Weiss Associates
Environmental and Geologic Services
5500 Shellmound Street, Emeryville, CA 94608-2411 Fax: 510-547-5043 Phone: 510-450-6000

93 NOV -1 AM 11:56

October 28, 1993

Scott Seery
Alameda County Department of
Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621

Re: Shell Service Station
WIC #204-5508-3301
6039 College Avenue
Oakland, California
WA Job #81-618-203

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 third quarter 1993 and proposed work for the fourth quarter 1993.

Third Quarter 1993 Activities:

- Blaine Tech Services, Inc. (BTS) of San Jose, California measured depths to ground water in the five site wells and collected ground water samples from four of the five site wells. Well MW-4 contained floating hydrocarbons and was not sampled. BTS' report describing these activities and 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 tabulated floating hydrocarbon removal data (Table 3). To date, about 1.65 gallons of floating hydrocarbons have been purged from the subsurface.

- WA drilled four soil borings and installed one monitoring well downgradient and crossgradient of the site. The investigation results will be presented in a separate investigation report.

Anticipated Fourth Quarter 1993 Activities:

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

Conclusions and Recommendations:

WA recommends continued monitoring of dissolved hydrocarbon concentrations in ground water. We will make additional recommendations in the fourth quarter ivestigation report. Despite the fact that indications of hydrocarbons were observed in soil borings between wells MW-4 and MW-5, no petroleum hydrocarbons as gasoline or benzene, ethylbenzene, toluene and xylene have ever been detected in ground water samples from well MW-5 since it was installed in 1991.

Please call if you have any questions.

Sincerely,
Weiss Associates

J. Michael Asport
Technical Assistant

N. Scott MacLeod, R.G.
Project Geologist

JMA/NSM:jma

J:\SHELL\600\QMRPTS\618QMOC3.WP

Attachments: Figures
Table
A - BTS' Ground Water Monitoring Report

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

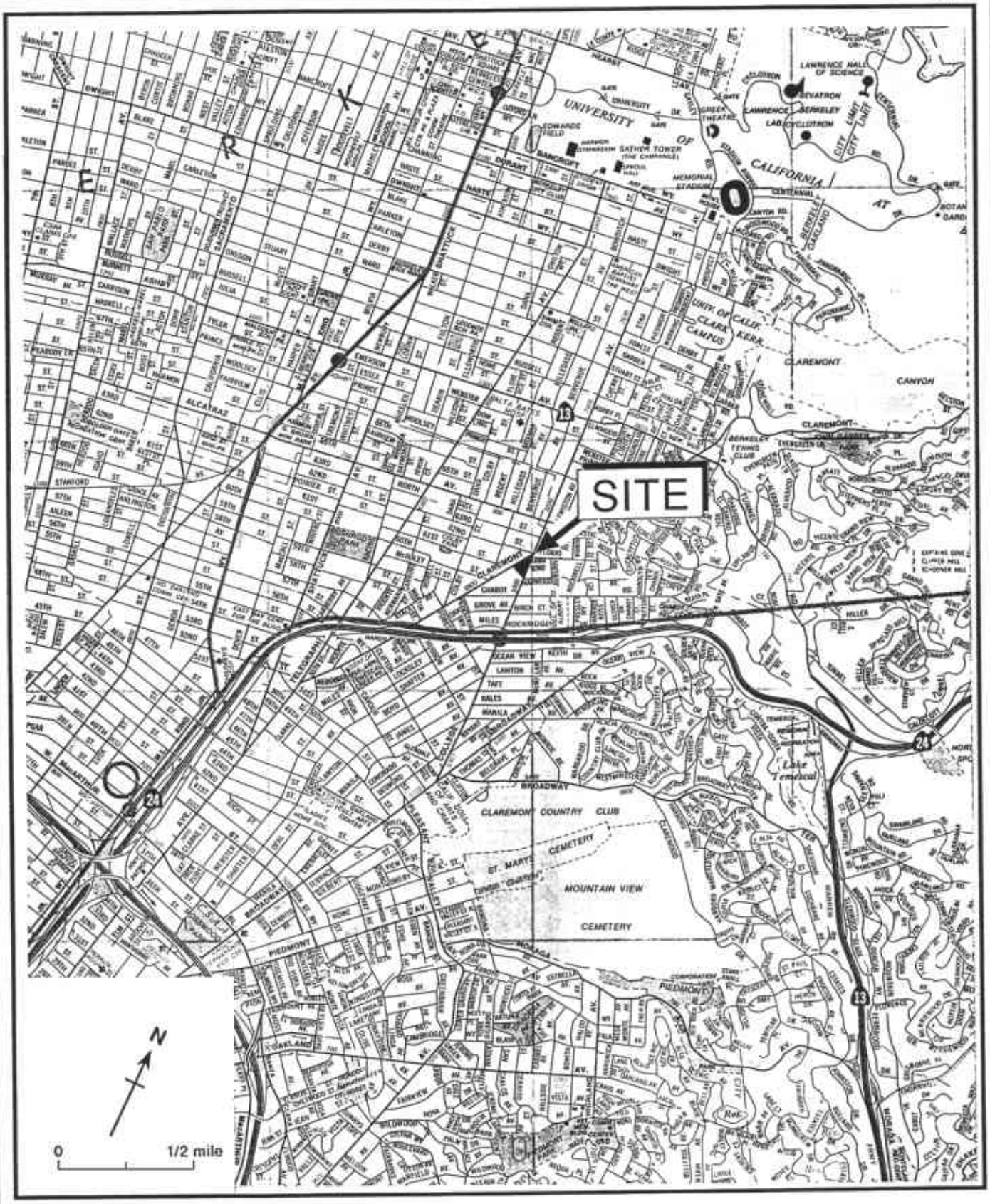

Figure 1. Site Location Map - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California

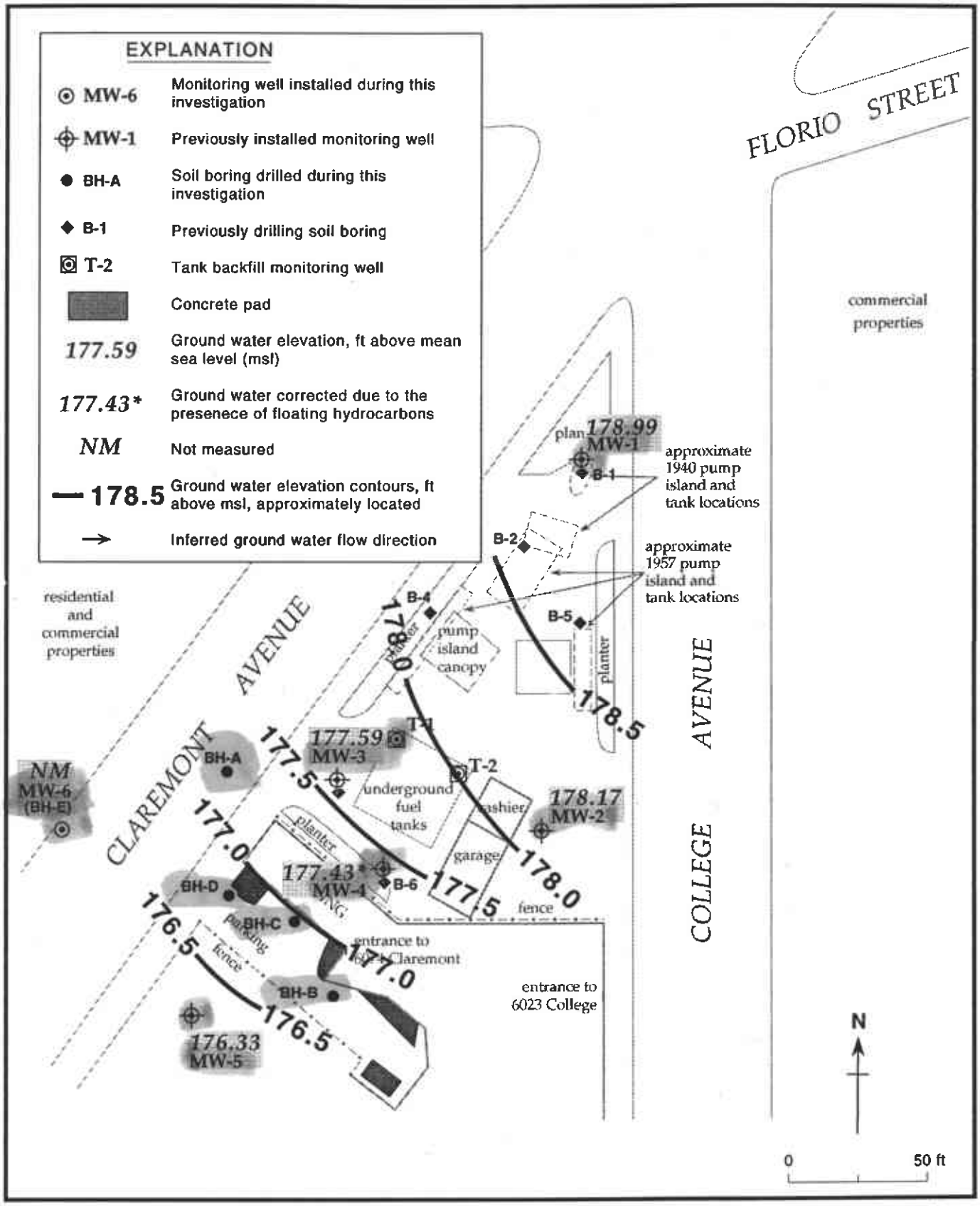

Figure 2. Monitoring Well and Soil Boring Locations and Ground Water Elevation Contours - August 18, 1993 - Shell Service Station WIC #204-5510-0303, 6039 College Avenue, Oakland, California

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Floating Hydrocarbon Thickness (ft)	Ground Water Elevation (ft above msl)[a]
MW-1	06/03/91	195.89	17.82		178.07
	08/30/91		19.87		176.02
	11/22/91		20.58		175.31
	03/18/92		13.55		182.34
	05/28/92		17.08		178.81
	08/19/92		19.07		176.82
	11/17/92		20.11		175.78
	02/12/93		12.10		183.79
	06/10/93		14.87		181.02
	08/18/93		**16.90**		**178.99**
MW-2	06/03/91	194.27	17.00		177.27
	08/30/91		18.95		175.32
	11/22/91		19.55		174.72
	03/18/92		12.91		181.36
	05/28/92		16.25		178.02
	08/19/92		18.21		176.06
	11/17/92		19.15		175.12
	02/12/93		11.60		182.67
	06/10/93		14.14		180.13
	08/18/93		**16.10**		**178.17**
MW-3	06/03/91	192.52	15.84		176.68
	08/30/91		17.79		174.73
	11/22/91		18.40		174.12
	03/18/92		12.03		180.49
	05/28/92		15.16		177.36
	08/19/92		17.03		175.49
	11/17/92		17.94		174.58
	02/12/93		9.16		183.36
	06/10/93		13.20		179.32
	08/18/93		**14.93**		**177.59**
MW-4	06/03/91	193.37	16.77		176.60
	08/30/91		18.71		174.66
	11/22/91		---		---
	03/18/92[a]		13.15	0.24	180.41
	05/28/92[a]		16.22	0.12	177.25
	08/19/92[a]		18.05	0.09	175.39
	11/17/92		18.89		174.48

-- Table 1 continues on next page --

Table 1. Ground Water Elevations - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California (continued)

Well ID	Date	Top-of-Casing Elevation (ft above msl)	Depth to Water (ft)	Floating Hydrocarbon Thickness (ft)	Ground Water Elevation (ft above msl)[a]
	02/12/93		11.78	<0.01	181.59
	06/10/93		14.20		179.17
	08/18/93		**15.95**	**0.01**	**177.43**
MW-5	08/30/91	190.35	16.74		173.61
	11/22/91		17.27		173.08
	03/18/92		11.28		179.07
	05/28/92[b]		---		---
	08/19/92		15.99		174.36
	11/17/92		16.84		173.51
	02/12/93		10.30		180.05
	06/10/93		12.36		177.99
	08/18/93		**14.02**		**176.33**

Notes:

a = When floating hydrocarbons are present, ground water elevation is corrected by the relation: Corrected ground water elevation = (Top-of-Casing Elevation) - (depth to water) + (0.8 x floating hydrocarbon thickness)
b = Well inaccessible
--- = Data not available

-- Table 1 continues on next page --

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	B	E	T	X
			<----------parts per billion (ug/L)---------->						
MW-1	06/03/91	17.82	ND	ND	ND	ND	ND	ND	ND
	08/30/91	19.87	ND	520	ND	ND	ND	ND	ND
	11/22/91	20.58	<50	<50	<500	<0.5	<0.5	<0.5	<0.5
	03/18/92	13.55	<30	<50	---	<0.3	<0.3	<0.3	<0.3
	05/28/92	17.08	<50	<50	---	<0.5	<0.5	<0.5	<0.5
	08/19/92	19.07	<50	<50	---	<0.5	<0.5	<0.5	<0.5
	11/17/92	20.11	<50	<50	---	<0.5	<0.5	<0.5	<0.5
	02/12/93	12.10	<50	<50	---	<0.5	<0.5	<0.5	<0.5
	06/10/93	14.87	<50	---	---	<0.5	<0.5	<0.5	<0.5
	06/10/93[dup]	14.87	<50	---	---	<0.5	<0.5	<0.5	<0.5
	08/18/93	16.90	<50	---	---	<0.5	<0.5	<0.5	<0.5
MW-2	06/03/91	17.00	ND	ND	ND	ND	ND	ND	ND
	08/30/91	18.95	ND	ND	ND	ND	ND	ND	ND
	11/22/91	19.55	<50	<50	<500	<0.5	<0.5	<0.5	<0.5
	03/18/92	12.91	<30	---	---	<0.3	<0.3	<0.3	<0.3
	05/28/92	16.25	<50	---	---	<0.5	<0.5	<0.5	<0.5
	08/19/92	18.21	<50	---	---	<0.5	1.2	2	1.9
	11/17/92	19.15	<50	---	---	<0.5	1.2	2	1.9
	02/12/93[dup]	11.60	<50	---	---	<0.5	<0.5	<0.5	<0.5
	02/12/93	11.60	<50	---	---	<0.5	<0.5	<0.5	<0.5
	06/10/93	14.14	<50	---	---	<0.5	<0.5	<0.5	<0.5
	08/18/93	16.10	<50	---	---	<0.5	<0.5	<0.5	<0.5
	08/18/93[dup]	16.10	<50	---	---	<0.5	<0.5	<0.5	<0.5
MW-3	06/03/91	15.84	1,700	690	ND	260	98	13	24
	08/30/91	17.79	870	370	500	44	10	6.1	2.9
	11/22/91	18.40	310	140	500	18	3.3	1.2	2.9
	03/18/92	12.03	67,100	1,900	20,000	620	220	28	38
	05/28/92	15.16	2,300	1,100[a]	4,600	200	71	9	17
	08/19/92	17.03	5,700	1,000[a]	1,800	71	52	77	130
	11/17/92	17.94	3,600	160[a]	1,200	16	24	8.6	50
	02/12/93	9.16	4,700	560[a]	<50	820	130	58	77
	06/10/93	13.20	2,200	---	940[b]	310	89	23	23
	08/18/93	14.93	260	---	460[b]	27	7.0	2.0	2.2
MW-4	06/03/91	16.77	670	1,100	ND	240	1.6	2.3	2.3
	08/30/91	18.71	570	280	2,000	64	0.9	1.8	0.9
	11/22/91[FHC]	---	---	---	---	---	---	---	---
	03/18/92[FHC]	13.15	---	---	---	---	---	---	---
	05/28/92[FHC]	16.22	---	---	---	---	---	---	---
	08/19/92[FHC]	18.05	---	---	---	---	---	---	---
	11/17/92[FHC]	18.89	---	---	---	---	---	---	---

-- Table 2 continues on next page --

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California (continued)

Well ID	Date Sampled	Depth to Water (ft)	TPH-G	TPH-D	TPH-MO	B	E	T	X
			<----------parts per billion (ug/L)---------->						
	02/12/93[FHC]	11.78	---	---	---	---	---	---	---
	06/10/93	14.20	---	---	---	---	---	---	---
	08/18/93[FHC]	15.95	---	---	---	---	---	---	---
MW-5	08/30/91	16.74	ND	80	ND	ND	ND	ND	ND
	11/22/91	17.27	<50	<50	<500	<0.5	<0.5	<0.5	<0.5
	03/18/92	11.28	<30	<50	---	<0.3	<0.3	<0.3	<0.3
	05/28/92[c]	---	---	---	---	---	---	---	---
	08/19/92	15.99	<50	<50	---	<0.5	<0.5	<0.5	<0.5
	11/17/92	16.84	<50	<50	---	<0.5	<0.5	<0.5	<0.5
	02/12/93	10.30	<50	<50	---	<0.5	<0.5	<0.5	<0.5
	06/10/93	12.36	<50	---	---	<0.5	<0.5	<0.5	<0.5
	08/18/93	14.02	<50	---	---	<0.5	<0.5	<0.5	<0.5
Bailer Blank	08/19/92		<50	---	---	<0.5	<0.5	<0.5	<0.5
	11/17/92		<50	---	---	<0.5	<0.5	<0.5	<0.5
Trip Blank	06/03/91		ND	---	---	ND	ND	ND	ND
	08/30/91		ND	---	---	ND	ND	ND	ND
	03/18/92		<30	<50	---	<0.3	<0.3	<0.3	<0.3
	05/28/92		<50	---	---	<0.5	<0.5	<0.5	<0.5
	08/19/92		<50	---	---	<0.5	<0.5	<0.5	<0.5
	11/17/92		<50	---	---	<0.5	<0.5	<0.5	<0.5
	02/12/93		<50	---	---	<0.5	<0.5	<0.5	<0.5
	06/10/93		<50	---	---	<0.5	<0.5	<0.5	<0.5
DTSC MCLs			NE	NE	NE	1	680	100[d]	1,750

-- Table 2 continues on next page --

Table 2. Analytic Results for Ground Water - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California (continued)

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
TPH-MO = Total petroleum hydrocarbons as motor oil by EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Method 8020
NE = Not established
DTSC MCLs = California Department of Toxic Substances Control maximum contaminant levels for drinking water
--- = Not analyzed or measured
<n = Not detected at detection limits of n ppb
ND = Not detected, detection limit not known
FHC = Floating hydrocarbons in well, not sampled
dup = Duplicate sample

Notes:

a = Concentration reported as diesel is primarily due to the presence of a lighter petroleum product, possibly gasoline or kerosene
b = Concentration reported as motor oil is due to the presence of a combination of motor oil and a lighter petroleum product of hydrocarbon range C6-C12, possibly gasoline
c = Well inaccessible and not sampled
d = DTSC recommended action level; MCL not established

Table 3. Floating Hydrocarbon Removal - Shell Service Station WIC #204-5508-3301, 6039 College Avenue, Oakland, California

Well ID	Date	Floating Hydrocarbon Thickness (ft)	Volume of Floating Hydrocarbons Removed (gal).	Cumulative Volume of Hydrocarbons Removed (gal)
MW-4[a]	01/15/92	---	0.52	0.52
	02/15/92	---	0.52	1.04
	03/18/92	0.24	---	1.04
	04/29/92	---	0.25	1.29
	05/28/92	0.12	0.03	1.32
	08/19/92	0.09	0.16	1.48
	11/17/92	---	0.16	1.64
	02/12/93	<0.01	---	1.64
	06/10/93	0.02	0.01	1.65
	08/18/93	**0.01**	**<0.01**	**1.65**

a = Petrotrap passive floating hydrocarbon skimmer installed in well
--- = Not measured or no hydrocarbons bailed

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

October 18, 1993

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

Attn: Daniel T. Kirk

SITE:
Shell WIC #204-5508-3301
6039 College Avenue
Oakland, California

QUARTER:
3rd quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 930818-L-3

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

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

STANDARD PROCEDURES

Evacuation

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

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

Decontamination

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

Free Product Skimmer

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

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

Sample Containers

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

Sampling

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

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

Sample Designations

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

Chain of Custody

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

Hazardous Materials Testing Laboratory

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

Objective Information Collection

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

Reportage

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

Please call if we can be of any further assistance.

Richard C. Blaine

RCB/lpn

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

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

TABLE OF WELL GAUGING DATA

WELL I.D.	DATA COLLECTION DATE	MEASUREMENT REFERENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLES LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLES LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
MW-1	8/18/93	TOC	--	NONE	--	--	16.90	24.62
MW-2 *	8/18/93	TOC	--	NONE	--	--	16.10	24.40
MW-3	8/18/93	TOC	--	NONE	--	--	14.93	24.72
MW-4	8/18/93	TOC	FREE PRODUCT	15.94	0.01	10	15.95	--
MW-5	8/18/93	TOC	--	NONE	--	--	14.02	28.49
T-1	8/30/93	TOC	DRY	NONE	--	--	--	4.47
T-2	8/30/93	TOC	DRY	NONE	--	--	--	8.42

* Sample DUP was a duplicate sample taken from well MW-2.

9308306 (18) 10/20

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD Serial No: 930818F2

Date: 8-18-93
Page 1 of 1

Site Address: 6039 College Ave., Oakland

WIC#: 204-5508-3301

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

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

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

Comments:

Sampled by:

Printed Name: Tom Flory

LAB: Anametrix

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	TPH - mo (motor oil)		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(1) MW-1	8/18/93			X		3						X								
(2) MW-2				X		3						X								
(3) MW-3				X		5						X	X							
(4) MW 5				X		3						X								
(5) DUP				X		3						X							TB	
(6) TB				X		2						X							FROM SITE 204-5508-4903 DATED SAME DAY (8.18.93)	

TURN AROUND TIME: 24 hours ☐ 48 hours ☐ 10 days ☒ (Normal) Other ☐

CHECK ONE (1) BOX ONLY — C1/01

- Quarterly Monitoring ☒ 8441
- Site Investigation ☐ 8441
- Soil Closure/Disposal ☐ 8442
- Water Closure/Disposal ☐ 8443
- Soil/Air Rem. or Sys. O & M ☐ 8482
- Water Rem. or Sys. O & M ☐ 8483
- Other ☐

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

Relinquished By (signature):	Printed Name:	Date: 8-18-93 Time: 1450	Received (signature):	Printed Name:	Date: 8-19-93 Time: 14:50
Relinquished By (signature):	Printed Name:	Date: 8-19-93 Time: 15:15	Received (signature):	Printed Name:	Date: 8/19/93 Time: 15:15
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

Inchcape Testing Services
Anametrix Laboratories

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

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

Workorder # : 9308306
Date Received : 08/19/93
Project ID : 204-5508-3301
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9308306- 1	MW-1
9308306- 2	MW-2
9308306- 3	MW-3
9308306- 4	MW-5
9308306- 5	DUP

This report consists of 9 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

08-31-93
Date

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

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

Workorder # : 9308306
Date Received : 08/19/93
Project ID : 204-5508-3301
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9308306- 3	MW-3	WATER	08/18/93	TPHd
9308306- 1	MW-1	WATER	08/18/93	TPHgBTEX
9308306- 2	MW-2	WATER	08/18/93	TPHgBTEX
9308306- 3	MW-3	WATER	08/18/93	TPHgBTEX
9308306- 4	MW-5	WATER	08/18/93	TPHgBTEX
9308306- 5	DUP	WATER	08/18/93	TPHgBTEX

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

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

Workorder # : 9308306
Date Received : 08/19/93
Project ID : 204-5508-3301
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- The concentration reported as motor oil for sample MW-3 is due to the presence of a combination of motor oil and a lighter petroleum product of hydrocarbon range C6-C12, possibly gasoline.

Cheryl Balmer 8/31/93
Department Supervisor Date

Kamel G. Kamel 8/31/93
Chemist Date

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

Anametrix W.O.: 9308306
Matrix : WATER
Date Sampled : 08/18/93

Project Number : 204-5508-3301
Date Released : 08/30/93

	Reporting Limit	Sample I.D.# MW-1	Sample I.D.# MW-2	Sample I.D.# MW-3	Sample I.D.# MW-5	Sample I.D.# DUP
COMPOUNDS	(ug/L)	-01	-02	-03	-04	-05
Benzene	0.5	ND	ND	27	ND	ND
Toluene	0.5	ND	ND	2.0	ND	ND
Ethylbenzene	0.5	ND	ND	7.0	ND	ND
Total Xylenes	0.5	ND	ND	2.2	ND	ND
TPH as Gasoline	50	ND	ND	260	ND	ND
% Surrogate Recovery		109%	109%	127%	113%	112%
Instrument I.D.		HP12	HP12	HP12	HP12	HP12
Date Analyzed		08/25/93	08/25/93	08/26/93	08/25/93	08/25/93
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 61-139%.

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

Kamal C. Kamal 8/31/93
Analyst Date

Cheryl Balmer 8/31/93
Supervisor Date

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

Anametrix W.O.: 9308306
Matrix : WATER
Date Sampled : N/A

Project Number : 204-5508-3301
Date Released : 08/30/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# BG2501E2 BLANK	Sample I.D.# BG2601E2 BLANK
Benzene	0.5	ND	ND
Toluene	0.5	ND	ND
Ethylbenzene	0.5	ND	ND
Total Xylenes	0.5	ND	ND
TPH as Gasoline	50	ND	ND
% Surrogate Recovery		103%	111%
Instrument I.D.		HP12	HP12
Date Analyzed		08/25/93	08/26/93
RLMF		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 61-139%.

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

Kamel G. Kamel 8/31/93
Analyst Date

Cheryl Balmer 8/31/93
Supervisor Date

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

Anametrix W.O.: 9308306
Matrix : WATER
Date Sampled : 08/18/93
Date Extracted: 08/26/93

Project Number : 204-5508-3301
Date Released : 08/30/93
Instrument I.D.: HP9

Anametrix I.D.	Client I.D.	Date Analyzed	Reporting Limit (ug/L)	Amount Found (ug/L)	Surrogate %Rec
9308306-03	MW-3	08/27/93	50	460	86%
BG2611F1	METHOD BLANK	08/27/93	50	ND	75%

Note : Reporting limit is obtained by multiplying the dilution factor times 50 ug/L.
The surrogate recovery limits for C25 are 30-130%.

ND - Not detected at or above the practical quantitation limit for the method.
TPHd - Total Petroleum Hydrocarbons as motor oil is determined by GCFID following sample extraction by EPA Method 3510.

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

Kamel C. Kamel 8/31/93
Analyst Date

Cheryl Bateman 8/31/93
Supervisor Date

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

Sample I.D. : 204-5508-3301 DUP
Matrix : WATER
Date Sampled : 08/18/93
Date Analyzed : 08/25/93

Anametrix I.D. : 08306-05
Analyst : KK
Supervisor : CS
Date Released : 08/18/93
Instrument ID : HP12

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	500	0	510	102%	500	100%	-2%	48-149
P-BFB				100%		103%		61-139

* 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
Date Sampled : N/A
Date Analyzed : 08/25/93

Anametrix I.D. : MG2502E1
Analyst : KL
Supervisor : [illegible]
Date Released : 08/30/93
Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (ug/L)	REC LCS (ug/L)	%REC LCS	% REC LIMITS
GASOLINE	500	460	92%	67-127
p-BFB			102%	61-139

* 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	Anametrix I.D.	: MG2601E3
Matrix	: WATER	Analyst	: KK
Date Sampled	: N/A	Supervisor	:
Date Analyzed	: 08/26/93	Date Released	: 08/30/93
		Instrument I.D.	: HP12

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	20.0	19.5	98%	52-133
Toluene	20.0	23.7	119%	57-136
Ethylbenzene	20.0	25.4	127%	56-139
TOTAL Xylenes	20.0	25.5	127%	56-141
P-BFB			104%	61-139

* Limits established by Anametrix, Inc.

TOTAL EXTRACTABLE HYDROCARBON LABORATORY CONTROL SAMPLE REPORT
EPA METHOD 3510 WITH GC/FID
ANAMETRIX, INC. (408) 432-8192

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Extracted: 08/26/93
Date Analyzed : 08/27/93

Anametrix I.D. : MG2611F1
Analyst : KL
Supervisor : [illegible]
Date Released : 08/30/93
Instrument I.D.: HP23

COMPOUND	SPIKE AMT (ug/L)	LCS REC (ug/L)	% REC LCS	LCSD REC (ug/L)	% REC LCSD	RPD	% REC LIMITS
DIESEL	1250	770	62%	820	66%	6%	47-130
SURROGATE			67%		68%		30-130

*Quality control established by Anametrix, Inc.