Fax: 510-547-5043° Phone: 510-547-5420

April 15, 1993

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

Re: Shell Service Station
WIC #204-0072-0403
1601 Webster Street
Alameda, California 94501
WA Job #81-434-203

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 1992 Activities:

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured ground water depths and collected water samples from the three site wells. BTS' report describing these sampling activities and presenting analytic results for ground water is included as Attachment A.
- Weiss Associates (WA) compiled the ground water elevation and analytic data (Tables 1 and 2) and prepared a ground water elevation contour map (Figure 2).
- WA also installed a well at the downgradient property line as shown on Figure 3. Ground water and soil data will be presented in a separate report.



Anticipated Second Ouarter 1993 Activities:

• WA will submit a report presenting the results of the second quarter 1993 ground water sampling and depth measurements. The report will include tabulated chemical analytic results and a ground water elevation contour map.

2

• WA will also prepare a report presenting the results of the soil boring sampling and well installation.

Conclusions and Recommendations:

Since the hydrocarbon concentrations in downgradient well MW-3 were below Department of Toxic Substances Control Maximum Contaminant Levels (MCLs), WA does not recommend any additional investigation at this time. Instead, WA recommends continued ground water sampling to monitor hydrocarbon concentrations and ground water flow direction.

Please call if you have any questions.

Sincerely,
Weiss Associates

J. Michael Asport
Technical Assistant

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

JMA/JPT:jma

J:\SHELL\425\QMRPTS\434QMAP3.WP

No. 5747

Attachments:

Figures Tables

A - BTS Associates' Ground Water Monitoring Report

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998
Lester Feldman, Regional Water Quality Control Board - San Francisco Bay, 2101 Webster Street, Suite 500, Oakland, California 94612

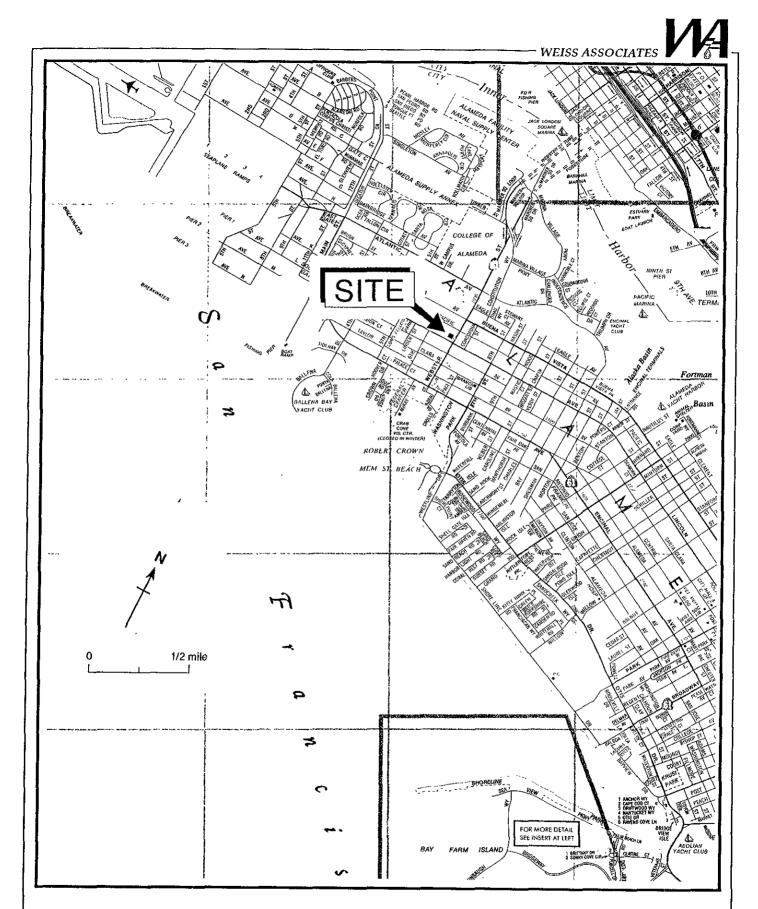


Figure 1. Site Location Map - Shell Service Station, WIC# 204-0072-0403, 1601 Webster Street, Alameda, CA

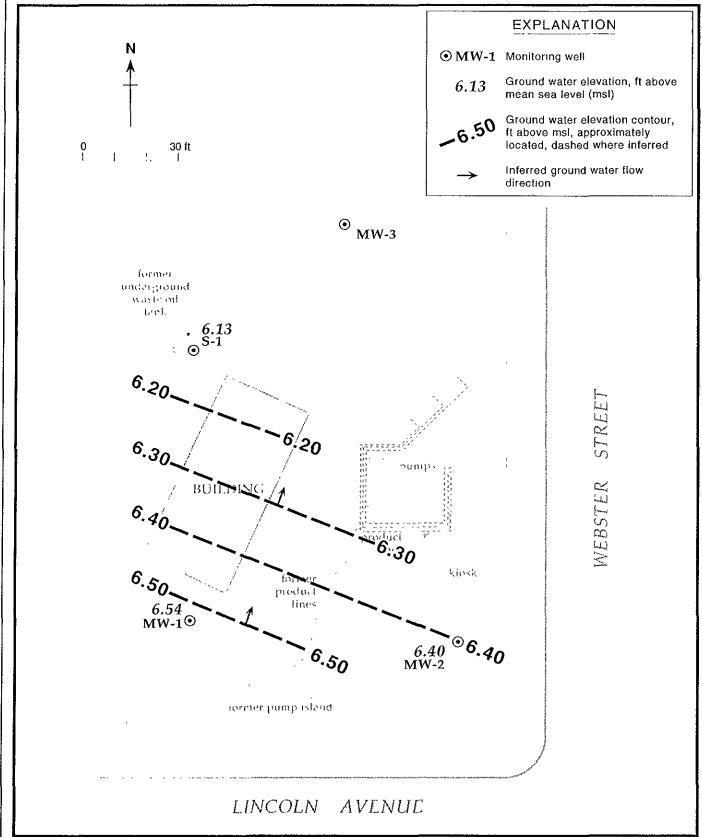


Figure 2. Monitoring Well Locations and Ground Water Elevations - January 5, 1993 - Shell Service Station WIC #204-0072-0403, 1601 Webster Street, Alameda, California

TABLE 1. Ground Water Elevations - Shell Service Station WIC #204-0072-0403, 1601 Webster Street Alameda, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Ground Water Elevation (ft above msl)
MAXX-1	04-11-00	13.80	8.22	5.58
MW-1	04-11-90	13,00	9.14	3.58 4.66
	07-18-90		10.37	4.00 3.43
	10-18-90 01 -2 5-91		10.41	3.39
	04-11-91		7.37	6.43
	07-18-91		8.86	4,94
	10-17-91		10.47	3.33
	01-24-92		9.18	4.62
	01-24-92		6.95	6.85
			8.01	5.79
	07-22-92		8.01 9.81	3.79 3.99
	10-02-92 01-05-93		7.26	3.99 7 6.54
MW-2	04-11-90	13.20	7.69	5.51
	07-18-90		8.56	4.64
	10-18-90		9.76	3.44
	01-25-91		9.78	3.42
	04-11-91		6.87	6.33
	07-18-91		8.27	4.93
	10-17-19		9.89	3.31
	01-24-92		8.60	4.60
	04-23-92		6.48	6.72
	07-02-92		7.37	5.83
	10-02-92		9.20	4.0
	01-05-93		6.80 C	7 0 5 0 6.4 0 0 0 0 8
S-1	09-11-89	13.77	9.82	3.95
	04-11-90		8.41	5.36
	07-18-90		9.31	4.46
	10-18-90		10.43	3.34
	01-25-91		10.49	3.28
	04-11-91		7.68	6.09
	07-18-91		8.95	4.82
	10-17-91		10.62	3.15
	01-24-92		9.32	4.45
	04-23-92		7.27	6.50
	07-02-92		8.19	5.5 8
	10-02-92	•	9.95	3.82
	01-05-93		7.64	**************************************

Sample	Date	Depth to Water	TPH-G	TPH-D	В	E	Τ	X	c-1,2- DCE	1,2-DCA	TO
ID	Sampled	(ft)	<			parts per m	nillion (mg/l	_}			
<i>i</i> -1	04-11-90	8.22	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<1
	07-18-90	9.14	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	0.003	<0.0005	<
	10-18-90	10.37	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	0.0079	<0.0005	<
	01-25-91	10.41	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	0.0056	<0.0005	
	04-11-91	7.37	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	0.0009	<0.0005	
	07-18-91	8.86	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	0.0044	<0.0005	
	10-17-91	10.47	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	0.0072	<0.0005	
	01-24-92	9.18	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	0.0014	<0.0005	
	04-23-92	6.95	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
	07-02-92	5.79	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
	10-02-92	3.99	<0.05	•••	<0.0005	<0.0005	<0.0005	<0.0005	0.002	<0.0005	
				<u> </u>	<0.0005	<0.0005	<0.0005				
	01-05-93	6.54	<0.05	220	.≪0±000⊃	<u.,00005< td=""><td>- KONDO</td><td><0.0005</td><td>0.002</td><td><0.,0005</td><td></td></u.,00005<>	- KONDO	<0.0005	0.002	<0.,0005	
-2	04-11-90	7.69	0.58	0.43	0.020	0.0012	0.0049	0.073	<0.0005	0.0011	<
	07-18-90	8.56	1.4		0.11	0.071	0.31	0.31	<0.0005	0.0007	
	10-18-90	9.76	1.9	1.3 ^a	0.11	0.089	0.47	0.40	<0.0005	0.0009	
	01-25-91	9.78	8.1		0.43	0.48	1.2	2.6	<0.0005	0.0008	-
	04-11-91	6.87	2.6		0.13	0.25	0.15	0.33	<0.0005	<0.0005	-
	07-15-91	8.27	1.3		0.10	0.084	0.059	0.12	<0.0005	0.0008	-
	10-17-91	9.89	2.1		0.18	0.15	0.26	0.52	<0.0005	0.0006	_
	01-24-92	8.60	7.1		0.45	0.96	0.45	1.6	.11	<0.0005	-
	04-23-92	6.48	16		0.32	0.65	0.74	2.6	<0.0025	<0.0025	-
	07-02-92	5.83	33.0		2.5	2.0	3.7	9.6	<0.05	<0.05	-
	10-02-92	4.0	7.0		0.96	0.57	0.65	1.2	<0.05	<0.05	_
	01-05-93	6.4	8.9		0,55	0.6	0.5		<0.002	<0.002	٠.
-3	02-25-93	5,37	0.058	0.14	<0.0005	0_0025	<0.0005	00064	<0.0005	0.0015	
1	09-04-87 ^c				<0.005	<0.005	<0.005	<0.005	<0.0005	<0.0005	-
	09-11-89 ^d	9.82	<0.05	<0.1	<0.0005	<0.001	<0.001	<0.003	<0.0005	<0.0005	
	04-11-90 ^a	8.41	<0.05	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<
	07-18-90	9.31	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
	10-18-90	10.43	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
	01-25-91	10.49	<0.05		<0.0005	<0.0005	<0.0005	<0.0005			_
	04-11-91	7.68	<0.05		<0.0005	<0.0005	<0.0005	<0.0005	•••		_
	07-18-91	8.95	<0.05		<0.0005	<0.0005	<0.0005	<0.0005			-
	10-17-91	10.62	<0.05		<0.0005	<0.0005	<0.0005	<0.005			_
					<0.0005	<0.0005	<0.0005	<0.005			
	01-24-92	9.32	<0.05								-
	04-23-92	7.27	<0.05		<0.0005	<0.0005	<0.0005	<0.0005			
	07-02-92	5.58	<0.05		<0.0005	<0.0005	<0.0005	<0.0005			-
	10-02-92	3.82	<0.05		<0.0005	<0.0005	<0.0005	<0.0005			-



⁻⁻ Table 2 continues on next page --

TABLE 2. Analytic Results for Ground Water - Shell Service Station, WIC #204-0072-0403, 1601 Webster Street, Alameda, California (continued)

Sample	Date	Depth to Water	TPH-G	TPH-D	В	Ε	T	x	c-1,2- DCE	1,2-DCA	TOG
ID	Sampled	(ft)	<			parts per	million (mg/	L)			
Trip	07-18-90		<0.05		<0.0005	<0.0005	<0.0005	<0.0005			
Blank	10-18-90		<0.05		<0.0005	<0.0005	<0.0005	<0.0005			
	01-25-91		<0.05		<0.0005	<0.0005	<0.0005	0.0008			
	04-11-91		<0.05		<0.0005	<0.0005	<0.0005	<0.0005			
	07-18-91		<0.05		<0.0005	<0.0005	<0.0005	<0.0005			
	10-17-91		<0.05		<0.0005	<0.0005	<0.0005	<0.0005			
	01-24-92		<0.05		<0.0005	<0.0005	<0.0005	<0.0005			
	04-23-92		<0.05		<0.0005	<0.0005	<0.0005	<0.0005			
	07-02-92		<0.05		<0.0005	<0.0005	<0.0005	<0.0005			
	10-02-92		<0.05		<0.0005	<0.0005	<0.0005	<0.0005			
	01-05-93		<0.05		<0.0005	<0.0005	<00005	<0.0005			
DTSC MCLs			NE	NE	0.001	0.680	0.10 ^d	1.750	0.0060	0.0005	NE

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, or 8020

E = Ethylbenzene by EPA Method 602, 624, or 8020

T = Toluene by EPA Method 602, 624, or 8020

X = Xylenes by EPA Method 602, 624, or 8020

c-1,2-DCE = cis-1,2-dichloroethene by EPA Method 601 or 624

1.2-DCA = 1.2-dichloroethane by EPA Method 601 or 624

TOG = Total non-polar oil and grease by American Public Health
Association Standard Method 503E

<n = Not detected at detection limit of n ppm

DTSC MCL = California Department of Toxic Substances Control maximum contaminant level for drinking water

NE = Not established

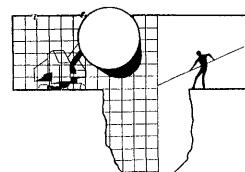
--- = Not analyzed

Notes:

- a = Compounds detected and calculated as diesel appear to be the less volatile constituents of gasoline.
- b = Sampled by Pacific Environmental Group, Santa Clara, California; 0.12 ppm acetone detected by EPA Method 624; no other volatile organic compounds detected
- c = Metals detected by EPA Method 6010; 0.020 ppm chromium, 0.060 ppm lead and 0.030 ppm zinc; no cadmium detected above detection limit of 0.010 ppm; no PCBs or semi-volatile compounds detected by EPA Method 625.
- d = DTSC recommended action level for drinking water; MCL not established



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

Јапиату 13, 1993

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

Attn: Daniel T. Kirk

SITE: Shell WIC # 204-0072-0403 1601 Webster Street Alameda, California

QUARTER: 1st quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 930105-A-2

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 included 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			7.26	20.79
MW-2	4	01-05-93	TOP OF PIPE	ODOR	NONE			6.80	19.88
S-1 *	3	01-05-93	TOP OF PIPE		NONE			7.64	19.90

^{*} Sample MW-3 was a duplicate sample taken from well S-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.

Blaine Tech Services, Inc. 930105-A-2 Shell 1601 Webster, Alameda page 3

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

Blaine Tech Services, Inc. 930105-A-2 Shell 1601 Webster, Alameda page 4

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/Ipn

attachments: chain of custody

certified analytical report

cc: Weiss Associates

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

Blaine Tech Services, Inc. 930105-A-2 Shell 1601 Webster, Alameda page 5

12,30 9301028 SHELL OIL COMPANY CHAIN OF CUSTODY RECORD Dalo: 1 693 RETAIL ENVIRONMENTAL ENGINEERING - WEST Sorial No: Page / Sile Address: Analysis Regulred LAB: WIC#: 0072 0403 CHECK ONE (1) FOX ONLY CIVE TURN AROUND TIME Phone No.: 5 enternow mehous 24 hours 🔲 Site investigation 48 hours Combination TPH 8015 & BTEX 8020 Soll Cloudly/Disposed 🔲 8442 16 days 🔲 (Hosmal) Phone No.: 462 Fax #: 995-3535 Volafile Organics (EPA 8240) TPH (EPA 6015 Mod. Diesel) Soll/Alt Born, or Syn. 1PH (EPA 8015 Mod. Gas) □ 5482 NOTE: Hally tob or soon as Fossible of 24/48 hm. IAI, Comments: Worker Rem, or Sys. O & M 6463 BIEX (EPA 8020/602) Preparation Used Test for Disposal Other Sampled by: Container Size Composite SAMPLE Printed Name: < Asbestos MATERIAL CONDITION/ DESCRIPTION COMMENTS Sample 1D Date Sludge Soli Water conts. 1/5/97 W mw 3 2 Relinguished by (alghature); Registed (signature):

Received (signature):

Received (signature):

Kathy Kath Printed Name: Printed Name: Simon Haga Date: Dole 76 -42 1me: 10: 30 Printed Name: Relinquished By (signature):
Relinquished By (signature): Dale:#5-q Printed Name: PAFFLE
Printed Name: Dale: 7-6 Ilmo: /C Time: 10:50 Received (signature)/ Dale: Date: Time: THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

ANAMETRIX INC

Environmental & Analytical Chemistry

Part of Incheapt Environmental.



MR. GLEN BENNETT

BLAINE TECH

985 TIMOTHY STREET SAN JOSE, CA 95133 Workorder # Date Received: 01/06/93

: 9301028

Project ID : 204-0072-0403

Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9301028- 1	S-1
9301028- 2	MW-1
9301028- 3	MW-2
9301028- 4	MW-3
9301028- 5	T. BLANK

This report consists of 16 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

ANAMETRIX REPORT DESCRIPTION

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, \underline{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

٠,

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.

mh/3426 - Disk 10WH

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

MR. GLEN BENNETT

BLAINE TECH

985 TIMOTHY STREET SAN JOSE, CA 95133

Workorder # : 9301028
Date Received : 01/06/93
Project ID : 204-0072-0403
Purchase Order: MOH-B813

Department : GC Sub-Department: VOA

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9301028- 2	MW-1	WATER	01/05/93	8010
9301028- 3	MW-2	WATER	01/05/93	8010

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

MR. GLEN BENNETT BLAINE TECH 985 TIMOTHY STREET

Workorder # : 9301028 Date Received : 01/06/93 Project ID : 204-0072-0403 Purchase Order: MOH-B813

SAN JOSE, CA 95133

Department : GC Sub-Department: VOA

QA/QC SUMMARY :

- Sample MW-2 was analyzed at a dilution due to interfering hydrocarbon peaks.

Department Supervisor 1/19

Kamel G. Kamel 1/19193
Chemist Date

GC/VOA - PAGE 2

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

Anametrix ID Project ID : 204-0072 : 9301028-02

: cp KK Analyst : MW-1 Sample ID Supervisor : WATER Matrix Date Sampled

: 1/ 5/93 : 1/15/93 Date Analyzed Dilution Factor: 1.0

: HP14 : ug/L Instrument ID Conc. Units

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	1.0	ND	ן וט
74-87-3	Chloromethane	1.0	ND	ĺΰ
75-01-4	Vinyl Chloride		ND	ĺŪ
74-83-9	Bromomethane	.50	ND	Ū
75-00-3	Chloroethane	.50	ND	iυ
75-69-4	Freon 11	.50	ND	İΰ
76-13-1	Freon 113	.50	ND	jυ
75-35-4	1,1-DCE	i .50	ИD	ប
75-09-2	Methylene Chlor	1.0	ND	įυ
156-60-5	Trans-1,2-DCE	.50	ND	įυ
75-34-3	1,1-DCA	i .50	ND	Įΰ
156-59-2	Cis-1,2-DCE	.50	2.1	İ
67-66-3	Chloroform	.50	ND	įυ
71-55-6	1,1,1-TCA Carbon Tet	.50	ND	Įΰ
56-23-5	Carbon Tet	.50	ND	jυ
107-06-2	1,2-DCA	.50	ND	ĮŪ
79-01-6	Trichloroethene	.50	ND	įυ
78-87-5	1,2-DCPA	.50	ND	ľΰ
75-27-4	Bromodichlorome	.50	ND	U '
110-75-8	Chloroethylvinl	1.0	ND	U
10061-01-5	Cis-1,3-DCPE	.50	ND	Įΰ
10061-02-6	Trans-1,3-DCPE	.50	ND	Įΰ
79-00-5	1,1,2-TCA	.50	ND	U
127 - 18-4	PCE	.50	ND	ľŪ
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	Ŭ
106-46-7	1,4-DCB	1.0	ND	U
95-50-1	1,2-DCB	1.0	ND	İU

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

Anametrix ID : 9301028-03 : 204-0072

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

Dilution Factor: 5.0

Conc. Units : ug/L

CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Freon 12	5.0	ND	U
74-87-3	Chloromethane	i 5.0	ND	įυ
75-01-4	Vinyl Chloride		ND	U
74-83-9	Bromomethane		ND	įυ
75-00-3	Chloroethane	2.5	ND	Įΰ
75-69-4	Freon 11	i 2.5	ND	ĮŪ
76-13-1	Freon 113	2.5	ND	U
75-35-4	1,1-DCE	2.5	ND	U
75-09-2	Methylene Chlor	5.0	ND	JU
156-60-5	Trans-1,2-DCE	2.5	ND	U
75-34-3	1,1-DCA	2.5	ND	U
156-59-2	Cis-1,2-DCE		ND	U
67-66-3	Chloroform	2.5	ND	U
71-55-6	1,1,1-TCA	2.5	ND	U
56-23-5	Carbon Tet	2.5	ND	Įΰ
107-06-2	1,2-DCA	2.5	ND	U
79-01-6	Trichloroethene	1 2.5	ND	U
78-87-5	1,2-DCPA	2.5	ND	ĮU
75-27-4	Bromodichlorome	2.5	ND	Ü
110-75-8	Chloroethylvinl	<u> </u>	ND	U
10061-01-5	Cis-1,3-DCPE	2.5	ND	U
10061-02-6	Trans-1,3-DCPE	2.5	ND	U
79-00-5	1,1,2-TCA	2.5	ND	Įυ
127-18-4	PCE	2.5	ND	U
124-48-1	Dibromochlorome	(2.5	ND	Į U
108-90-7	Chlorobenzene	2.5	ND	U
75-25-2	Bromoform	2.5	ND	U
79-34-5	1,1,2,2-PCA	2.5	ND	U
541-73-1	1,3-DCB	5.0	ND	U
106-46-7	1,4-DCB	5.0	ND	U
95-50-1	1,2-DCB	5.0	ND	U

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

Anametrix ID : 14B0115H01 : 204-00

Project ID Sample ID Matrix : VBLANK Analyst Supervisor Matrix : WATER

Matrix : WATER
Date Sampled : 0/ 0/ 0
Date Analyzed : 1/15/93
Instrument ID : HP14 Dilution Factor: 1.0 Conc. Units : ug/L

		REPORTING	I I AMOUNT	
CAS No.	COMPOUND NAME	LIMIT	DETECTED	Q
CAB NO.	COMPOUND NAME	_		
75-71-8	Freon 12	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	I U
	Vinyl Chloride		I ND	บ
75-01-4	Bromomethane	50	ND ND	Ü
74-83-9			ND ND	υ
75-00-3	Chloroethane	.50	ND ND	
75-69-4	Freon 11		1	U
76-13-1	Freon 113	[.50	ND	U I
75-35-4	1,1-DCE		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		ND	ប្រ
56-23-5	Carbon Tet	.50	ND	U
107-06-2	1,2-DCA		ИD	\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	i .50	ND	Ū
79-00-5	1,1,2-TCA	.50	ND	បែ
127-18-4	PCE	i .50	ND	បែ i
124-48-1	Dibromochlorome	.50	ND	ប
108-90-7	Chlorobenzene	.50	ND	iυ
75-25-2	Bromoform		ND	เบิ
79-34-5	1,1,2,2-PCA	 .50	ND	บั
541-73-1	1,3-DCB	1.0	ND	บี
106-46-7	1,4-DCB		ND	Ŭ
95-50-1	1,2-DCB	1.0	ND	ΙÜ
90.00.1	1/2 000	—-	114	

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

Project ID : 204-0072 Matrix : LIQUID

Anametrix ID: 9301028

Analyst Supervisor

: KK

	SAMPLE ID	SU1	SU2	SU3
1	VBLANK	104		
	MW-1	103		i
3	MW-2	105	i	i ———
4				i ————
2 3 4 5 6		;		\———
6		l ————		i
7		¦	ļ	<u> </u>
7 8		\ 	}	}
9	! 	l	ļ ———	
10		ļ	l ————	ļ
		i ———		
12		<u> </u>		<u> </u>
13		\	\	·
14		!	ļ	<u> </u>
15		l ————	<u> </u>	l ————
16]	ļ ————	
17 l		¦	¦	¦
18		\ 		\
19		ļ		ļ
20		!		
21		}]]
22		¦	ļ	
23			ļ	
24		ļ 		
24 25				
26		}	\	}
27		¦	l ————	
28		{	l	
		<u> </u>		
29			ļ ——— i	
30 J		l	l	

QC LIMITS ------(51-136)

SU1 = CHLOROFLUOROBEN

* Values outside of Anametrix QC limits

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

Project/Case : LABORATORY CONTROL SAMPLE Anametrix I.D. : W0011593

Matrix : WATER Analyst : KK
SDG/Batch : N/A Supervisor : P
Date analyzed : 01/15/93 Instrument I.D.: HP14

SPIKE TRUOMA PERCENT **%RECOVERY** TRUOMA RECOVERED RECOVERY LIMITS COMPOUND (ug/L) (ug/L) 9.1 91% 10.3 103% 10.8 108% 34 - 128 63 - 133 55 - 145 FREON 113 10 1,1-DICHLOROETHENE 10 trans-1,2-DICHLOROETHENE 10 98% 130% 1,1-DICHLOROETHANE 10 9.8 49 - 121 13.0 cis-1,2-DICHLOROETHENE 10 66 - 168 1,1,1-TRICHLOROETHANE 10 10.4 103% 72 - 143 63 - 147 TRICHLOROETHENE 10 9.4 94% TETRACHLOROETHENE 10 9.2 92% 60 - 133 CHLOROBENZENE 10 9.8 98% 70 - 148 1,3-DICHLOROBENZENE 86% 49 - 139 10 8.6 92% 1,4-DICHLOROBENZENE 10 9.2 70 - 133 1,2-DICHLOROBENZENE 10 8.8 888 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 # : 9301028 Workorder # : 9301028
Date Received : 01/06/93
Project ID : 204-0072-0403
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9301028- 1	S-1	WATER	01/05/93	TPHg/BTEX
9301028- 2	MW-1	WATER	01/05/93	TPHg/BTEX
9301028- 3	MW-2	WATER	01/05/93	TPHg/BTEX
9301028- 4	MW-3	WATER	01/05/93	TPHg/BTEX
9301028- 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 # : 9301028
Date Received : 01/06/93
Project ID : 204-0072-0403

Purchase Order: MOH-B813

Department : GC Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Chery Berlmen 1/14/93
Department Supervisor Date

ggie Davison 1/14/93
Date

GC/TPH - PAGE 2

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

Anametrix W.O.: 9301028 Project Number: 204-0072-0403

Matrix : WATER Date Released : 01/13/93

Date Sampled : 01/05/93

	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 Toluene Ethylbenzene Total Xylenes TPH as Gasoline	0.5 0.5 0.5 0.5 50	ND ND ND ND ND	ND ND ND ND ND	550 500 600 1900 8900	ND ND ND ND ND	ND ND ND ND ND
<pre>% Surrogate Recovery Instrument I.D. Date Analyzed RLMF</pre>		88% HP21 01/07/93 1	88% HP21 01/07/93	111% HP21 01/11/93 50	87% HP21 01/07/93	90% HP21 01/07/93 1

ND - Not detected at or above the practical quantitation limit for the method.

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

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

luia Sher 1/14/93 Analyst Date

Supervisor Bao 1/14/93

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.

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

Anametrix W.O.: 9301028

Project Number : 204-0072-0403

Matrix : WATER

Date Released: 01/13/93 Date Sampled : N/A

	Reporting Limit	Sample I.D.# BJ0701E3	Sample I.D.# BJ1101E3	 	
COMPOUNDS	(ug/L)	BLANK	BLANK	 	
Benzene Toluene Ethylbenzene Total Xylenes TPH as Gasoline % Surrogate Rece Instrument I.Date Analyzed RLMF		ND ND ND ND ND 110% HP21 01/07/93	ND ND ND ND ND 104% HP21 01/11/93		

- 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.

nuer Sher 1/14/93

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

Sample I.D. : 204-0072-0403 S-1
Matrix : WATER
Date Sampled : 01/05/93
Date Analyzed : 01/07/93

Anametrix I.D.: 9301028-01
Analyst: IS
Supervisor: 0
Date Released: 01/13/93
Instrument ID: HP21

COMPOUND	SPIKE AMT (ug/L)	SAMPLE AMT (ug/L)	REC % MS (ug/L)	REC MS	REC % MD (ug/L)	REC MD	RPD	% REC LIMITS	
GASOLINE	375	0	310	83%	295	79%	 5%	48-145	
P-BFB				92%		97%		53-147	

^{*} Limits established by Anametrix, Inc.

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 Anametrix I.D.: LCSW0107

Matrix

Date Sampled : N/A

Analyst : 15 Supervisor : 0 Date Released : 01/13/93 Instrument I.D.: HP21 Date Analyzed: 01/07/93

COMPOUND	SPIKE AMT. (ug/L)	REC (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	375	329	88%	56-116
SURROGATE			85%	53-147

^{*} Quality control established by Anametrix, Inc.

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

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Analyzed : 01/11/93

Anametrix I.D.: LCSW0111

Analyst : Obt Supervisor : Obt Date Released : 01/21/93 Instrument ID : HP21

COMPOUND	SPIKE MPOUND AMT. (ug/L)		REC LCS	%REC LIMITS
Benzene	10.0	8.4	84%	49-159
Toluene	10.0	8.8	88%	53-156
Ethylbenzene	10.0	9.6	96%	54-151
TOTĀL Xylenes	10.0	8.7	87%	56-157
P-BFB			96%	53-147

^{*} Limits established by Anametrix, Inc.