



GeoStrategies Inc.

January 12, 1993

Ms. Jennifer Eberle
County of Alameda
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Reference: Former Shell Service Station
461 Eighth Street
Oakland, California
WIC 204-5508-6200

Ms. Eberle:

As requested by Mr. Paul Hayes of Shell Oil Company, we are forwarding a copy of the Quarterly Report dated January 5, 1993. The enclosed report presents the results of the fourth quarter 1992 ground-water sampling at the above referenced location.

*During
1992* → A copy of the third quarter project status letter is also enclosed. Approximately 200-gallons of free product and groundwater was pumped from offsite well S-5. Less than 1% of the liquid removed from Well S-5 contained free product, the remainder was water.

A right-of-entry request was submitted to the property owner to install wells on the former station property. A copy of the right-of-entry request will be sent to Alameda County Department of Environmental Health.

*I'd like tabular data showing each date + amt F.P. removed
Also copies of manifests for F.P. removal.*

:ellens\644-s.wp

GeoStrategies Inc.

Ms. Jennifer Eberle
January 12, 1993
Page 2

If you have any questions, please call.

Sincerely,



Ellen Fostersmith
Geologist
enclosure

cc: Mr. Paul Hayes, Shell Oil Company
Mr. Larry Turner, Shell Oil Company
Mr. Lester Feldman, Regional Water Quality Control Board



GeoStrategies Inc.

October 15, 1992

County of Alameda
Department of Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

Re: Former Shell Service Station
461 Eighth Street
Oakland, California
WIC #204-5508-6200

Gentlemen:

This site status letter has been prepared by GeoStrategies Inc. (GSI) on behalf of Shell Oil Company for the above referenced site. **Ground-water sampling was not performed at the site due to problems associated with site access and right-of-entry issues.** These issues should be corrected in time for fourth quarter ground-water sampling.

If you have any questions or comments, please call.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert A. Lauritzen".

Robert A. Lauritzen
Project Geologist

cc: Mr. Paul Hayes, Shell Oil Company
Mr. Larry Turner, Shell Oil Company
Mr. Lester Feldman, Regional Water Quality Control Board

:ellens/coa(rt)



GeoStrategies Inc.

QUARTERLY REPORT

Former Shell Service Station
461 Eighth Street
Oakland, California
WIC# 204-5508-6200

764401-15

January 5, 1993



GeoStrategies Inc.

January 5, 1993

Shell Oil Company
P.O. Box 5278
Concord, California

Attn: Mr. Paul Hayes

Re: QUARTERLY REPORT
Former Shell Service Station
461 Eighth Street
Oakland, California
WIC# 204-5508-6200

Mr. Hayes:

This Quarterly Report has been prepared by GeoStrategies Inc. (GSI) and presents the results of the 1992 fourth quarter sampling for the above referenced site (Plate 1). Sampling data were furnished by the Shell Oil Company sampling contractor.

There are currently three monitoring wells within the site vicinity; Wells S-4, S-5, and S-6 (Plate 2). These wells were installed in 1981 by Groundwater Technology Inc. Wells S-1, S-2, S-3 and S-7 were destroyed in 1987.

CURRENT QUARTER SAMPLING RESULTS

Depth to water-level measurements were obtained in the monitoring well on December 3, 1992. Static ground-water levels were measured from the surveyed top of the well box and recorded to the nearest ± 0.01 foot. Water-level elevations, referenced to project site datum and the stabilized values of measured physical parameters are presented in the EMCON report (Appendix A). Wells S-4 and S-5 were inaccessible and were not monitored or sampled. Water-level data were used to construct a quarterly water-level elevation map (Plate 2). *w/only 1 pt of gw elev!*

The well was checked for the presence of floating product. Floating product was not observed in the well this quarter.

764401-15

GeoStrategies Inc.

Shell Oil Company
January 5, 1993
Page 2

Ground-water samples were collected on December 3, 1992. Samples were analyzed for Total Petroleum Hydrocarbons calculated as Gasoline (TPH-Gasoline), according to EPA Method 8015 (Modified) and for Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) according to EPA Method 8020. The ground-water samples were analyzed by Anamatrix Inc., a California State-certified laboratory located in San Jose, California. These data are presented in the EMCON report (Appendix A). A chemical concentration map for benzene is presented on Plate 3. Historical chemical analytical data are presented in Appendix A.

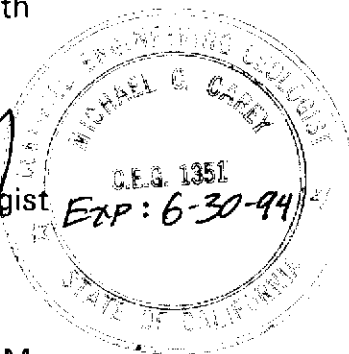
If you have any questions, please call.

GeoStrategies Inc. by,

Ellen C. Fostersmith

Ellen C. Fostersmith
Geologist

Michael Carey
Michael C. Carey
Engineering Geologist
C.E.G. 1351



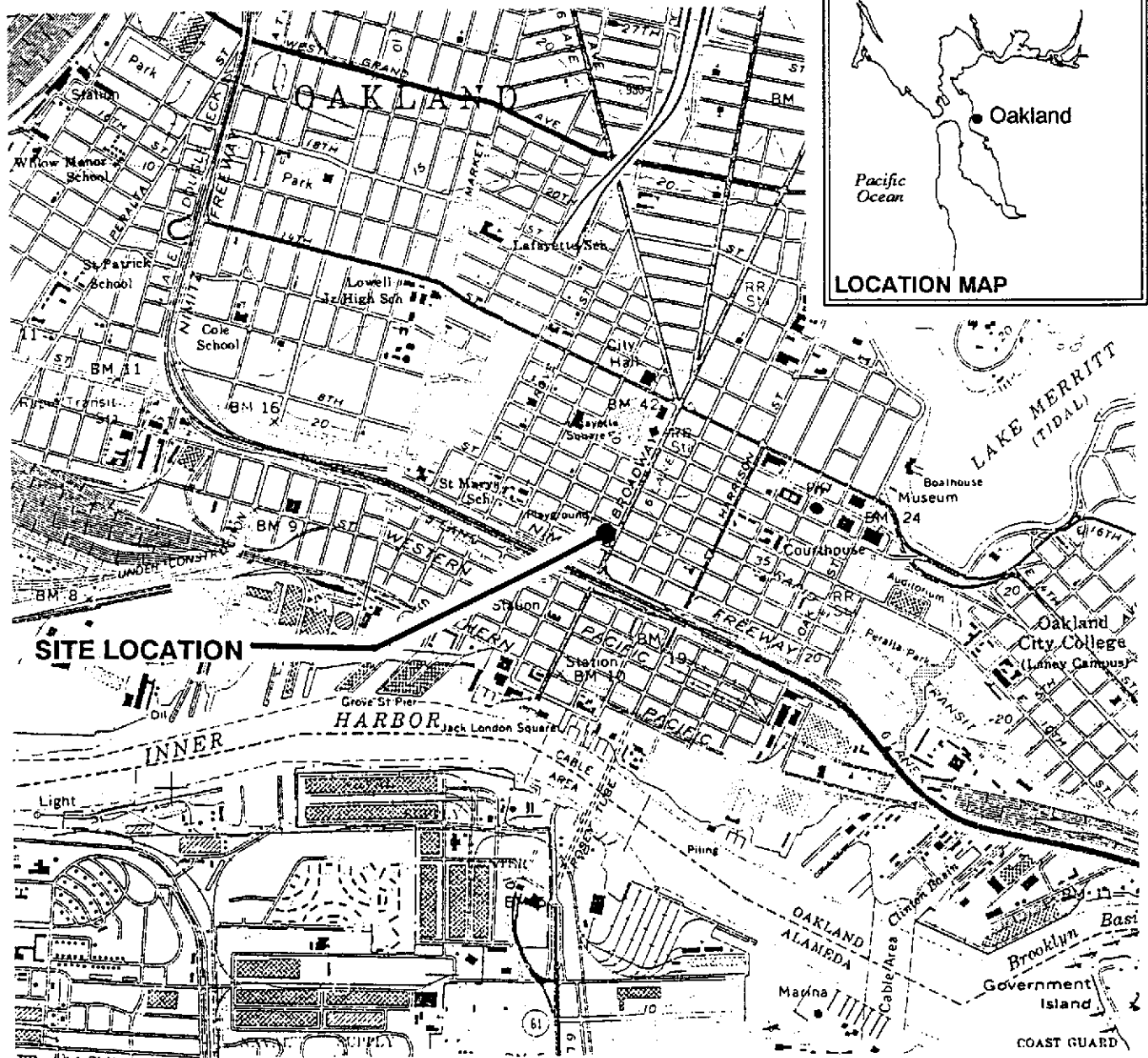
ECF/MCC/shl

- Plate 1. Vicinity Map
- Plate 2. Site Plan/Water-Level Elevation Map
- Plate 3. Benzene Concentration Map

Appendix A: EMCON Monitoring Report and Chain-of-Custody Form

QC Review _____

JH



SITE LOCATION

LOCATION MAP

Base Map: USGS Topographic Map

Approximate Scale : 1" = 2000'



GeoStrategies Inc.

Vicinity Map
 Former Shell Service Station
 461 Eighth Street
 Oakland, California

PLATE

1

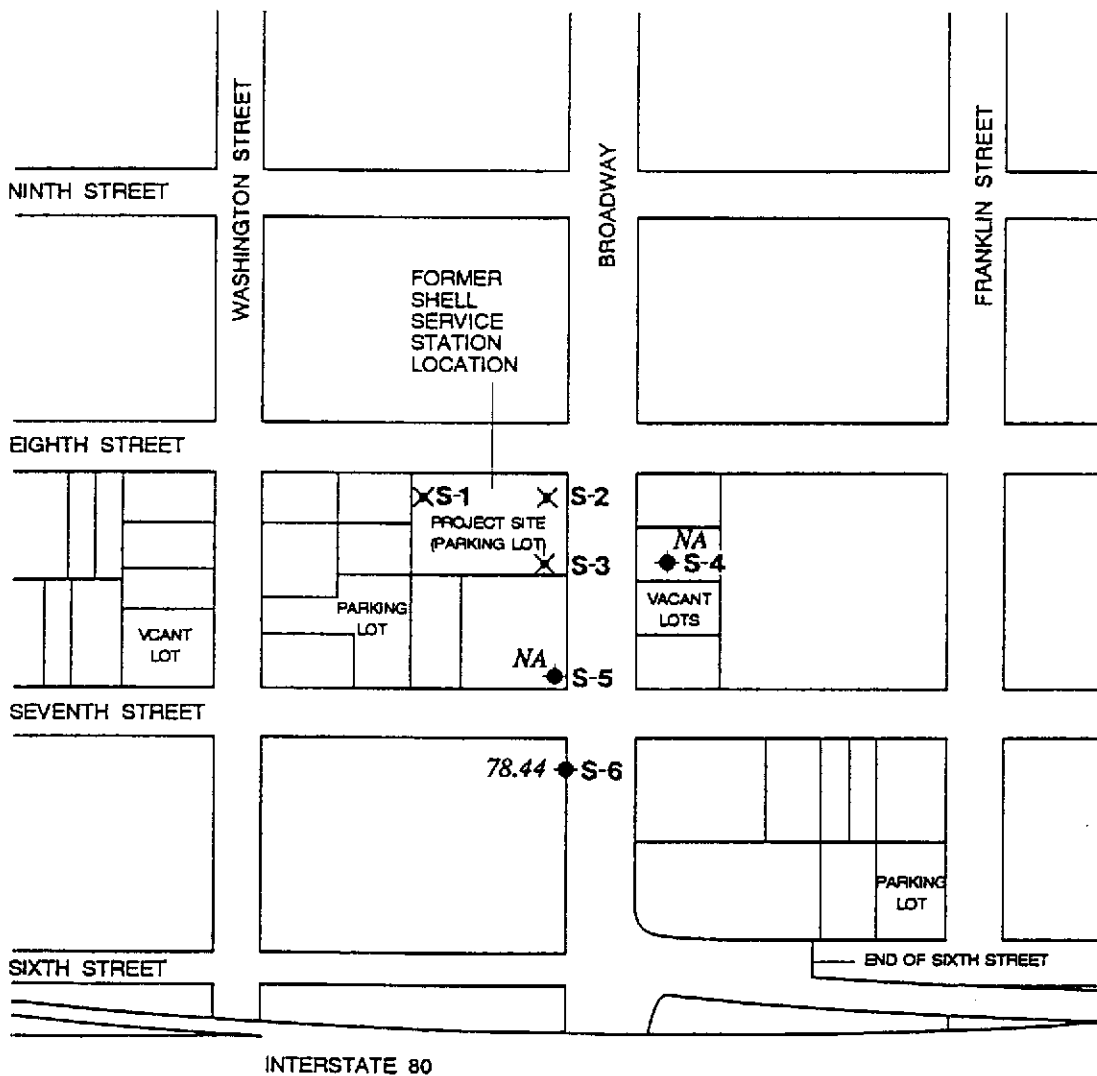
JOB NUMBER
7644

REVIEWED BY
[Signature]

DATE
5/90

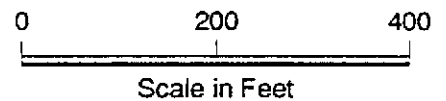
REVISED DATE

REVISED DATE



EXPLANATION

- ◆ S-1 Ground-water monitoring well location
- X Destroyed well
- 78.44 Ground-water elevation in feet referenced to project datum measured on December 3, 1992
- NA Not Accessible



Note: Well S-7 located at Washington and Fifth Streets was destroyed in 1997

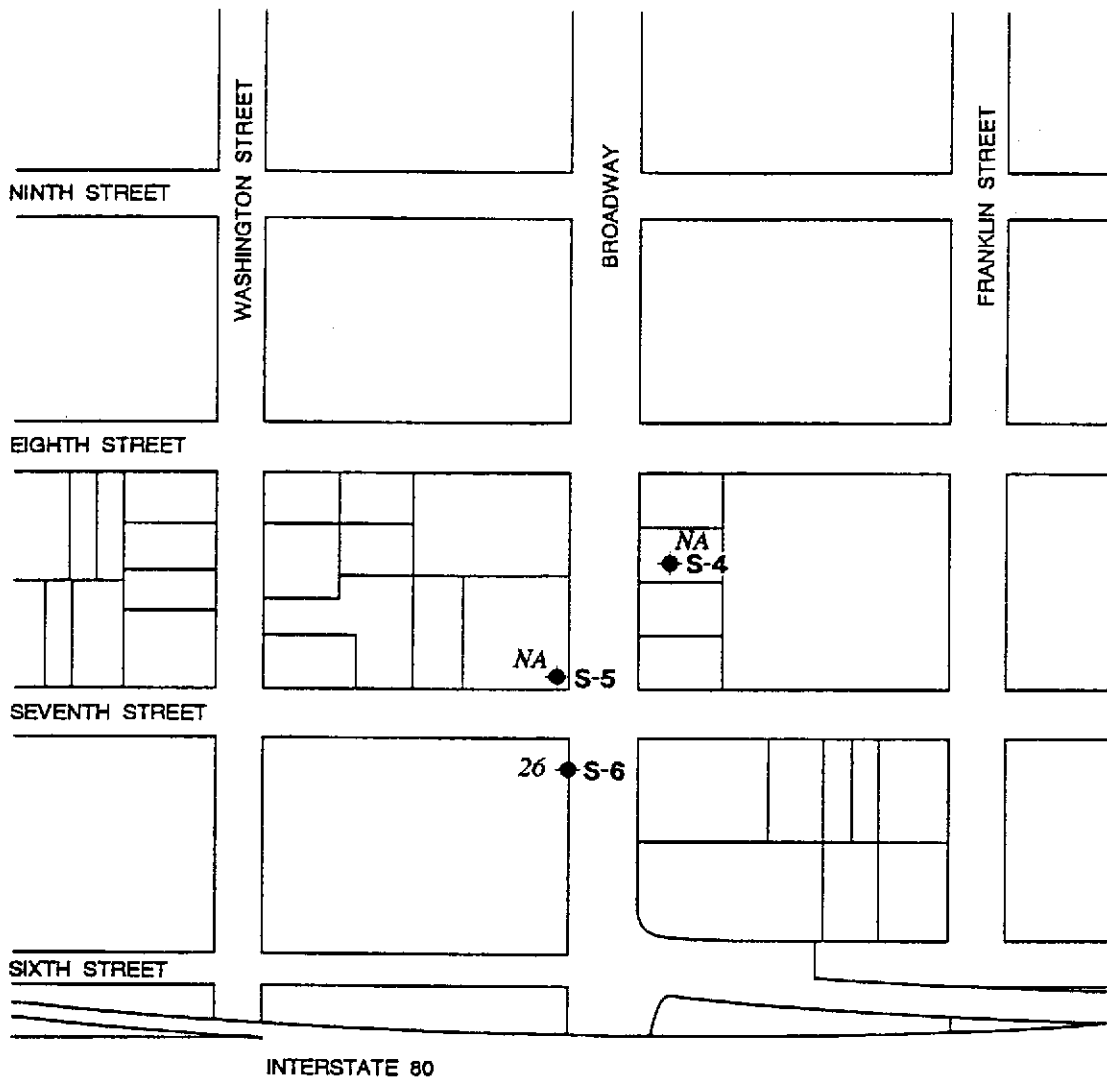


GeoStrategies Inc.

Site Plan/Water-Level Elevation Map
 Former Shell Service Station
 461 Eighth Street
 Oakland, California

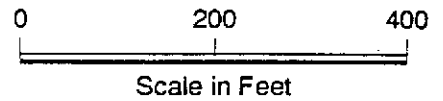
PLATE

2



EXPLANATION

- ◆ S-1 Ground-water monitoring well location
- 26 Benzene concentration in ppm sampled on December 3, 1992
- ND Not Detected (see laboratory reports for detection limits)
- NA Not Accessible



GeoStrategies Inc.

Benzene Concentration Map
 Former Shell Service Station
 461 Eighth Street
 Oakland, California

PLATE
3

GeoStrategies Inc.

**APPENDIX A
EMCON MONITORING REPORT
AND
CHAIN-OF-CUSTODY FORM**



EMCON
ASSOCIATES

Consultants in Wastes
Management and
Environmental Control

RECEIVED

DEC 18 1992

GeoStrategies Inc.

December 17, 1992
Project: 0G67-023.01
WIC#: 204-5508-6200

Ms. Ellen Fostersmith
Geo Strategies Inc.
2140 West Winton Avenue
Hayward, California 94545

Re: Fourth quarter 1992 ground-water monitoring report, Shell Oil
Company, 461 8th Street, Oakland, California

Dear Ms. Fostersmith:

This letter presents the results of the fourth quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) site located at 461 8th Street, Oakland, California. Fourth quarter monitoring was conducted on December 3, 1992. The site is monitored quarterly. Wells S-4 and S-5 were inaccessible and were not surveyed or sampled during fourth quarter monitoring. Well S-4 is located on property that has restricted access. The grate covering well S-5 is stuck shut and could not be removed during two different attempts to access the well.

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 1 (supplied by Geo Strategies Inc.). During the survey, well S-6 was 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 well. Total depth was measured to the nearest 0.1 foot. Results of the fourth 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 well S-6 on December 3, 1992. Prior to sample collection, the well was purged with a polyvinyl chloride bailer. 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. Field measurements from fourth quarter monitoring, and available measurements from four previous monitoring events, are summa-

rized in table 1. Purge water from the monitoring well was removed from the site by Crosby-Overton on December 3, 1992.

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 (QC) samples for fourth quarter monitoring included a trip blank (TB) and a field blank (FB). All water samples collected during fourth 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 fourth 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 - Monitoring well locations
Certified analytical report
Chain-of-custody document

Table 1
Monitoring Well Field Measurement Data
Fourth Quarter 1992

Shell Station: 461 8th Street
Oakland, California
WIC #: 204-5508-6200

Date: 12/16/92
Project Number: G67-23.01

Well Designation	Water Level Field Date	TOB Elevation (ft-PSD)	Depth to Water (feet)	Ground-water 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-4	09/24/91	93.51	15.85	77.66	16.3	ND	09/24/91	DRY	DRY	DRY	DRY
S-4	11/07/91	93.51	15.60	77.91	16.3	ND	11/07/91	DRY	DRY	DRY	DRY
S-4	02/13/92	93.51	14.27	79.24	16.2	ND	02/13/92	6.40	489	61.3	80
S-4	05/11/92	93.51	DRY	DRY	16.7	ND	05/11/92	DRY	DRY	DRY	DRY
S-4	12/03/92	93.51	IW	IW	IW	IW	12/03/92	IW	IW	IW	IW
S-5	09/24/91	99.36	21.40	78.01**	NR	0.06	09/24/91	FP	FP	FP	FP
S-5	11/07/91	99.36	21.33	78.23**	21.5	0.25	11/07/91	FP	FP	FP	FP
S-5	02/13/92	99.36	22.52	77.09**	38.2	0.31	02/13/92	FP	FP	FP	FP
S-5	05/11/92	99.36	22.46	77.36**	38.1	0.58	05/11/92	FP	FP	FP	FP
S-5	12/03/92	99.36	IW	IW	IW	IW	12/03/92	IW	IW	IW	IW
S-6	09/24/91	100.58	22.26	78.32	38.3	ND	09/24/91	6.52	684	68.4	NR
S-6	11/07/91	100.58	22.35	78.23	38.4	ND	11/07/91	6.96	722	68.7	NR
S-6	02/13/92	100.58	22.28	78.30	38.5	ND	02/13/92	6.38	1135	63.9	50
S-6	05/11/92	100.58	22.10	78.48	37.8	ND	05/11/92	6.52	9650	65.9	>200
S-6	12/03/92	100.58	22.14	78.44	37.1	ND	12/03/92	6.97	1179	65.0	>1000

TOB = top of well box

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

ND = None detected

DRY = Dry well; ground water not detected or insufficient volume of ground water to collect samples

IW = Inaccessible well

** = groundwater elevation corrected to include 80 percent of the floating product thickness measured in the well

NR = Not reported; data not available

FP = Floating product; well contained floating product and was not sampled

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

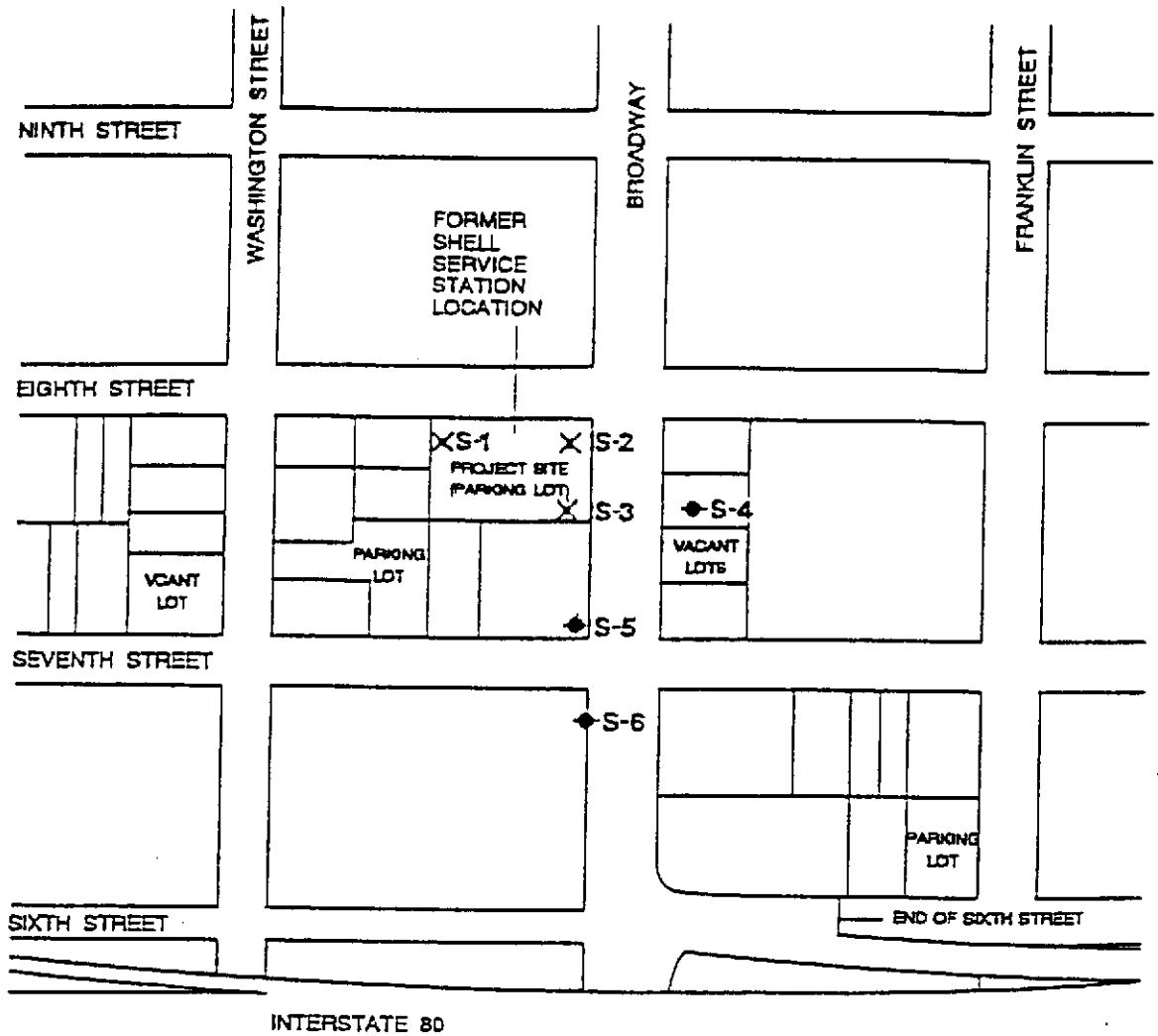
Shell Station: 461 8th Street
 Oakland, California
 WIC #: 204-5508-6200

Date: 12/16/92
 Project Number: G67-23.01

Sample Designation	Water Sample Field Date	TPH-g	Benzene	Toluene	Ethylbenzene	Total Xylenes
		(mg/l) <i>ppb</i>	(mg/l) <i>ppb</i>	(mg/l)	(mg/l)	(mg/l)
S-4	09/24/91	DRY	DRY	DRY	DRY	DRY
S-4	11/07/91	DRY	DRY	DRY	DRY	DRY
S-4	02/13/92	<0.05	<0.0005	<0.0005	<0.0005	0.0030
S-4	05/11/92	DRY	DRY	DRY	DRY	DRY
S-4	12/03/92	IW	IW	IW	IW	IW
S-5	09/24/91	FP	FP	FP	FP	FP
S-5	11/07/91	FP	FP	FP	FP	FP
S-5	02/13/92	FP	FP	FP	FP	FP
S-5	05/11/92	FP	FP	FP	FP	FP
S-5	12/03/92	IW	IW	IW	IW	IW
S-6	09/24/91	42.	14.	4.3	1.2	4.0
S-6	11/07/91	39.	11.	2.0	0.8	2.3
S-6	02/13/92	64.	21.	6.2	1.6	5.1
S-6	05/11/92	57.	22.	7.6	2.2	7.7
S-6	12/03/92	110. 114.000	28. 26.000	9.4	2.1	8.7
FB	12/03/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	02/13/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	05/11/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	12/03/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

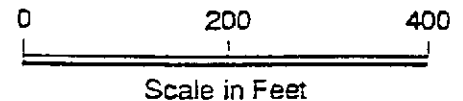
TPH-g = total petroleum hydrocarbons as gasoline
 DRY = Dry well; ground water not detected or insufficient volume of ground water to collect samples
 IW = Inaccessible well
 FP = Floating product; well contained floating product and was not sampled

Figure 1
 (Supplied by Geo Strategies, Inc.)



EXPLANATION

- ◆ S-1 Ground-water monitoring well location
- X Destroyed well



Note: Well S-7 located at Washington and Fifth Streets was destroyed in 1987



GeoStrategies Inc.

Site Plan
 Former Shell Service Station
 461 Eighth Street
 Oakland, California

PLATE

2



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

Workorder # : 9212063
Date Received : 12/03/92
Project ID : 204-5508-6200
Purchase Order: MOH-B813

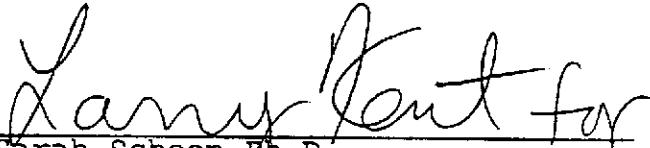
The following samples were received at Anamatrix, Inc. for analysis :

ANAMETRIX ID	CLIENT SAMPLE ID
9212063- 1	S-6
9212063- 2	TB
9212063- 3	FB

This report consists of 4 pages not including the cover letter, and is organized in sections according to the specific Anamatrix 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 Anamatrix 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.

Anamatrix 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 Anamatrix.


Sarah Schoen, Ph.D.
Laboratory Director

12-16-92
Date

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

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

Workorder # : 9212063
Date Received : 12/03/92
Project ID : 204-5508-6200
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9212063- 1	S-6	WATER	12/03/92	TPHg/BTEX
9212063- 2	TB	WATER	12/03/92	TPHg/BTEX
9212063- 3	FB	WATER	12/03/92	TPHg/BTEX

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

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

Workorder # : 9212063
Date Received : 12/03/92
Project ID : 204-5508-6200
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Balmer 12/10/92
Department Supervisor Date

Charles M Burch 12.10.92
Chemist Date

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

Anamatrix W.O.: 9212063
Matrix : WATER
Date Sampled : 12/03/92

Project Number : 204-5508-6200
Date Released : 12/10/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# S-6	Sample I.D.# TB	Sample I.D.# FB	Sample I.D.# BD0701E3	Sample I.D.# BD0801E3
Benzene	0.0005	26	ND	ND	ND	ND
Toluene	0.0005	9.4	ND	ND	ND	ND
Ethylbenzene	0.0005	2.1	ND	ND	ND	ND
Total Xylenes	0.0005	8.7	ND	ND	ND	ND
TPH as Gasoline	0.050	110	ND	ND	ND	ND
% Surrogate Recovery		78%	107%	109%	90%	90%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		12/08/92	12/07/92	12/07/92	12/07/92	12/08/92
RLMF		500	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.

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

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

Steve Sims 12/16/92
Analyst Date

Cheryl Balmer 12/16/92
Supervisor Date

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

Sample I.D. : LAB CONTROL SAMPLE	Anamatrix I.D.: LCSW1207
Matrix : WATER	Analyst : <i>CMB</i>
Date Sampled : N/A	Supervisor : <i>12</i>
Date Analyzed : 12/07/92	Date Released : 12/10/92
	Instrument ID : HP21

COMPOUND	SPIKE AMT. (mg/L)	LCS (mg/L)	REC LCS	%REC LIMITS
Benzene	0.010	0.010	100%	49-159
Toluene	0.010	0.0097	97%	53-156
Ethylbenzene	0.010	0.010	100%	54-151
TOTAL Xylenes	0.010	0.0098	98%	56-157
P-BFB			103%	53-147

* Limits established by Anamatrix, Inc.



SHELL OIL COMPANY 9212063
RETAIL ENVIRONMENTAL ENGINEERING - WEST

15:10 MB
CHAIN OF CUSTODY RECORD

Date: _____
 Page / of /

Site Address: 461 8th Street
 Oakland, CA

WIC#: 204-5508-6200

Shell Engineer: Paul Hayes
 Phone No.:(510) 675-6169

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

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

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

(A)

Serial No: _____

Analysis Required

LAB: Anametri X

Sampled by:
 Printed Name:

Sample ID	Date	Sludge	Soil	Water	Air	No. of conds.
S-4				X		3
S-6	12-3-92			X		3
S-5				X		3
FB-1 TB				X		3
FB-2 FB				X		3

TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/8020)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Asbestos	Container Size	Preparation Used	Composite Y/N
					X		40 gal	HCl	No
					X				
					X				
					X				
					X				

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
Quarterly Monitoring <input checked="" type="checkbox"/>	6441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	6441	48 hours <input type="checkbox"/>
Soil Classfy/Disposal <input type="checkbox"/>	6442	16 days <input checked="" type="checkbox"/> (Normal)
Water Classfy/Disposal <input type="checkbox"/>	6443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	6462	
Water Rem. or Sys. O & M <input type="checkbox"/>	6463	
Other <input type="checkbox"/>		

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

MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS

Relinquished By (signature): *[Signature]*
 Relinquished By (signature): -
 Relinquished By (signature):

Printed Name: Manuel Gallegos.
 Printed Name:
 Printed Name:

Date: 12-3-92
 Time: 1412
 Date:
 Time:

Received (signature): *[Signature]*
 Received (signature):
 Received (signature):

Printed Name: Maria Barajas
 Printed Name:
 Printed Name:

Date: 12/3/92
 Time: 14:12
 Date:
 Time: