01/92		AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	10/02/92		AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
	01/05/93		AMX	<0.05	---	<0.0005	<0.0005	<0.0005	<0.0005	---
DTSC MCLs				NE	NE	0.001	0.680	0.10[c]	1.75	---

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 602, 624, 8020, or 8240
E = Ethylbenzene by EPA Method 602, 624, 8020, or 8240
T = Toluene by EPA Method 602, 624, 8020, or 8240
X = Xylenes by EPA Method 602, 624, 8020, or 8240
POG = Petroleum oil and grease by American Public Health Association Standard Methods 503
VOCs = Volatile and halogenated volatile organic compounds by EPA Method 601, 624 or 8240
DTSC MCLs = Department of Toxic substance control maximum contaminant levels
<n = Not detected above detection limit of n ppm
NE = Not established

Analytical Laboratories:

IT = International Technology Analytical Services, San Jose, California
NET = National Environment Testing Pacific Inc., Santa Rosa, California
AMX = Amatrix, San Jose, California

Notes:

a = 0.090 ppm chromium, 0.090 ppm lead and 0.10 ppm Zn detected; no cadium 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; according to the laboratory, the concentration is due mostly to lighter hydrocarbon compounds.
c = DHS recommended action level for drinking water; MCL not established

Table 2B. Analytic Reports 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	TCE	TCA	PCE	Cloroform	cis-1,2-DCE	trans-1,2-DCE	1,2-DCA	Carbon Disulfide	Vinyl Chloride
			<----------	----------	----------	----------	----------	----------	----------	----------	---------->
S-1	09/04/87[a]	---	ND	ND	ND	ND	ND	ND	ND	ND	ND
	09/11/89	4.29	ND	ND	ND	ND	ND	ND	ND	ND	ND
	04/11/90	4.00	ND	ND	ND	0.0017	ND	ND	ND	ND	ND
	07/10/90	9.25	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.002
	10/09/90	4.96	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.002
MW-1	04/11/90	5.23	ND	ND	ND	ND	ND	ND	ND	ND	ND
	07/10/90	5.40	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.002
	10/09/90	5.61	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.002
MW-2	04/11/90	4.51	0.012	0.0004	0.0004	0.0045	0.0004	0.016	0.0004	0.0004	0.002
	07/10/90	4.61	0.00093	0.0004	0.0004	0.0017	0.0004	0.011	0.00044	0.0004	0.002
	10/09/90	4.74	0.0013	0.0004	0.0016	0.015	0.046	0.0067	0.0004	0.0004	0.0025
	01/17/91	4.73	0.0012	ND	0.0006	0.0026	0.074	0.012	0.005	ND	0.0030
	04/09/91[b]	4.09	ND	ND	ND	ND	ND	ND	ND	ND	ND
	07/10/91[c]	4.66	ND	ND	0.0069	0.043	ND	ND	ND	0.014	ND
	10/09/91	4.81	0.0019	---	0.0128	0.0074	0.054	0.016	---	---	0.0017
	01/24/92	4.66	0.0025	<0.0005	0.0070	0.0190	0.0160	0.0043	0.0006	---	<0.0005
	04/23/92	4.51	<0.003	<0.003	0.003	<0.003	0.084	0.018	<0.003	---	<0.003
	07/01/92	4.57	0.002	<0.001	0.002	<0.001	0.054	0.014	<0.001	---	0.001
	10/92/92	4.80	0.001	<0.001	<0.001	<0.001	0.061	0.012	<0.001	---	<0.001
	01/05/93	4.39	0.0017	<0.0005	0.0022	<0.0005	0.033	0.0087	<0.0005	---	0.00067

Abbreviations:

TCE = Trichloroethene by EPA Method 601/8010 or 8240
TCA = 1,1,1-Trichloroethane by EPA Method 601/8010 or 8240
PCE = Tetrachloroethane 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
ND = Not detected, detection limit not known
1,2-DCA = 1,2 dichloroethane by EPA Method 601/8010 or 8240

Notes:

a = 0.007 ppm unknown alcohol and 0.27 ppm acetone detected
b = 0.064 ppm total 1,2-DCE detected
c = 0.0092 ppm benzene detected method 8240

ATTACHMENT A

GROUND WATER MONITORING REPORT AND ANALYTIC REPORT

BLAINE
TECH SERVICES INC.

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

January 15, 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:
1st quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT *930105-A-1*

This report contains data collected during routine inspection, gauging and sampling of groundwater monitoring wells performed by Blaine Tech Services, Inc. in response 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 the 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.

TABLE OF WELL GAUGING DATA

WELL I.D.	WELL DIAMETER (inches)	DATA COLLECTION DATE	MEASUREMENTS REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLE LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLE LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-1 *	4	01-05-93	TOP OF PIPE	--	NONE	--	--	5.34	16.62
MW-2	4	01-05-93	TOP OF PIPE	--	NONE	--	--	4.39	17.18
S-1	3	01-05-93	TOP OF PIPE	--	NONE	--	--	5.38	18.86

* Sample MW-3 was a duplicate sample taken from well MW-1.

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 may be removed in cases where more evacuation is needed to achieve stabilization of water parameters. Less than three case volumes of water may be obtained 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.

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 site 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. Either the requested analyses or the specific analytes are written on the sample label (e.g. TPH-G, BTEX).

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/lpn

attachments: chain of custody
certified analytical report

cc: Weiss Associates
5500 Shellmound Street
Emeryville, CA 94608-2411
ATTN: Kristina Koltavary

9301030 (18) (16) 1235mA

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No:_____

Date: 1-5-93
Page 1 of 1

Site Address: 2160 OTIS DR. ALAMEDA

WIC#: 204-0072-0502

Shell Engineer: ~~Paul Hooper~~ Daniel Kirk Phone No.: 510 675-6177 Fax #: ~~510 337 9335~~

Consultant Name & Address: Blaine Tech Services

Consultant Contact: Glen Bennett Phone No.: 468 Fax #: 995-5535

Comments:

Sampled by: Jeff Curtis

Printed Name: Jeff Curtis

LAB: ANALYTICAL

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 8010/601	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(1) S1	1/5/93			W		3	/		/									Grab water	
(2) MW1	"			"		3	/		/				/						
(3) MW2	"			"		5	/		/				/						
(4) MW3	"			"		3	/		/										
(5) TRIP Blank	"			"		2	/		/										

Check One (1) Box Only: Quarterly Monitoring ☑ 6441; Site Investigation ☐ 6441; Soil Closure/Disposal ☐ 6442; Water Closure/Disposal ☐ 6443; Soil/Air Rem. or Sys. O & M ☐ 6452; Water Rem. or Sys. O & M ☐ 6453; Other ☐

Turn Around Time: 24 hours ☐; 48 hours ☐; 15 days ☐ (Normal); Other ☐ ____

NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.

Relinquished By (signature)	Printed Name	Date/Time	Received (signature)	Printed Name	Date/Time
Jeff Curtis	Jeff Curtis	Date: Time:	Simon Hoegh	Simon Hoegh	Date: 1-6-93 Time: 20:38
Simon Hoegh	Simon Hoegh	Date: 1-6-93 Time: 10:50	Michele D Aguilar	Michele D Aguilar	Date: 1-6-93 Time: 1050
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature):	Printed Name:	Date: Time:

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

Shell Copy of Custody

ANAMETRIX INC
Environmental & Analytical Chemistry

Part of INCHCAPE ENVIRONMENTAL

REPORT

MR. GLEN BENNETT
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9301030
Date Received : 01/06/93
Project ID : 204-0072-0502
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9301030- 1	S-1
9301030- 2	MW-1
9301030- 3	MW-2
9301030- 4	MW-3
9301030- 5	T. BLANK

This report consists of 13 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

1-20-93
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 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. GLEN BENNETT
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9301030
Date Received : 01/06/93
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
9301030- 3	MW-2	WATER	01/05/93	8010

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

MR. GLEN BENNETT
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9301030
Date Received : 01/06/93
Project ID : 204-0072-0502
Purchase Order: MOH-B813
Department : GC
Sub-Department: VOA

QA/QC SUMMARY :

- No QA/QC problems encountered for the sample.

Lorinne Kham 1/14/93
Department Supervisor Date

Kamel C. Kamel 1/19/93
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 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 204-0072
Sample ID : MW-2
Matrix : WATER
Date Sampled : 1/ 5/93
Date Analyzed : 1/15/93
Instrument ID : HP14

Anametrix ID : 9301030-03
Analyst :
Supervisor : KK

Dilution Factor : 1.0
Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	U
75-01-4	Vinyl Chloride	.50	.67	
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	8.7	
75-34-3	1,1-DCA	.50	ND	U
156-59-2	Cis-1,2-DCE	.50	33.	
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	1.7	
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	2.2	
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 8010
ANAMETRIX, INC. (408)432-8192

Project ID : 204-00
Sample ID : VBLANK
Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed : 1/15/93
Instrument ID : HP14

Anametrix ID : 14B0115H01
Analyst :
Supervisor : CP KK

Dilution Factor : 1.0
Conc. Units : ug/L

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

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

Project ID : 204-0072
Matrix : LIQUID

Anametrix ID : 9301030
Analyst :
Supervisor : KK

	SAMPLE ID	SU1	SU2	SU3
1	VBLANK	104		
2	MW-2	105		
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

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

Project/Case : LABORATORY CONTROL SAMPLE
Matrix : WATER
SDG/Batch : N/A
Date analyzed : 01/15/93

Anametrix I.D. : WO011593
Analyst :
Supervisor : CP KK
Instrument I.D.: HP14

COMPOUND	SPIKE AMOUNT (ug/L)	AMOUNT RECOVERED (ug/L)	PERCENT RECOVERY	%RECOVERY LIMITS
FREON 113	10	9.1	91%	34 - 128
1,1-DICHLOROETHENE	10	10.3	103%	63 - 133
trans-1,2-DICHLOROETHENE	10	10.8	108%	55 - 145
1,1-DICHLOROETHANE	10	9.8	98%	49 - 121
cis-1,2-DICHLOROETHENE	10	13.0	130%	66 - 168
1,1,1-TRICHLOROETHANE	10	10.4	103%	72 - 143
TRICHLOROETHENE	10	9.4	94%	63 - 147
TETRACHLOROETHENE	10	9.2	92%	60 - 133
CHLOROBENZENE	10	9.8	98%	70 - 148
1,3-DICHLOROBENZENE	10	8.6	86%	49 - 139
1,4-DICHLOROBENZENE	10	9.2	92%	70 - 133
1,2-DICHLOROBENZENE	10	8.8	88%	69 - 140

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

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

MR. GLEN BENNETT
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9301030
Date Received : 01/06/93
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
9301030- 1	S-1	WATER	01/05/93	TPHg/BTEX
9301030- 2	MW-1	WATER	01/05/93	TPHg/BTEX
9301030- 3	MW-2	WATER	01/05/93	TPHg/BTEX
9301030- 4	MW-3	WATER	01/05/93	TPHg/BTEX
9301030- 5	T. BLANK	WATER	01/05/93	TPHg/BTEX

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

MR. GLEN BENNETT
BLAINE TECH
985 TIMOTHY STREET
SAN JOSE, CA 95133

Workorder # : 9301030
Date Received : 01/06/93
Project ID : 204-0072-0502
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Bedman 1/12/93
Department Supervisor Date

Peggie Dawson 1/12/93
Chemist Date

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

Anametrix W.O.: 9301030
Matrix : WATER
Date Sampled : 01/05/93

Project Number : 204-0072-0502
Date Released : 01/12/93

	Reporting Limit	Sample I.D.# S-1	Sample I.D.# MW-1	Sample I.D.# MW-2	Sample I.D.# MW-3	Sample I.D.# T. BLANK
COMPOUNDS	(ug/L)	-01	-02	-03	-04	-05
Benzene	0.5	ND	ND	9.0	ND	ND
Toluene	0.5	ND	ND	0.6	ND	ND
Ethylbenzene	0.5	ND	ND	ND	ND	ND
Total Xylenes	0.5	ND	ND	1.8	ND	ND
TPH as Gasoline	50	ND	ND	200	ND	ND
% Surrogate Recovery		91%	98%	88%	92%	88%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		01/07/93	01/07/93	01/07/93	01/07/93	01/07/93
RLMF		1	1	1	1	1

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

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

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

Peggie Dawson 1/14/93
Analyst Date

Supervisor Date

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

Anametrix W.O.: 9301030
Matrix : WATER
Date Sampled : N/A

Project Number : 204-0072-0502
Date Released : 01/12/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# BJ0701E2 BLANK
Benzene	0.5	ND
Toluene	0.5	ND
Ethylbenzene	0.5	ND
Total Xylenes	0.5	ND
TPH as Gasoline	50	ND
% Surrogate Recovery		98%
Instrument I.D.		HP12
Date Analyzed		01/07/93
RLMF		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.

Peggie Davison 1/19/93
Analyst Date

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 : 01/07/93

Anametrix I.D. : LCSW0107
Analyst : RD
Supervisor : CB
Date Released : 01/12/93
Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	250	260	104%	56-116
SURROGATE		98%		53-147

* Quality control established by Anametrix, Inc.

WELL GAUGING DATA

Shell WIC# 204-0072-0502

Project # 930105AC Date 1 5 93 Client Shell

Site 2160 OTIS DRIVE ALAMEDA Sampler J Hunter

Well I.D.	Well Size (in.)	Sheen/ Odor	Depth to Immisible Liquid (feet)	Thickness of Immisible Liquid (ft.)	Volume of Immisibles Removed (ml)	Depth to Water (feet)	Depth to Well Bottom (feet)	Measured to: Top of Pipe or Grade
S-1	3"	none	—	—	~~18.86~~	5.38	18.86	TOC
MW1	4"	none	—	—	—	5.34	16.62	TOC
MW2	4"	none	—	—	—	4.39	17.18	TOC

SHELL WELL MONITORING DATA SHEET

Project #: 93165A1	Wic # 204 0072 0502
Sampler: [signature]	Date Sampled: 1 5 93
Well I.D.: MW1	Well Diameter: (circle one) 2 3 (4) 6 ___
Total Well Depth: Before 16.62 After	Depth to Water: Before 5.34 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC)	Grade Other --

Volume Conversion Factor (VCF):
$(12 * (d^2/4) * \pi)/231$
Where
12 = in./foot
d = Diameter (in.)
π = 3.1416
231 = in^3/gal

Well dia.	VCF
2"	0.16
3"	0.37
4"	0.65
6"	1.47
10"	4.08
12"	5.87

1 Case Volume	x	Specified Volumes	=	gallons
7.33	x	3	=	22.0

Purging: Bailer ☐
Middleburg ☒
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump _____

Sampling: Bailer ☒
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1141	66.8	6.2	9600	34.8	4gal	
1150	66.0	6.5	>10,000	10.3	9	
1158	66.6	6.6	>10,000	9.45	15	
1210	66.7	6.6	>10,000	4.94	22	

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated:

Sampling Time: 1215

Sample I.D.: MW1 Laboratory: ANAMETRIX

Analyzed for: TPH GPS BTEX

Duplicate I.D.: MW 3 Cleaning Blank I.D.:

Analyzed for: TPH GPS BTEX

Shipping Notations: /

Additional Notations: no lock

SHELL WELL MONITORING DATA SHEET

Project #: 930105A1	Wic # 204
Sampler: Hunter	Date Sampled: 1-5-93
Well I.D.: S-1	Well Diameter: (circle one) 2 (3) 4 6 ___
Total Well Depth: Before 18.86 After	Depth to Water: Before 5.38 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade	Other --

Volume Conversion Factor (VCF):
$(12 * (d^2/4) * \pi)/231$
Where
12 = in/foot
d = diameter (in.)
π = 3.1416
231 = in^3/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.65
6"	= 1.47
10"	= 4.08
12"	= 5.87

4.98	x	3	14.96
1 Case Volume		Specified Volumes	= gallons

Purging: Bailer ☐
Middleburg ☒
Electric Submersible ☐
Suction Pump ☐
Type of Installed Pump _____

Sampling: Bailer ☒
Middleburg ☐
Electric Submersible ☐
Suction Pump ☐
Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1048	63.3	7.8	400	12.94	.25	
1103	65.5	7.6	300	98.02	5	Dewatered
					10	
					15	
1322	63.0	8.3	800	40.9		

Did Well Dewater? If yes, gals. Gallons Actually Evacuated:

Sampling Time: 1320 DTW 4.36

Sample I.D.: G1 Laboratory: ANAMETRIX

Analyzed for: TPH Gas BTEX

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations:

SHELL WELL MONITORING DATA SHEET

Project #: 9301541	Wic # 204
Sampler: [illegible]	Date Sampled: 1 5 93
Well I.D.: MW 2	Well Diameter: (circle one) 2 3 (4) 6 ___
Total Well Depth: Before 17.18 After	Depth to Water: Before 4.39 After
Depth to Free Product:	Thickness of Free Product (feet):
Measurements referenced to: (PVC) Grade Other --	

Volume Conversion Factor (VCF):
$(12 \times (d^2/4) \times \pi)/231$
Where
12 = in/feet
d = diameter (in.)
π = 3.1416
231 = in³/gal

Well dia.	VCF
2"	= 0.16
3"	= 0.37
4"	= 0.65
6"	= 1.47
10"	= 4.08
12"	= 5.87

8.31	x	3	=	24.94
1 Case Volume		Specified Volumes		gallons

Purging: Bailer ☐ Middleburg ☒ Electric Submersible ☐ Suction Pump ☐ Type of Installed Pump ___

Sampling: Bailer ☒ Middleburg ☐ Electric Submersible ☐ Suction Pump ☐ Installed Pump ☐

TIME	TEMP. (F)	pH	COND.	TURBIDITY:	VOLUME REMOVED:	OBSERVATIONS:
1228	66.8	6.4	>10,000	128	15	
1238	64.1	7.0	9400	21.0	8.5	
1248	65.3	7.0	8400	11.20	17	
1258	65.5	7.0	8600	11.83	25	

Did Well Dewater? No If yes, gals. Gallons Actually Evacuated:

Sampling Time: 1305

Sample I.D.: MW 2 Laboratory: ANAMETRIX

Analyzed for: TPH GAS BTEX & EPA 601

Duplicate I.D.: Cleaning Blank I.D.:

Analyzed for:

Shipping Notations:

Additional Notations: no lock