Weiss Associates *Environmental and Geologic Services*

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

October 9, 1992

92 OCT 14 PM 1:00

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

Re: Shell Service Station 3618
WIC #204-5510-0303
5755 Broadway
Oakland, California ~~94606~~ 94618
WA Job #81-619-201

Dear Ms. Eberle:

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 1992 and proposed work for the fourth quarter 1992.

Third Quarter 1992 Activities:

- EMCON Associates of San Jose, California measured ground water depths and collected ground water samples from the three site wells. EMCON's report describing these activities and presenting the analytic results for ground water is included as Attachment A.

- Weiss Associates (WA) used EMCON's ground water elevation calculations to prepare a ground water elevation contour map (Figure 2).

Anticipated Fourth Quarter 1992 Activities:

WA will submit a report presenting the results of the fourth quarter 1992 ground water sampling and ground water depth measurements. The report will include tabulated chemical analytic results and a ground water elevation contour map.

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

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Attachments: Figures
A - EMCON Associate's 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 Region, 2101 Webster Street, Suite 500, Oakland, California 94612

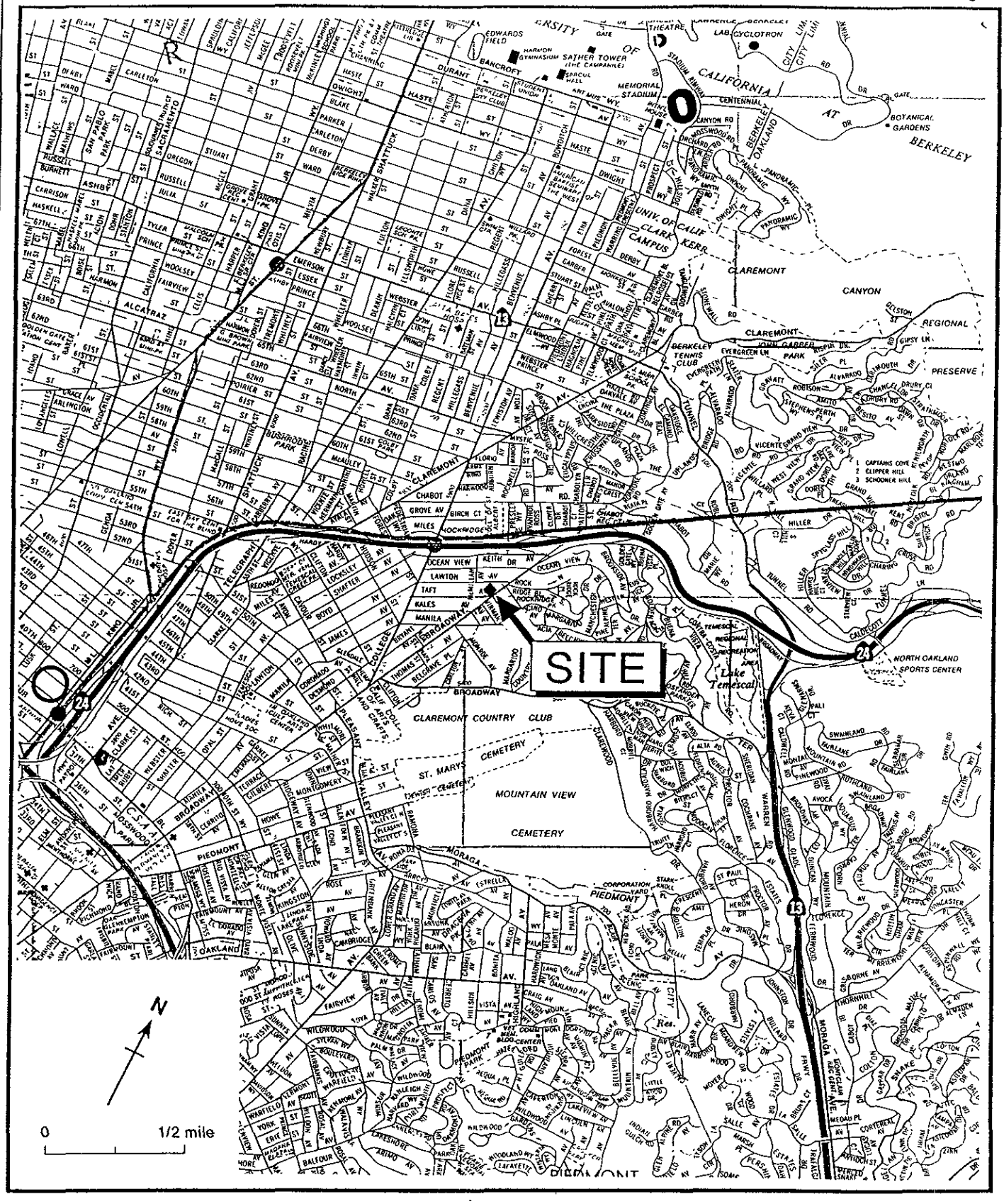

Figure 1. Site Location Map - Shell Service Station WIC #204-5510-0303, 5755 Broadway, Oakland, California

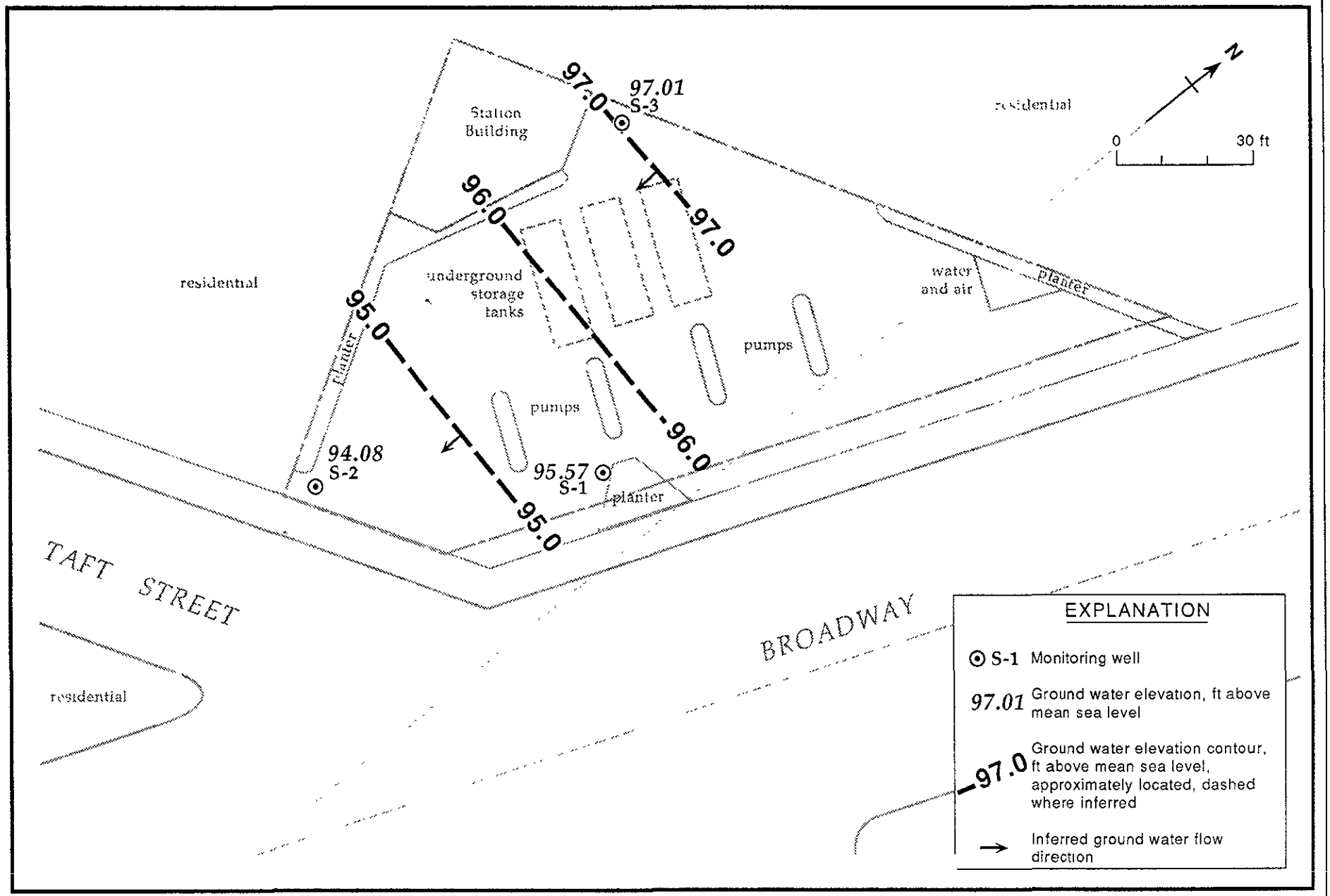

Figure 2. Monitoring Well Locations and Ground Water Elevation Contours - August 19, 1992 - Shell Service Station WIC#204-2004-0204, 5755 Broadway, Oakland, California

10/8/92

ATTACHMENT A
GROUND WATER MONITORING REPORT AND ANALYTIC REPORT

EMCON
ASSOCIATES
Consultants in Wastes
Management and
Environmental Control

September 18, 1992
Project: G67-40.01
WIC#: 204-5510-0303

Mr. David Elias
Weiss Associates
5500 Shellmound Street
Emeryville, California 94608-2411

Re: Third quarter 1992 ground-water monitoring report, Shell Oil Company, 5755 Broadway, Oakland, California

Dear Mr. Elias:

This letter presents the results of tne third quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) site located at 5755 Broadway, Oakland, California (figure 1). Third quarter monitoring was conducted on August 19, 1992. The site is monitored quarterly.

GROUND-WATER LEVEL SURVEY

A water-level survey preceded the purging and sampling of the monitoring wells. The wells included in the survey are identified in figure 2 (supplied by Weiss Associates). During the survey, wells S-1, S-2, and S-3 were measured for depth to water, floating product thickness, and total depth. Depth to water and floating product thickness were measured to the nearest 0.01 foot with an oil/water interface probe. No floating product was observed in the wells. Total depth was measured to the nearest 0.1 foot. Results of the third quarter water-level survey, and available data from four previous surveys, are summarized in table 1.

SAMPLING AND ANALYSIS

Ground-water samples were collected from wells S-1, S-2, and S-3 on August 19, 1992. Prior to sample collection, the wells were purged with polyvinyl chloride bailers. During the purging operation, ground water was monitored for pH, electrical conductivity, and temperature as a function of volume of water removed. Purging continued until these parameters were stable and a minimum of three casing volumes of ground water were removed. All three wells were evacuated to dryness before three casing volumes were removed. The wells were allowed to recharge for up to 24 hours. Samples were collected after the wells had recharged to a sufficient level. Field measurements from third quarter monitoring, and available measurements from four previous monitoring events, are summarized in table 1. Purge water from the monitoring wells was contained

1938 Junction Avenue, San Jose, California 95131-2102, (408) 453-0719, Fax (408) 453-0452

in a 55-gallon drum. The drum was identified with a Shell-approved label and secured for on-site storage.

Ground-water samples were collected with a Teflon® bailer, labeled, placed on ice, and transported to Anametrix Inc. for analysis. Shell chain-of-custody documents accompanied all samples to the laboratory.

All equipment that was placed down a well or that came in contact with ground water was steam cleaned with deionized water prior to use at each well.

Quality control samples for third quarter monitoring included a trip blank (TB) and a field blank (FB). All water samples collected during third quarter monitoring were analyzed for total petroleum hydrocarbons as gasoline (TPH-g), and benzene, toluene, ethylbenzene, and total xylenes (BTEX).

ANALYTICAL RESULTS

Analytical results for the third quarter 1992 monitoring event, and available results from four previous monitoring events, are summarized in table 2. The original certified analytical report and final chain-of-custody document are attached.

If you have any questions, please call.

Very truly yours,

EMCON Associates

David Larsen
Environmental Sampling Coordinator

Orrin Childs
Environmental Sampling Supervisor

DL/OC:dl

Attachments: Table 1 - Monitoring well field measurement data
Table 2 - Summary of analytical results
Figure 1 - Site location map
Figure 2 - Monitoring well locations
Certified analytical report
Chain-of-custody document

Table 1
Monitoring Well Field Measurement Data
Third Quarter 1992

Shell Station: 5755 Broadway
Oakland, California
WIC #: 204-5510-0303

Date: 09/17/92
Project Number: G67-40.01

Well Designation	Water Level Field Date	TOC Elevation (ft-PSD)	Depth to Water (feet)	Groundwater Elevation (ft-PSD)	Total Well Depth (feet)	Floating Product Thickness (feet)	Water Sample Field Date	pH (std. units)	Electrical Conductivity (micromhos/cm)	Temperature (degrees F)	Turbidity (NTU)
S-1	06/03/91	100.00	3.51	96.49	NR	NR	06/03/91	NR	NR	NR	NR
S-1	08/30/91	100.00	4.24	95.76	NR	NR	08/30/91	NR	NR	NR	NR
S-1	03/13/92	100.00	2.87	97.13	11.8	ND	03/13/92	7.38	922	63.2	>200
S-1	05/28/92	100.00	3.79	96.21	11.7	ND	05/28/92	6.98	1061	68.8	>200
S-1	08/19/92	100.00	4.43	95.57	12.0	ND	08/19/92	7.42	940	72.6	>200
S-2	06/03/91	98.92	4.02	94.90	NR	NR	06/03/91	NR	NR	NR	NR
S-2	08/30/91	98.92	4.70	94.22	NR	NR	08/30/91	NR	NR	NR	NR
S-2	03/13/92	98.92	3.47	95.45	9.4	ND	03/13/92	7.18	1140	62.3	>200
S-2	05/28/92	98.92	4.45	94.47	9.4	ND	05/28/92	7.12	1094	68.4	>200
S-2	08/19/92	98.92	4.84	94.08	9.5	ND	08/19/92	7.82	1057	75.8	191
S-3	06/03/91	101.67	3.25	98.42	NR	NR	06/03/91	NR	NR	NR	NR
S-3	08/03/91	101.67	4.73	96.94	NR	NR	08/30/91	NR	NR	NR	NR
S-3	03/13/92	101.67	2.29	99.38	9.5	ND	03/13/92	7.26	1385	63.2	>200
S-3	05/28/92	101.67	3.62	98.05	9.5	ND	05/28/92	7.15	1181	65.5	>200
S-3	08/19/92	101.67	4.66	97.01	9.5	ND	08/19/92	7.29	1080	70.2	190

TOC = top of casing
ft-PSD = elevation in feet, relative to project site datum
std. units = standard pH units
micromhos/cm = micromhos per centimeter
degrees F = degrees Fahrenheit
NTU = nephelometric turbidity units
NR = Not reported; data not available
ND = None detected

Table 2
Summary of Analytical Results
Third Quarter 1992
milligrams per liter (mg/l) or parts per million (ppm)

Shell Station: 5755 Broadway
Oakland, California
WIC #: 204-5510-0303

Date: 09/17/92
Project Number: G67-40.01

Sample Designation	Water Sample Field Date	TPH-g (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl-benzene (mg/l)	Total Xylenes (mg/l)
S-1	06/03/91	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-1	08/30/91	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-1	03/13/92	<0.03	0.00052	<0.0003	<0.0003	<0.0003
S-1	05/28/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-1	08/19/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-2	06/03/91	0.49	0.15	0.0027	0.0082	0.007
S-2	08/30/91	0.07	0.00037	<0.0003	<0.0003	<0.0003
S-2	03/13/92	1.3	0.21	0.0057	0.034	0.079
S-2	05/28/92	0.10	0.028	<0.0005	<0.0005	<0.0005
S-2	08/19/92	0.47	0.042	<0.0005	0.0083	0.0040
S-3	06/03/91	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-3	08/30/91	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-3	03/13/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-3	05/28/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-3	08/19/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
FB	08/19/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	03/13/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
TB	05/28/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	08/19/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

TPH-g = total petroleum hydrocarbons as gasoline

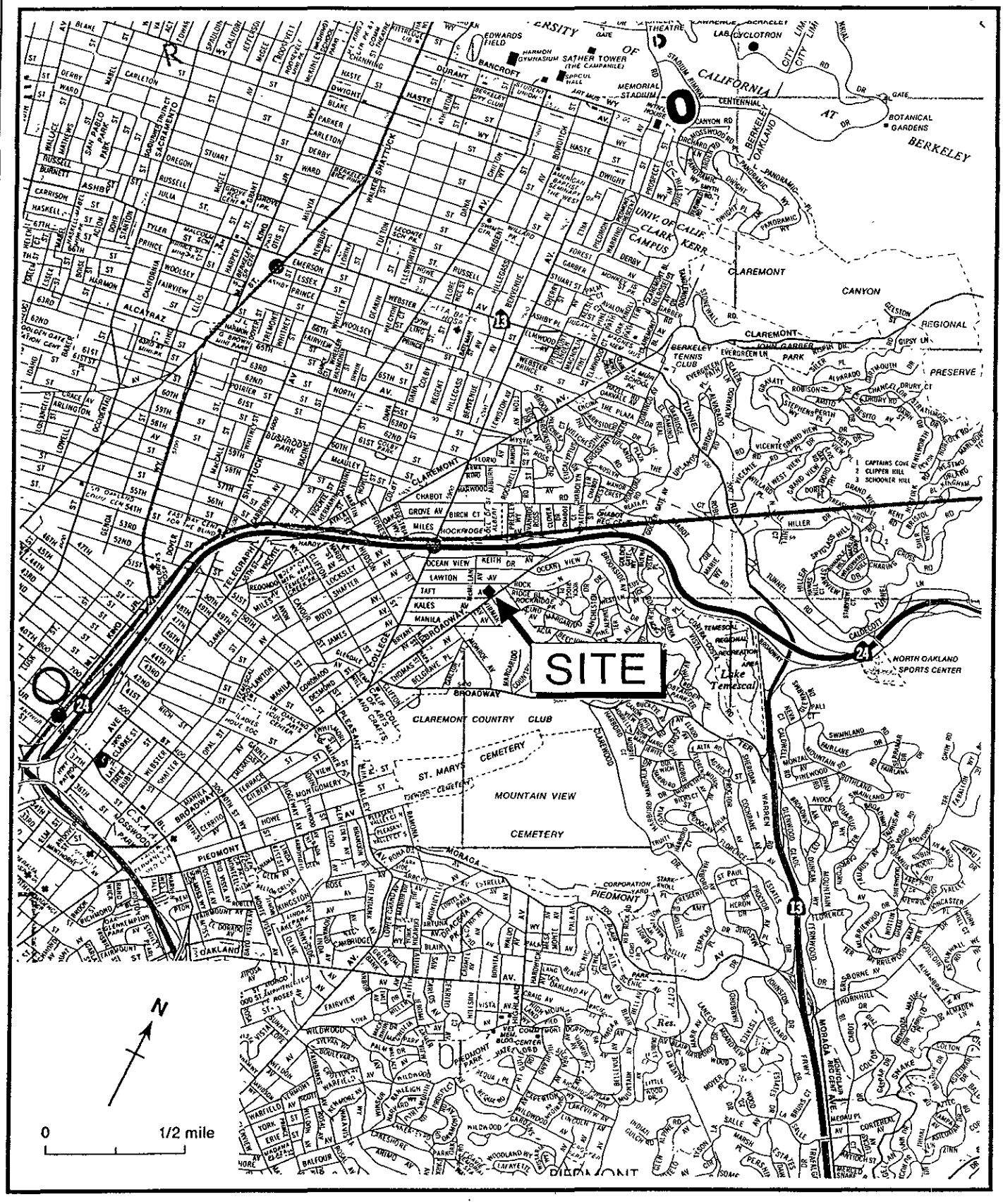

Figure 1. Site Location Map - Shell Service Station WIC #204-5510-0303, 5755 Broadway, Oakland, California

2/28/92

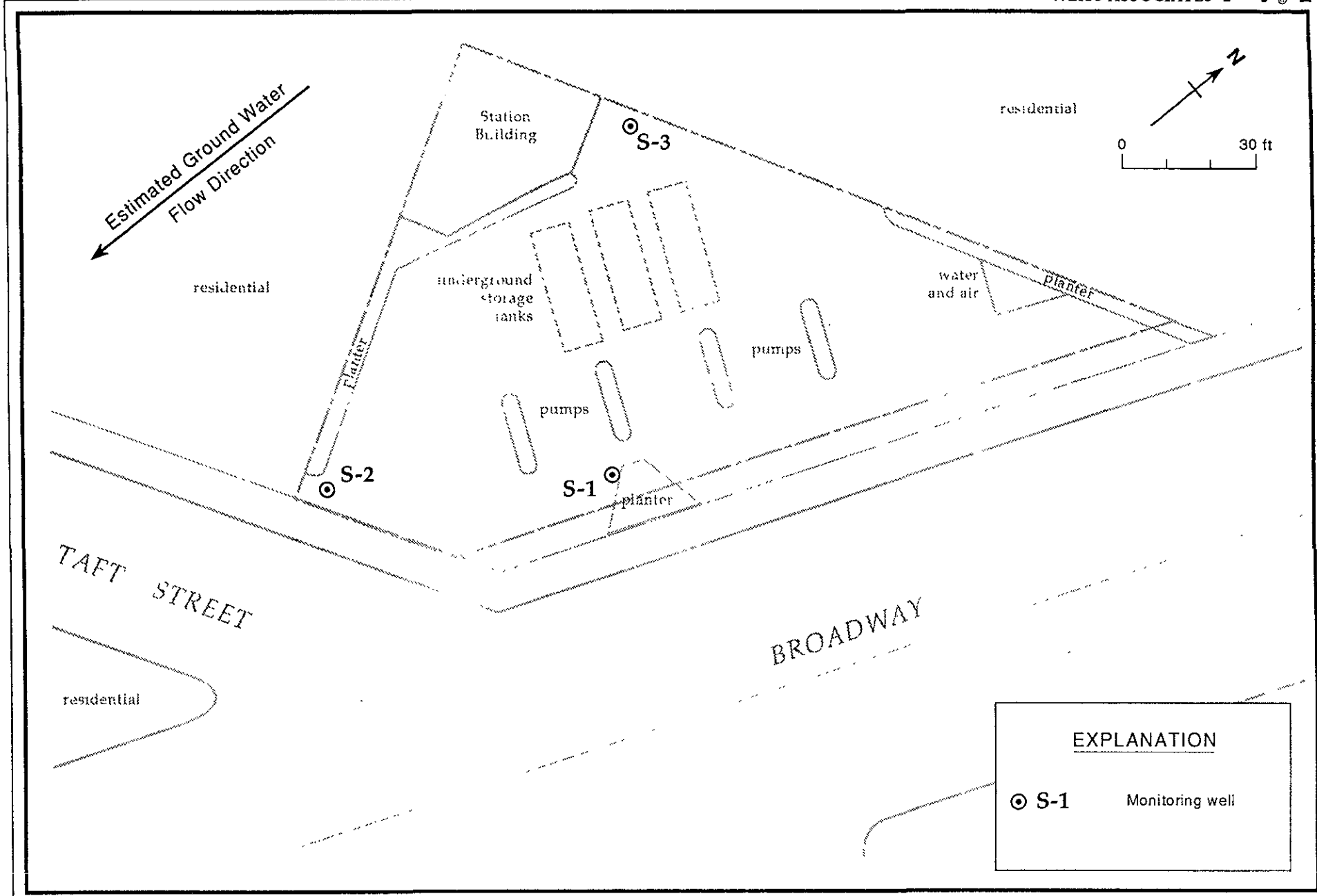

Figure 2. Monitoring Well Locations - Shell Service Station WIC#204-2004-0204, 5755 Broadway, Oakland, California

5/19/92

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

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9208218
Date Received : 08/19/92
Project ID : 204-5510-0303
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9208218- 1	S-3	WATER	08/19/92	TPHg/BTEX
9208218- 2	S-1	WATER	08/19/92	TPHg/BTEX
9208218- 3	S-2	WATER	08/19/92	TPHg/BTEX
9208218- 4	TB	WATER	08/19/92	TPHg/BTEX
9208218- 4	FB	WATER	08/19/92	TPHg/BTEX

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

MR. DAVID LARSEN
EMCON ASSOCIATES
1938 JUNCTION AVE.
SAN JOSE, CA 95131

Workorder # : 9208218
Date Received : 08/19/92
Project ID : 204-5510-0303
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Balmer 9/1/92
Department Supervisor Date

Lucio Shor 9/2/92
Chemist Date

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

Anametrix W.O.: 9208218
Matrix : WATER
Date Sampled : 08/19/92

Project Number : 204-5510-0303
Date Released : 09/01/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# S-3 -01	Sample I.D.# S-1 -02	Sample I.D.# S-2 -03	Sample I.D.# TB -04	Sample I.D.# FB -05
Benzene	0.0005	ND	ND	0.042	ND	ND
Toluene	0.0005	ND	ND	ND	ND	ND
Ethylbenzene	0.0005	ND	ND	0.0083	ND	ND
Total Xylenes	0.0005	ND	ND	0.0040	ND	ND
TPH as Gasoline	0.050	ND	ND	0.47	ND	ND
% Surrogate Recovery		113%	122%	141%	101%	110%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		08/22/92	08/25/92	08/25/92	08/25/92	08/25/92
RLMF		1	1	1	1	1

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

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

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

09/03/92
Analyst Date

Cheryl Balmer 9/3/92
Supervisor Date

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

Anametrix W.O.: 9208218
Matrix : WATER
Date Sampled : N/A

Project Number : 204-5510-0303
Date Released : 09/01/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# BG2101E2 BLANK	Sample I.D.# BG2401E2 BLANK
Benzene	0.0005	ND	ND
Toluene	0.0005	ND	ND
Ethylbenzene	0.0005	ND	ND
Total Xylenes	0.0005	ND	ND
TPH as Gasoline	0.050	ND	ND
% Surrogate Recovery		101%	109%
Instrument I.D.		HP21	HP21
Date Analyzed		08/21/92	08/24/92
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 53-147%.

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

Luna Shor 9/2/92
Analyst Date

Cheryl Balmer 9/2/92
Supervisor Date

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

Sample I.D. : 204-5510-0303 S-3
Matrix : WATER
Date Sampled : 08/19/92
Date Analyzed : 08/22/92

Anametrix I.D. : 9208218-01
Analyst : IS
Supervisor : [illegible]
Date Released : 09/01/92

COMPOUND	SPIKE AMT. (mg/L)	MS (mg/L)	%REC MS	MD (mg/L)	%REC MD	RPD	%REC LIMITS
BENZENE	0.010	0.007	69%	0.007	67%	-3%	49-159
TOLUENE	0.010	0.008	77%	0.007	74%	-4%	53-156
ETHYLBENZENE	0.010	0.008	81%	0.008	75%	-8%	54-151
M+P-XYLENES	0.0067	0.0058	87%	0.0054	81%	-7%	56-157
O-XYLENE	0.0033	0.0030	91%	0.0022	67%	-31%	56-157
p-BFB			136%		135%		53-147

* Quality control established by Anametrix, Inc.

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

Sample I.D.	: LAB CONTROL SAMPLE	Anametrix I.D.	: LCSW0822
Matrix	: WATER	Analyst	: IS
Date Sampled	: N/A	Supervisor	: [illegible]
Date Analyzed	: 08/22/92	Date Released	: 09/01/92
		Instrument ID	: HP21

COMPOUND	SPIKE AMT. (mg/L)	LCS (mg/L)	REC LCS	%REC LIMITS
Benzene	0.010	0.006	64%	49-159
Toluene	0.010	0.008	75%	53-156
Ethylbenzene	0.010	0.008	77%	54-151
M+P-Xylenes	0.0067	0.0054	81%	56-157
O-Xylene	0.0033	0.0024	73%	58-154
P-BFB			127%	53-147

* Limits established by Anametrix, Inc.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No.: 8205

Date: 8-19-92
Page 1 of 1

Site Address: 5755 Broadway Oakland, CA

WIC#: 204-5510-0303

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

Consultant Name & Address: EMCON Associates 1938 Junction Avenue San Jose, CA 95131

Consultant Contact: David Larsen
Phone No. / Fax #: (408) 453-2269

Comments: 3-VOAs (HCl) for gas, BTEX

Sampled By: LisleRATH

Printed Name: Lisle Rath

Analysis Required

LAB: Anametrix

CHECK ONE (1) BOX ONLY	CT/DT
Quarterly Monitoring	☒ 5461
Site Investigation	☐ 5441
Soil for disposal	☐ 5442
Water for disposal	☐ 5443
Air Sample- Sys O&M	☐ 5452
Water Sample - Sys O&M	☐ 5453
Other	☐

TURN AROUND TIME
- 24 hours ☐
- 48 hours ☐
- 15 days ☒ (Normal)
- Other ☐ _____

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

Sample ID	Date	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	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
1) S-3	8-19-92		X		3	X		X			40 ml	HCl	No		
2) S-1	8-19-92		↓		↓	↓		↓			↓	↓	↓		
3) S-2	8-19-92		↓		↓	↓		↓			↓	↓	↓	Bubbles	(1)
4) TB	8-19-92		↓		↓	↓		↓			↓	↓	↓	"	(1)
5) FB	8-19-92		↓		↓	↓		↓			↓	↓	↓		

	Printed name:	Date:	Received (signature):	Printed name:	Date:
Relinquished By (signature): Lisle Rath	Lisle RATH	8-19-92 Time: 1345	Maria Barajas	Maria Barajas	8/19/92 Time: 13:45
Relinquished By (signature):	Printed name:	Date: Time:	Received (signature):	Printed name:	Date: Time:
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

Last Revision Date: 10/15/91