Environmental and Geologic Services

Fax: 510-547-5043 APTON: 510-450-6000

94 FEB -8 PH 4: 20

January 31, 1994

Scott O. Seery
Alameda County Department
of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621-1426

Re: Shell Service Station
WIC #204-6852-1404
1784 150th Avenue
San Leandro, California 94578
WA Job #81-422-203

Dear Mr. Seery:

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 Ouarter 1994 Activities:

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured ground water depths and collected ground water samples from the site wells. BTS' report describing these activities and the analytic report for the ground water samples are included as Attachment A.
- Weiss Associates (WA) compiled ground water elevation and analytic data (Tables 1 and 2), prepared a ground water elevation contour map (Figure 2) and prepared concentration maps for total petroleum hydrocarbons as gasoline and benzene in ground water (Figures 3 and 4).

#### Anticipated First Ouarter 1994 Activities:

- WA will submit a report presenting the results of first quarter 1994 ground water sampling and depth measurements. The report will include tabulated chemical analytic results, a ground water elevation contour map and concentration contour maps.
- VA will also perform the subsurface in religious outlined in our More more Till 1989 workplan.



#### Discussion of Results:

The ground water flow direction has provided by the first the great distribution. However, this reversal may be due to temporary seasonal changes in ground water flow. We will continue to monitor ground water flow directions to assess whether there are consistent flow direction trends over time.

Please call if you have any questions.

Sincerely,

Weiss Associates

John Wolf

Technical Assistant

N. Scott MacLeod, R.G.

Project Geologist

JAW/NSM: jaw

J:\SHELL\400\422QMJA4,WP

Attachments: A - BTS' Ground Water Monitoring Report

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998 Lester Feldman, California Regional Water Quality Control Board - San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, California 94612 Eileen Hughes, California Department of Toxic Substances Control, 700 Heinz Avenue, Building "F" Suite 200, Berkeley CA, 94710

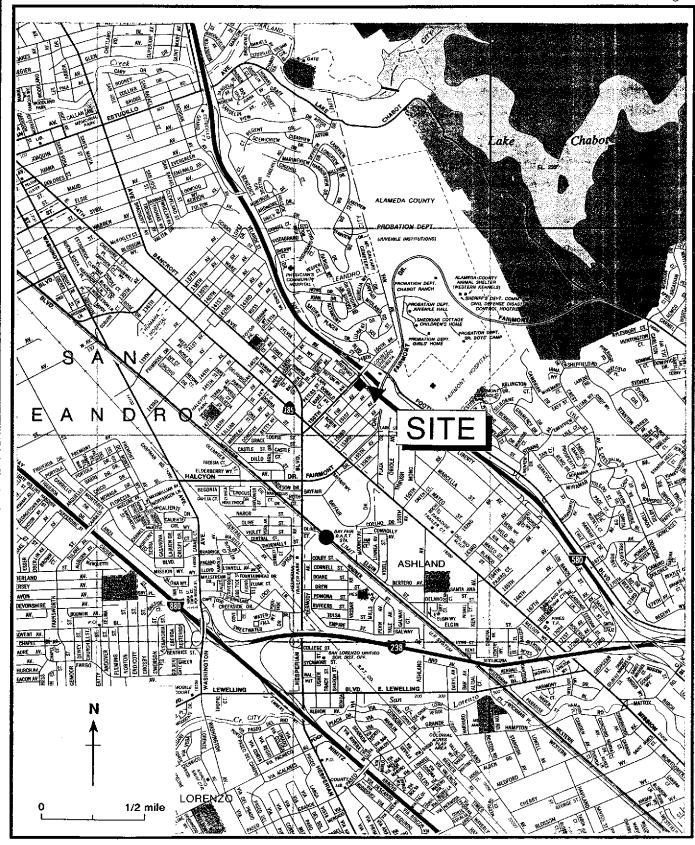


Figure 1. Site Location Map - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California



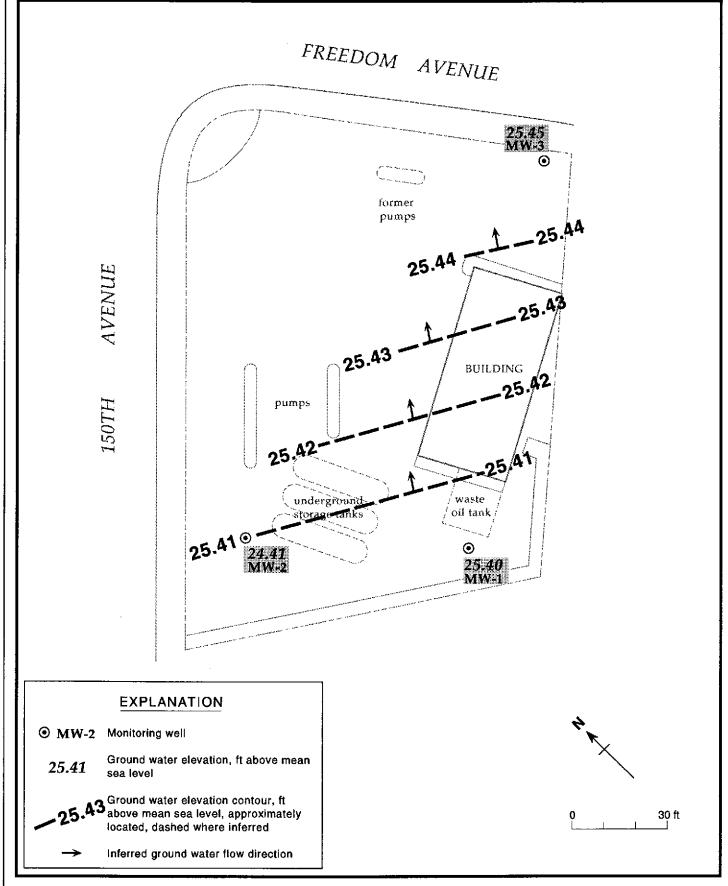


Figure 2. Monitoring Well Locations and Ground Water Elevations Contours - December 13, 1993 - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California



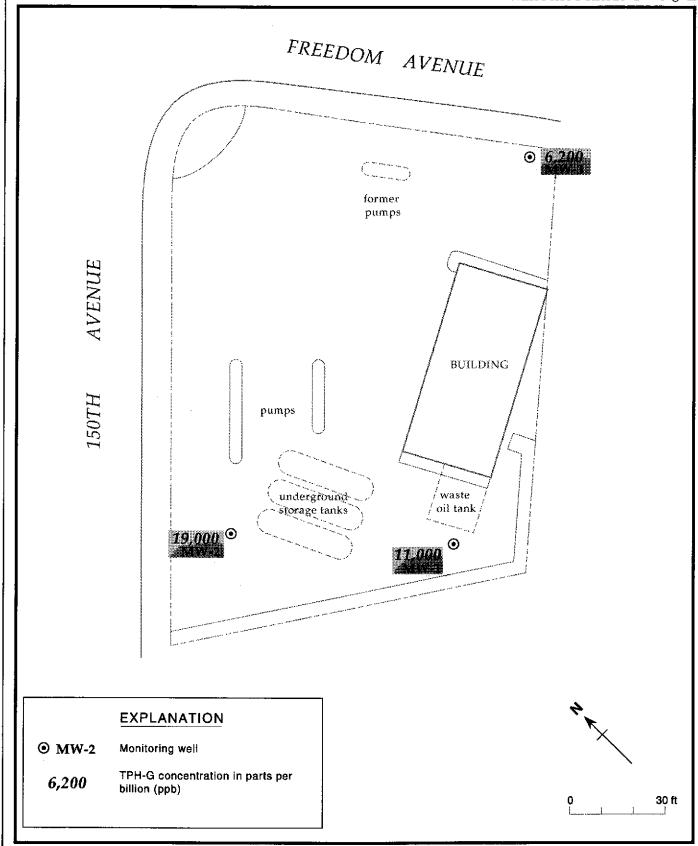


Figure 3. Monitoring Well Locations and TPH-G Concentrations in Ground Water - December 13, 1993 - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California



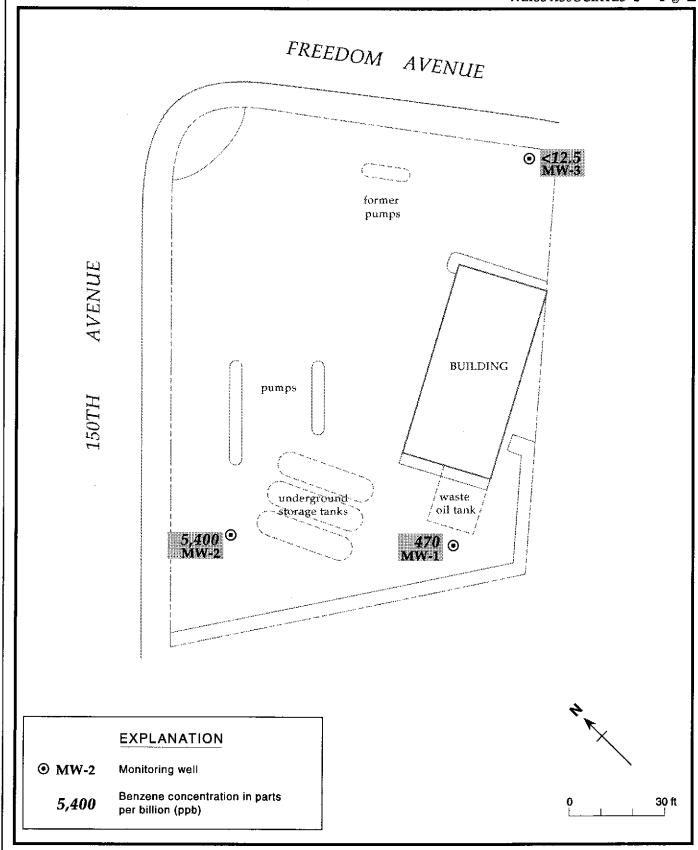


Figure 4. Monitoring Well Locations and Benzene Concentrations in Ground Water - December 13, 1993 - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California

TABLE 1. Ground Water Elevations - Shell Service Station WIC #204-6852-1404, 1784 150th Avenue, San Leandro, California

Well		Top-of-Casing Elevation	Depth to Water	Ground Water Elevation
ID	Date	(ft above msl)	(ft)	(ft above msl)
MW-1	03/08/90	49.13	25.29	23.84
	06/12/90		25.85	23.28
	09/13/90		27.49	21.64
	12/18/90		27.41	21.72
	03/07/91		25.79	23.34
	06/07/91		25.64	23.49
	09/17/91		27.54	21.59
	12/09/91		27.81	21.32
	02/13/92		25.57	23.56
	02/24/92		22.83	26.30
	02/27/92 03/01/92		23.09	26.04
	06/03/92		23.26 24.64	25.87
	09/01/92		24.04 26.74	24.49
	10/06/92		20.74 27.18	22.39 21.95
	11/11/92			
	12/04/92		27.99	21.14
	01/22/93		27.14	21.99 29.04
	02/10/93		20.09 24.26	24.87
	03/03/93		20.50	24.87 28.63
	05/11/93		20.30 21.70	28.63 27.43
	06/17/93		22.42	26.71
	09/10/93		24.11	25.02
	12/13/93	High the recent of the limit of the control accesses steads	23.73	25.40 25.40
MW-2	02/13/92	45.83	22.22	23.61
	02/24/92		19.61	26.22
	02/27/92		19.92	25.91
	03/01/92		21.11	24.72
	06/03/92		21.58	24.25
	09/01/92		23.46	22.37
	10/06/92		23.99	21.84
	11/11/92		24.25	21.58
	12/04/92		23.89	21.94
	01/22/93		17.03	28.80
	02/10/93		18.08	27.75
	03/03/93		17.28	28.55
	05/11/93		18.41	27.42
	06/17/93		19.06	26.77
	09/10/93		20.88	24.95
	12/13/93		20.42	25.41
MW-3	02/13/92	51.97	27.97	24.00
TAT AA_2	02/24/92	31.97		24.00
	02/24/92		25.60 25.88	26.09
	02121172		43.00	20.09

<sup>-</sup> Table 1 continues on next page --



TABLE 1. Ground Water Elevations - Shell Service Station WIC #204-6852-1404, 1784
150th Avenue, San Leandro, California (continued)

Well ID	Date	Top-of-Casing Elevation	Depth to Water	Ground Water Elevation
117	Date	(ft above msl)	(ft)	(ft above msl)
	03/01/92		26.00	25.97
	06/03/92		27.70	24.27
	09/01/92		29.46	22.51
	10/06/92		30.01	21.96
	11/11/92		30.26	21.71
	12/04/92		29.93	22.04
	01/22/93		22.76	29.21
	02/10/93		21.40	30.57
	03/03/93		23.08	28.89
	05/11/93		24.51	27.46
	06/17/93		25.21	26.76
	09/10/93		26.95	25.02
	12/13/93		26.52	25.45

	Date	Depth to Water	TPH-G	TPH-D	POG	B	E per billion	T	X	1,2-00
ell ID	Sampled	(ft)				раг с	s per bittion	(ug/t/		
w-1	03/08/90	25.29	510	120 <sup>a</sup>	<10,000	1.5	<0.5	0.8	5.4	12
	06/12/90	25.85	390	100 <sup>a</sup>	<10,000	86	0.7	1.3	6.2	<0.4
	09/13/90	27.49	100	130ª	<10,000	56	2.4	0.75	2.8	<0.4b
	12/18/90	27.41	480	<50°	<10,000	54	3.3	1.7	3.7	5.3
	03/07/91	25.79	80	<50 <sup>a</sup>	,	266	1.2	<0.5	<1.5	6.7
	06/07/91	25.64	510	<50 <sup>8</sup>		130	6.1	3.8	11	7.9
	09/17/91	27.54	330	120 <sup>ac</sup>		67	3	<0.5	2.2	6
	12/09/91	27.81	140 <sup>d</sup>	80		<0.5	1.7	<0.5	4.7	5.4
	03/01/92	23.36	<50	<50		<0.5	<0.5	<0.5	<0.5	3
	06/03/92	24.64	1,500			520	72	180	230	3
	09/01/92	26.74	130	***		16	1.8	1.4	3.4	1.3 <sup>e</sup>
	12/04/92	27.14	150			360	1.8	0.7	2.1	3.3
	03/03/93	20.50	< <b>5</b> 0			1.5	<0.5	<0.5	<0.5	0.76
	06/17/93	22.42	1,600			340	120	120	440	3
									730	
	09/10/93	24.11	2,600		* • •	670	310	340		2.3
	12/13/93	23.73	11,000			470	380	320	2,300	6.3
i-2	02/24/92	19.61	17,000	2,700 <sup>C</sup>		6,200	550	1,600	1,900	200
	03/01/92	21.11	86,000	1,000 <sup>9</sup>		30,000	2,300	34,000	16,000	82
	06/03/92	21.58	87,000			28,000	2,000	18,000	10,000	<5P
	09/01/92	23.46	110,000		•••	21,000	1,900	13,000	7,800	<50 83 <sup>h</sup>
	12/04/92	23.89	42,000			15,000	960	2,400	2,900	100
	03/03/93	17.28	160,000	•••	•••	36,000	32,000	3,800	21,000	7.7
	03/03/93 <sup>n</sup>		150,000			31,000	20,000	3,100	14,000	16
	06/17/93	19.06	65,000	` •••	•••	34,000	3,200	15,000	11,000	37
	06/17/93 <sup>h</sup>	19.06	62,000			28,000	2,700	14,000	10,000	36
	09/10/93 <sup>T</sup>	20.88	72,000	•••	•••	24,000	2,300	16,000	11,000	28.0
	09/10/93 <sup>dupf</sup>	20.88	71,000			23,000	2,300	15,000	10,000	27.0
	12/13/93	20.42	19,000			5,400	680	4,900	3,100	<0.5
	12/13/93 <sup>chup</sup>		17,000			6,200	720	5,500	3,500	3.4
1-3	02/24/92	25.60	4,500	1,300 <sup>c</sup>		97	78	<5	18	9.1
• •	03/01/92	26.00	2,200	440		69	<0.5	<0.5	<0.5	13
	06/03/92	27.70	4,100	440		13	44	72	65	16
	09/01/92,		4,100							
		29.46	1,900			20	5.5	6.8	<5 -5	19
	09/01/921	29.46	1,900	•••		21	3.4	6.6	<5	21
	12/04/92	29.93	2,400			8.2	<5	<5 -0.5	<5	16
	12/04/921	29.93	2,100	•••		11	5.7	<0.5	<0.5	18
	03/03/93	23.08	5,100			63	75	61	150	3.3
	06/17/93	25.21	4,000			94	82	140	150	23
	09/10/93	26.95	3,200			140	12.5	12.5	12.5	20.0
	12/13/93	26.52	6,200			<b>≮12.5</b>	≺12.5	<b>&lt;12.5</b>	<12.5	13
-ip	03/08/90		<50			<0.5	<0.5	<0.5	<0.5	
lank	06/12/90		< <b>5</b> 0			<0.5	<0.5	<0.5	<0.5	

<sup>--</sup> Table 2 continues on next page --

		Depth to	TPH-G	TPH-D	POG	В	E	Ŧ	X	1,2-DCA
Well ID	Date Sampled	Water (ft)	<			parts	per billion (	ug/l)		>
	12/18/90		<50			<0.5	<0.5	<0.5	<0.5	
	03/07/91		<50			<0.5	<0.5	<0.5	<0.5	
	06/07/91		<50	•••		<0.5	<0.5	<0.5	<0.5	
	09/17/91		<50			<0.5	<0.5	<0.5	<0.5	
	12/09/91		<50			<0.5	<0.5	<0.5	<0.5	•••
	02/24/92		<50	•		<0.5	0.6	2.5	2.2	
	03/01/92		<50			<0.5	<0.5	<0.5	<0.5	•••
	06/03/92		<50			<0.5	<0.5	<0.5	<0.5	
	09/01/92		<50		•	<0.5	<0.5	<0.5	<0.5	<0.5,
	12/04/92		<50			<0.5	<0.5	<0.5	<0.5	<0.5 <sup>J</sup>
	03/03/93		<50		•••	<0.5	<0.5	<0.5	<0.5	<0.5
	06/17/93		<50			<0.5	<0.5	<0.5	<0.5	<0.5
	09/10/93		<50			<0.5	<0.5	<0.5	<0.5	<sub>L</sub>
	12/13/93		<50	e g <del>iri</del> t er		<0.5	<0.5	<0.5	<0.5	<0.5 <sup>k</sup>
Bailer	03/08/90		<50	•••		<0.5	<0.5	<0.5	<0.5	
Blank	09/01/92		<50			<0.5	<0.5	0.7	<0.5	<0.5;
··-	12/04/92		60	•••		<0.5	<0.5	<0.5	<0.5	<0.5 <sup>J</sup>
DTSC MCLs			NE	NE	NE	1	680	100 <sup>l</sup>	1,750	5.0

#### 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
- POG = Petroleum oil and grease by American Public Health Association Standard Method 503E or 5520F
- B = Benzene by EPA Method 8020
- E = Ethylbenzene by EPA Method 8020
- T = Toluene by EPA Method 8020
- X = Xylenes by EPA Method 8020
- 1,2-DCA = 1,2-Dichloroethane by EPA Method 601
- --- = Not analyzed
- <n = Not detected above method detection limit of n ppb</p>
- DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
- NE = Not established

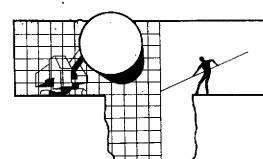
#### Notes:

- a = No total petroleum hydrocarbons as motor oil detected above modified EPA Method 8015 detection limit of 500 ppb
- b = Tetrachloroethene (PCE) detected at 24 ppb by EPA Method 601; DTSC MCL for PCE = 5 ppb
- c = Result is due to hydrocarbon compounds lighter than diesel
- d = Result due to a non-gasoline hydrocarbon compound
- e = In the matrix spike/matrix spike duplicate of sample MW-1, the RPD for Freon 113 and 1.3-dichloroebenze was greater than 25%
- f = The MW-2 and Dup samples each contained 1.6 ppb of methylene chloride which is within normal laboratory background levels.
- g = Diesel result is due to a petroleum hydrocarbon that is lighter than diesel
- h = Sample MW-2 was diluted 1:100 for EPA Method 8010 due to the interfering hydrocarbon peaks
- i = Duplicate sample
- j = The trip and field blank samples from 12/04/92 contained 14 and 10  $\mu$ g/L 1,3-dichloroebenzene, respectively
- k = 1.4  $\mu g/L$  Chloroethene detected in equipment blank, trip blank not analyzed
- 1 = 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 95136 (408) 995-5535 FAX (408) 293-8776

January 10, 1993

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

Attn: Daniel T. Kirk

SITE: Shell WIC #204-6852-1404 1784 150th Avenue San Leandro, California

QUARTER: 4th quarter of 1993

#### **QUARTERLY GROUNDWATER SAMPLING REPORT 931213-K-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 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

ecovered 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/mla

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 (1 <del>00</del> 1)	DEPTH TO WELL BOTTOM (feet)
MW-1	12/13/93	TOC	DOR	_	<del></del>	<b>-</b>	23.73	44.51
MW-2 * MW-3	12/13/93 12/13/93	TOC TOC	SHEERY/ODOR ODOR	NONE	<del></del> 	<del>-</del>	20.42 26.52	44.27 41.48

<sup>\*</sup> Sample DUP was a duplicate sample taken from well MW-2.

世5/2

45/2								93	12/	64	ļ		(	18	(	ورک				<u>.</u>
SHELL RETAIL E Sile Address: 1784	NVIR	ONME	NTAL I	ENGI	NEER	ING -						IAI Se	N O	F C	US	10	ŅΥ	RE(		Date: 12/13/93
WIC#: 204	130Ch	Avenue	, San	Lear	dro	·		- <u>-</u>		An	alys	is R	equ	lrec	t				LAB: Anametrix	
204-6	852-1	404							l					•		Γ.			· -	TOT THE AROUND TIME
Shell Enginoer: Dan Kirk Consulloni Name & / Blaine Tech Sery 985 Timothy Driv Consullani Contacl: Jim Keller Comments:	\ddres ices, e S	s: Inc.	e, CA	951	675- 33	(400)		Diesel).		A 8240)		5 & BTEX 8020			•	, i			Cuarterly Montering S   Ste Investigation   G   Soft Classify/Disposal   G   Water Classify/Disposal   G   Soft/Air Rem, or Sys.   G	24 hours
Sampled by: KC	3 ,		<del></del>	<del></del>			8015 Mod.	8015 Mod. [	(209/0205	ganics (EPA		TPH 801	100			62	Used	Y/N	Water Str. 2	HOTE: Notify tob as soon as Fossible of 24/48 hm. TAT.
Printed Name: Ka Sample ID	Date	Sludge	Soll	Y/alei	Alr	No. of	TH (EPA 8	TH (EPA 80	51EX (EPA 5020/602)	Volatile Organics	Test for Disposal	Combination TPH 8015	EP46		Asbestos	Container Size	Preparation Used	Composite	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
1) Kaul	/2/ //3			W		6				:		X	$\nabla$			Ī				
MWZ	1			( ۱۸		Z					$\vdash$	X	Ż			<u> </u>		_		
MW3			<del>- ·</del> .	<u> </u>		1		-			<del></del>	$\langle \cdot \rangle$	<del>\( \frac{1}{2} \)</del>			-				
DUP				$\widetilde{\mathcal{U}}$		8	_		_			$\stackrel{\wedge}{\nabla}$	Q							
EB				W		8						X	X							·
TB	4	,		W		a					·	X								
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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 # : 9312164

Date Received : 12/14/93 Project ID : 204-6852-1404

Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9312164- 1 9312164- 2 9312164- 3 9312164- 4 9312164- 5 9312164- 6	MW1 MW2 MW3 DUP EB TB

This report consists of 17 pages not including the cover letter, and is organized in sections according to the specific Anametrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anametrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

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

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

Sarah Schoen, Ph.D. Laboratory Director



## 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, <u>if</u> 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:

- 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.

dm/3426 - Disk 20D

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

MR. JIM KELLER BLAINE TECH

985 TIMOTHY DRIVE SAN JOSE, CA 95133 Workorder # : 9312164

Date Received : 12/14/93 Project ID : 204-6852-1404

Purchase Order: MOH-B813

Department : GC Sub-Department: VOA

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Temarzadeh

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

MR. JIM KELLER BLAINE TECH

985 TIMOTHY DRIVE SAN JOSE, CA 95133 Workorder # : 9312164
Date Received : 12/14/93
Project ID : 204-6852-1404
Purchase Order: MOH-B813

Department : GC Sub-Department: VOA

#### SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9312164- 1	MW1	WATER	12/13/93	8010
9312164- 2	MW2	WATER	12/13/93	8010
9312164- 3	MW3	WATER	12/13/93	8010
9312164- 4	DUP	WATER	12/13/93	8010
9312164- 5	EB	WATER	12/13/93	8010

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

MR. JIM KELLER BLAINE TECH

985 TIMOTHY DRIVE

SAN JOSE, CA 95133

Workorder # : 9312164

Date Received: 12/14/93 Project ID: 204-6852-1404

Purchase Order: MOH-B813

Department : GC

Sub-Department: TPH

#### QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Kamel C. Kamel 12/23/73

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

: 204-6852 Anametrix ID : 9312164-01

Project ID Sample ID : MW1 Analyst Supervisor Matrix : WATER

:12/13/93 :12/15/93 Date Sampled Dilution Factor : 1.0 Date Analyzed

: ug/L Instrument ID : HP24 Conc. Units

•				
CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8 74-87-3 75-01-4 74-83-9 75-00-3 75-69-4	Dichlorodifluoromethane Chloromethane Vinyl chloride Bromomethane Chloroethane Trichlorofluoromethane	1.0 1.0 .50 .50 .50	ND ND ND ND ND ND	U U U U U
76-13-1 75-35-4 75-09-2 156-60-5 75-34-3	Trichlorotrifluoroethane 1,1-Dichloroethene Methylene chloride trans-1,2-Dichloroethene 1,1-Dichloroethane	.50 .50 1.0 .50 .50	ND ND ND ND ND	บ บ บ บ
156-59-2 67-66-3 71-55-6 56-23-5 107-06-2 79-01-6	cis-1,2-Dichloroethene Chloroform 1,1,1-Trichloroethane Carbon tetrachloride 1,2-Dichloroethane Trichloroethene	.50 .50 .50 .50 .50	ND ND ND ND 6.3 ND	บ บ บ บ
78-87-5 75-27-4 110-75-8 10061-01-5 10061-02-6	1,2-Dichloropropane Bromodichloromethane 2-Chloroethylvinylether cis-1,3-Dichloropropene trans-1,3-Dichloropropene	.50 .50 1.0 .50 .50	ND ND ND ND ND ND	ט ט ט
79-00-5 127-18-4 124-48-1 108-90-7 75-25-2 79-34-5	1,1,2-Trichloroethane Tetrachloroethene Dibromochloromethane Chlorobenzene Bromoform 1,1,2,2-Tetrachloroethane	.50 .50 .50 .50 .50	ND ND ND ND ND ND	ט ט ט ט
541-73-1 106-46-7 95-50-1	1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	.50 .50 .50	ND ND ND	U U U

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

Project ID Sample ID Anametrix ID : 9312164-02 : 204-6852

1.0

: TM Analyst : MW2 Supervisor Matrix : WATER

:12/13/93 :12/15/93 Date Sampled

Dilution Factor : Date Analyzed : HP24 Conc. Units : ug/L Instrument ID

	·			
CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Dichlorodifluoromethane	1.0	ND	U
74-87-3	Chloromethane	1.0	ND	Ū
75-01-4	Vinyl chloride	.50	ND	ϋ
74-83-9	Bromomethane	.50	ND	Ū
75-00-3	Chloroethane	.50	ND	Ū
75 <b>-</b> 69-4	Trichlorofluoromethane	.50	ND	Ū
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	บ-
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	T
110-75-8	2-Chloroethylvinylether	1.0	ND	U
10061-01-5	cis-1,3-Dichloropropene	.50	ND	U
.0061-02-6	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	.50	ND	U
106-46-7	1,4-Dichlorobenzene	.50	ND	U
95-50-1	1,2-Dichlorobenzene	.50	ND	שׁ
				l

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

: 204-6852

Project ID Sample ID : MW3 Matrix : WATER

:12/13/93 :12/15/93 : HP24 Date Sampled Date Analyzed Instrument ID

: 9312164-03 : [7] : }} Anametrix ID

Analyst Supervisor

Dilution Factor : 1.0

: ug/L Conc. Units

				<del>,                                     </del>
CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
CAS No.  75-71-8 74-87-3 75-01-4 74-83-9 75-00-3 75-69-4 76-13-1 75-35-4 75-09-2 156-60-5 75-34-3 156-59-2 67-66-3 71-55-6 56-23-5 107-06-2 79-01-6 78-87-5 107-06-2 79-01-6 78-87-5 10061-01-5 10061-02-6 79-00-5 127-18-4 124-48-1 108-90-7 75-25-2 79-34-5	Dichlorodifluoromethane Chloromethane Vinyl chloride Bromomethane Chloroethane Trichlorofluoromethane Trichlorotrifluoroethane 1,1-Dichloroethene Methylene chloride trans-1,2-Dichloroethene 1,1-Dichloroethane cis-1,2-Dichloroethene Chloroform 1,1,1-Trichloroethane Carbon tetrachloride 1,2-Dichloroethane Trichloroethene 1,2-Dichloropropane Bromodichloromethane 2-Chloroethylvinylether cis-1,3-Dichloropropene trans-1,3-Dichloropropene 1,1,2-Trichloroethane Tetrachloroethene Dibromochloromethane Chlorobenzene Bromoform 1,1,2,2-Tetrachloroethane	1.00 1.50 .50 .50 .50 .50 .50 .50 .50 .50 .50	DETECTED  REPERT STATE OF THE S	מממממממממ מממממממממממ
541-73-1 106-46-7 95-50-1	1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	.50 .50 .50	ND ND ND	U U U

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

: 9312164-04 : Th : 204-6852 Anametrix ID Project ID Sample ID Analvst

: DUP Matrix Supervisor

Instrument ID

: HP24

WATER :12/13/93 :12/15/ Date Sampled Dilution Factor : 1.0 Date Analyzed

Conc. Units : uq/L

REPORTING TRUOMA CAS No. COMPOUND NAME LIMIT DETECTED Q ND U 1.0 75-71-8 Dichlorodifluoromethane Chloromethane Vinyl chloride U 1.0 ND74-87-3 U ND 75-01-4 .50 74-83-9 Bromomethane\_\_\_\_ .50 NDU Chloroethane \_\_\_ .50 NDU 75-00-3 Trichlorofluoromethane .50 ND U 75-69-4 Trichlorotrifluoroethane .50 ND U 76-13-1 ND U 1,1-Dichloroethene .50 75-35-4 U 75-09-2 Methylene chloride 1.0 ND U trans-1,2-Dichloroethene ND 156-60-5 .50 .50 ND U 75-34-3 1,1-Dichloroethane .50 ND U 156-59-2 cis-1,2-Dichloroethene U .50 ND 67-66-3 Chloroform .50 ND IJ 71-55-6 56-23-5 1,1,1-Trichloroethane .50 ND U Carbon tetrachloride\_\_\_\_ .50 3.4 107-06-2 1,2-Dichloroethane .50 NDU 79-01-6 Trichloroethene .50 NDU 78-87-5 1,2-Dichloropropane .50 U 75-27-4 Bromodichloromethane NDNDU 110-75-8 2-Chloroethylvinylether 1.0 .50 ND U 10061-01-5 cis-1,3-Dichloropropene .50 NDIJ trans-1,3-Dichloropropene 10061-02-6 .50 ND U 79-00-5 1,1,2-Trichloroethane U .50 ND Tetrachloroethene 127-18-4 ND U Dibromochloromethane .50 124-48-1 Chlorobenzene \_\_\_\_ .50 NDU 108-90-7 IJ .50 ND 75-25-2 Bromoform 1,1,2,2-Tetrachloroethane .50 ND U 79-34-5 .50 ND IJ 1,3-Dichlorobenzene 541-73-1 1,4-Dichlorobenzene .50 ND U 106-46-7 IJ 95-50-1 1,2-Dichlorobenzene .50 ND

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

: 9312164-05 Project ID Sample ID : 204-6852 Anametrix ID

Analyst : EB : WATER Supervisor

Matrix

:12/13/93 :12/15/93 : HP24 Date Sampled
Date Analyzed
Instrument ID 1.0 Dilution Factor : Conc. Units : ug/L

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

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

Project ID Sample ID : 204-68

Anametrix ID : BD1502I1
Analyst : TM
Supervisor : > : VBLK : WATER Matrix

: 0/ 0/ 0 :12/15/93 Date Sampled 1.0 Dilution Factor :

Date Analyzed Instrument ID Conc. Units : ug/L : HP24

			•	<del></del>
CAS No.	COMPOUND NAME	REPORTING LIMIT	AMOUNT DETECTED	Q
75-71-8	Dichlorodifluoromethane	1.0	NID	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	Ū
76-13-1	Trichlorotrifluoroethane	.50	ND	U
75-35-4	1,1-Dichloroethene	.50	ND	ט
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	Ū
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	υ
75-25-2	Bromoform	.50	ND	U
79-34-5	1,1,2,2-Tetrachloroethane	.50	ND	Ū.
541-73-1	1,3-Dichlorobenzene	.50	ND	שַ
106-46-7	1,4-Dichlorobenzene	.50	ND	Ŭ
95-50-1	1,2-Dichlorobenzene	.50	ND	ט
		l	l	.l

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

Anametrix ID : 9312164 Analyst : Th Project ID : 204-6852 Matrix : LIQUID

Supervisor

	SAMPLE ID	SU1	SU2	SU3
1234567890112345678901222222222230	VBLK MW1 MW2 MW3 DUP EB	SU1  67 74 79 73 75	85 92 91 94 93 93	83 100 97 104 97 92
20				
22				
23 24				
25 26				
27				
28				
30				

			QC	LIMITS
				<del>-</del>
SU1	=	Bromochloromethane	(56	5- 99)
SU2	=	1-Chloro-2-fluorobenze	(7)	3-110)
SU3	=	2-Bromochlorobenzene	(65	5-108)

<sup>\*</sup> Values outside of Anametrix QC limits

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

: LABORATORY CONTROL SAMPLE

Anametrix I.D. : MD1501I1

Sample I.D. Matrix : WATER SDG/Batch SDG/Batch : 12164 Date analyzed : 12/15/93

Analyst : TM Supervisor : A Instrument I.D.: HP24

COMPOUND	SPIKE AMOUNT (ug/L)	AMOUNT RECOVERED (ug/L)	PERCENT RECOVERY	RECOVERY LIMITS
Trichlorotrifluoroethane 1,1-Dichloroethene trans-1,2-Dichloroethene 1,1-Dichloroethane cis-1,2-Dichloroethene 1,1,1-Trichloroethane Trichloroethene Tetrachloroethene Chlorobenzene 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene	10 10 10 10 10 10 10 10 10 10	7.6 9.3 9.4 10.3 9.7 9.8 9.6 9.5 9.9	76% 93% 94% 104% 103% 97% 98% 96% 995% 995% 995%	65 - 116 64 - 125 77 - 113 85 - 129 78 - 130 83 - 125 76 - 124 80 - 118 81 - 130 82 - 115 85 - 122 86 - 122

<sup>\*</sup> Limits based on data generated by Anametrix, Inc., December, 1993.

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

MR. JIM KELLER

BLAINE TECH

985 TIMOTHY DRIVE SAN JOSE, CA 95133

Workorder # : 9312164
Date Received : 12/14/93
Project ID : 204-6852-1404
Purchase Order: MOH-B813

Department : GC Sub-Department: TPH

#### SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9312164- 1	MW1	WATER	12/13/93	трндвтех
9312164- 2	MW2	WATER	12/13/93	трндвтех
9312164- 3	MW3	WATER	12/13/93	трндвтех
9312164- 4	DUP	WATER	12/13/93	трндвтех
9312164- 5	EB	WATER	12/13/93	трндвтех
9312164- 6	ТВ	WATER	12/13/93	трндвтех

## Organic Analysis Data Sheet Total Petroleum Hydrocarbons as Gasoline with BTEX ITS - Anametrix Laboratories - (408)432-8192

Lab Workorder : 9312164

Client Project ID : 204-6852-1404

Matrix

: WATER

Units : ug/L

		Client ID				
	Method	MW1	MW2	MW3	DUP	EB
	Reporting	Lab ID				
Compound Name	Limit*	9312164-01	9312164-02	9312164-03	9312164-04	9312164-05
Benzene	0.50	470	5400	<12.5	6200	ND
Toluene	0.50	320	4900	<12.5	5500	ND
Ethylbenzene	0.50	380	680	<12.5	720	ND
Total Xylenes	0.50	2300	3100	<12.5	3500	ND
TPH as Gasoline	50	11000	19000	6200	17000	ND
Surrogate Recovery		93%	104%	94%	105%	102%
Instrument ID		HP4	HP4	HP21	HP4	HP21
Date Sampled		12/13/93	12/13/93	12/13/93	12/13/93	12/13/93
Date Analyzed		12/17/93	12/17/93	12/16/93	12/17/93	12/16/93
RLMF		100	250	25	250	1
Filename Reference		FRD16401.D	FRD16402.D	FPD16403.D	FRD16404.D	FPD16405.D

<sup>\*</sup> The Method Reporting Limit must be multiplied by the Reporting Limit Multiplication Factor (RLMF) to achieve the compound's reporting limit in the analysis.

ND : Not detected at or above the reporting limit for the analysis as performed.

TPHg : Determined by GC/FID following sample purge & trap by EPA Method 5030.

BTEX : Determined by modified EPA Method 8020 following sample purge & trap by EPA Method 5030.

Lab Control Limits for surrogate compound p-Bromofluorobenzene are 61-139%.

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

Kamel C. Kumel /2123193
Analyst Date

WrnAND Mau
Supervisor

Dat

## Organic Analysis Data Sheet Total Petroleum Hydrocarbons as Gasoline with BTEX ITS - Anametrix Laboratories - (408)432-8192

Lab Workorder : 9312164

Client Project ID : 204-6852-1404

Matrix : WATER

Units : ug/L

		Client ID	Client ID	Client ID	Client ID	Client ID
	Method	TB				
•	Reporting	Lab ID	Lab ID	Lab ID	Lab ID	Lab ID
Compound Name	Limit*	9312164-06	METHOD BLANK	METHOD BLANK		
Benzene	0.50	ND	ND	ND		
Toluene	0.50	ND	ND	ND	·	
Ethylbenzene	0.50	ND	ND	ND		
Total Xylenes	0.50	ND	ND	ND		
TPH as Gasoline	50	ND	ND	ND		
Surrogate Recovery		98%	117%	79%		
Instrument ID		HP21	HP21	HP4		
Date Sampled		12/13/93	N/A	N/A		
Date Analyzed		12/16/93	12/16/93	12/17/93		
RLMF		1	1	1		
Filename Reference		FPD16406.D	BD1602E1.D	BD1701E1.D		

<sup>\*</sup> The Method Reporting Limit must be multiplied by the Reporting Limit Multiplication Factor (RLMF) to achieve the compound's reporting limit in the analysis.

ND : Not detected at or above the reporting limit for the analysis as performed.

TPHg : Determined by GC/FID following sample purge & trap by EPA Method 5030.

BTEX : Determined by modified EPA Method 8020 following sample purge & trap by EPA Method 5030.

Lab Control Limits for surrogate compound p-Bromofluorobenzene are 61-139%.

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

Kamel G. Kamel 12122193

Analyst

Date

Corume Phan

Supervisor

# Laboratory Control Spike Report Total Petroleum Hydrocarbons as BTEX ITS - Anametrix Laboratories - (408)432-8192

Instrument ID : HP21

Analyst : KK

Matrix

: LIQUID

Supervisor : Up

Units : ug/L

COMPOUND NAME	SPIKE	LCS	RECOVERY
	AMOUNT	RECOVERY	LIMITS
Benzene	20	120%	52-133
Toluene	20	120%	57-136
Ethylbenzene	20	125%	56-139
Total Xylenes	20	130%	56-141
Surrogate Recovery		102%	61-139
Date Analyzed		12/17/93	
Multiplier		1	
Filename Reference		MD1601E1.D	

<sup>\*</sup> Limits established by Inchcape Testing Services, Anametrix Laboratories.

# Laboratory Control Spike Report Total Petroleum Hydrocarbons as BTEX ITS - Anametrix Laboratories - (408)432-8192

Instrument ID : HP4

Analyst : KK

Matrix

: LIQUID

Supervisor : 0

Units : ug/L

COMPOUND NAME	SPIKE	LCS	RECOVERY
	AMOUNT	RECOVERY	LIMITS
Benzene	20	95%	52-133
Toluene	20	95%	57-136
Ethylbenzene	20	100%	56-139
Total Xylenes	20	100%	56-141
Surrogate Recovery		113%	61-139
Date Analyzed		12/17/93	
Multiplier		1	
Filename Reference		MD1701E1.D	

<sup>\*</sup> Limits established by Inchcape Testing Services, Anametrix Laboratories.