

ALCO
HAZMAT
94 JAN 12 8 20
Transmittal

4254

Date: January 11, 1993

To: Mr. Lynn Walker
Shell Oil Company
P.O. Box 5278
Concord, California 94520

From: Diane Lundquist *DL*

RE: Quarterly Monitoring Report - 4th Quarter 1993
Former Shell Service Station
461 Eighth Street
Oakland, California

Comments:

Transmitted herewith is the subject report.

If you have any questions, please call (707) 935-4850.

cc: Ms. Jennifer Eberlee, Alameda County Health Care Services
Agency
Mr. Richard Hiatt, Regional Water Quality Control Board
Mr. Jim Matthews, Shell Oil Company

ALCO
HAZMAT

January 11, 1994

94 JAN 12 PM 3: 20

Mr. Lynn Walker
Shell Oil Company
P.O. Box 5278
Concord, California 94520

RE: Quarterly Monitoring Report
Former Shell Service Station
461 Eighth Street
Oakland, California
WIC #204-5508-6205

Dear Mr. Walker:

This Quarterly Monitoring Report describes the recently completed activities associated with groundwater monitoring and sampling at the referenced site (Plate 1). This report was prepared to meet quarterly reporting requirements issued by the Regional Water Quality Control Board, San Francisco Bay Region and Alameda County Health Care Services Agency.

This document presents the results of activities performed in the fourth quarter of 1993.

Executive Summary

- Blaine Tech Services Inc. of San Jose California measured groundwater levels from off-site Wells S-5 and S-6 and collected water samples from Well S-6 on October 20, 1993. The water samples were transported to Anametrix Laboratories of San Jose, California. A trip blank was prepared and analyzed for quality control purposes.
- Enviro, Inc. (Enviros) evaluated water-level measurement data and chemical analytical results and prepared this report, which includes the Blaine Tech Quarterly Groundwater Sampling Report, a site plan, a groundwater elevation map and a benzene concentration map.
- Well S-4 remains inaccessible due to the presence of a chain-link fence surrounding the lot.
- Well S-5 contained ~~separate~~ phase hydrocarbons at a measured thickness of 0.23 feet (2.76 inches).
- Approximately 200 gallons of groundwater and product were evacuated from Well S-5 this quarter.
- Well S-6 contained 48,000 parts per billion (ppb) TPH-G and 28,000 ppb benzene.

- Groundwater flow direction and hydraulic gradient could not be calculated based on available data.

Site Conditions

There are currently three off-site groundwater monitoring wells; S-4, S-5, S-6 (Plate 2). These wells were installed in 1981. Wells S-1, S-2, S-3 and S-7 have been destroyed. Quarterly groundwater sampling began in October 1988.

Fourth Quarter 1993 Sampling Evaluation

Field Activities

Well S-4 was inaccessible. Therefore, this well was not sampled this quarter.

Depth to groundwater was measured and recorded in Wells S-5 and S-6 on October 20, 1993. Each well was checked for the presence of separate-phase petroleum hydrocarbons. Field measurements are presented in Table 1.

Monitoring well S-6 was purged prior to sampling. Groundwater samples collected from Well S-6 were sampled on October 26, 1993 and analyzed for Total Petroleum Hydrocarbons calculated as Gasoline (TPH-G) according to EPA Method 8015 (Modified) and Benzene, Toluene, Ethylbenzene and Xylenes (BTEX) according to EPA Method 8020. Additionally, a trip blank was prepared and analyzed for quality control purposes. The fourth quarter 1993 chemical analytical data for TPH-G and BTEX compounds have been included in the Historical Groundwater Quality Database (Table 2).

Groundwater samples were labeled, entered onto a chain of custody form, stored in a cooler with ice and transported to Anametrix for chemical analysis.

The following field documents are included in this report (Appendix A):

- Blaine Tech Services Inc. Quarterly Groundwater Sampling Report
- Chain-of-Custody Record
- Anametrix Certified Analytical Report

Data Evaluation

Groundwater elevations for Wells S-5 and S-6 were measured and recorded. The fourth quarter 1993 groundwater elevation map is presented on Plate 3. Groundwater flow direction and hydraulic gradient could not be calculated based on available data.

Separate-phase petroleum hydrocarbons were detected in Well S-5 at a measured thickness of 0.23 feet (2.76 inches).

Groundwater samples collected from Well S-6 contained 48,000 ppb TPH-G and 28,000 ppb benzene. Toluene, ethylbenzene and xylenes were detected at concentrations ranging from 3,200 ppb to 12,000 ppb. The trip blank was ND for all analyzed constituents. A benzene concentration map is presented on Plate 4.

Chemical analytical data are presented in the Anametrix certified analytical report contained in Appendix A.

Conclusions

Accessibility to Well S-4 is precluded due to the presence of a chain-link fence surrounding the property.

Concentrations of TPH-G and BTEX compounds have remained relatively constant in Well S-6. Separate-phase petroleum hydrocarbons in Well S-5 have also remained relatively constant.

On October 20, 1993, Crosby and Overton Inc. vacuumed out approximately 200 gallons of groundwater and product from Well S-5.

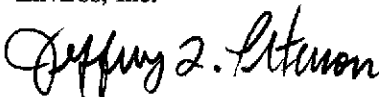
Negotiations for right-of-entry are proceeding between Shell Oil Company and the current property owner.

Groundwater sampling and monitoring will continue on the established schedule. Crosby and Overton will continue to coordinate evacuating separate-phase petroleum hydrocarbons from Well S-5 with Blaine Tech Services during quarterly monitoring and sampling activities.

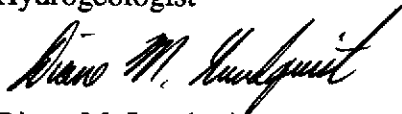
If you have any questions regarding the contents of this document, please call.

Sincerely,

Enviros, Inc.



Jeffrey L. Peterson
Hydrogeologist



Diane M. Lundquist, P.E.
Senior Engineer
C46725



Attachments

Table 1. Field Monitoring Data

Table 2. Historical Groundwater Quality Database

Plate 1. Vicinity Map

Plate 2. Site Plan

Plate 3. Groundwater Elevation Map

Plate 4. Benzene Concentration Map

Appendix A

Blaine Tech Services Inc. - Quarterly Groundwater Sampling Report

Distribution List

Mr. Richard Hiett, San Francisco Bay Region, Regional Water Quality Control Board

Ms. Jennifer Eberlee, Alameda County Health Care Services Agency

Mr. Jim Matthews, Shell Oil Company

TABLE 1
FIELD MONITORING DATA

FORMER SHELL SERVICE STATION
461 EIGHTH STREET
OAKLAND, CALIFORNIA
204-5508-6205

WELL NO.	DATE	CASING DIA. (IN.)	TOTAL WELL DEPTH (FT.)	WELL ELEV. (FT.)	DEPTH TO WATER (FT.)	PRODUCT THICKNESS (FT.)	STATIC WATER ELEV. (FT.)
S-4	20-Oct-93	4			INACCESSIBLE		
S-5	20-Oct-93	4	---	99.36	20.51	0.23	79.03*
S-6	20-Oct-93	4	36.63	100.58	21.62	0.00	78.96

NOTES

Static water elevations referenced to project site datum.

Well S-4 was inaccessible.

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

TABLE 2

HISTORICAL GROUNDWATER QUALITY DATABASE

FORMER SHELL SERVICE STATION
 461 EIGHTH STREET
 OAKLAND, CALIFORNIA
 WIC 204-5508-6205

WELL DESIGNATION	SAMPLE DATE	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
S-2	16-Apr-87	47,000	8,200	4,700	---	3,100
S-4	26-Oct-88	130	3.8	13	4	30
	14-Feb-89	<50	0.5	<1	<1	3
	1-May-89				Dry	
	27-Jul-89				Dry	
	5-Oct-89				Dry	
	9-Jan-90				Dry	
	30-Apr-90	<50	<0.5	<0.5	<5	<1
	31-Jul-90				Dry	
	30-Oct-90				Dry	
	6-May-91				Dry	
	27-Jun-91	<50	<0.5	<0.5	<0.5	<0.5
	24-Sep-91				Dry	
	7-Nov-91				Dry	
	13-Feb-92	<50	<0.5	<0.5	<0.5	3
	11-May-92				Dry	
	3-Dec-92				Inaccessible	
	13-May-93				Inaccessible	
	22-Jul-93				Inaccessible	
	20-Oct-93				Inaccessible	
S-5	16-Apr-87	130,000	15,000	16,000	---	14,000
	26-Oct-88	110,000	20,000	25,000	2,300	10,000
	14-Feb-89	94,000	16,000	21,000	1,800	10,000
	1-May-89	120,000	29,000	35,000	3,100	15,000
	27-Jul-89	110,000	20,000	29,000	2,400	14,000
	5-Oct-89				Floating Product 0.01 ft	
	9-Jan-90				Floating Product 0.01 ft	
	30-Apr-90	100,000	13,000	22,000	2,100	11,000
	31-Jul-90	53,000	8,300	14,000	1,200	7,400
	30-Oct-90				Floating Product 0.03 ft	
	6-May-91				Floating Product 0.13 ft	
	27-Jun-91				Floating Product 0.03 ft	
	24-Sep-91				Floating Product 0.06 ft	
	7-Nov-91				Floating Product 0.25 ft	
	13-Feb-92				Floating Product 0.31 ft	
	11-May-92				Floating Product 0.58 ft	
	3-Dec-92				Inaccessible	
	13-May-93				Floating Product 0.27 ft	
	22-Jul-93				Floating Product 0.25 ft	
20-Oct-93				Floating Product 0.23 ft = 2.76"		

TABLE 2
HISTORICAL GROUNDWATER QUALITY DATABASE

FORMER SHELL SERVICE STATION
461 EIGHTH STREET
OAKLAND, CALIFORNIA
WIC 204-5508-6205

WELL DESIGNATION	SAMPLE DATE	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
S-6	16-Apr-87	81,000	16,000	9,000	---	6,400
	26-Oct-88	110,000	29,000	18,000	2,500	8,200
	14-Feb-89	54,000	18,000	4,500	1,400	4,000
	1-May-89	93,000	43,000	9,900	3,000	8,000
	27-Jul-89	52,000	20,000	3,200	1,700	5,500
	5-Oct-89	55,000	20,000	2,900	1,600	5,500
	9-Jan-90	76,000	35,000	9,100	2,300	8,600
	30-Apr-90	39,000	13,000	2,300	900	2,800
	31-Jul-90	48,000	20,000	4,600	1,500	4,900
	30-Oct-90	27,000	7,400	900	600	1,400
	6-May-91	35,000	3,900	2,700	2,300	3,500
	27-Jun-91	51,000	19,000	5,600	1,700	6,300
	24-Sep-91	42,000	14,000	4,300	1,200	4,000
	7-Nov-91	39,000	11,000	2,000	800	2,300
	13-Feb-92	64,000	21,000	6,200	1,600	5,100
	11-May-92	57,000	22,000	7,600	2,200	7,700
	3-Dec-92	110,000	26,000	9,400	2,100	8,700
13-May-93	58,000	21,000	6,800	2,500	9,800	
22-Jul-93	70,000	31,000	14,000	3,000	13,000	
20-Oct-93	48,000	28,000	9,800	3,200	12,000	

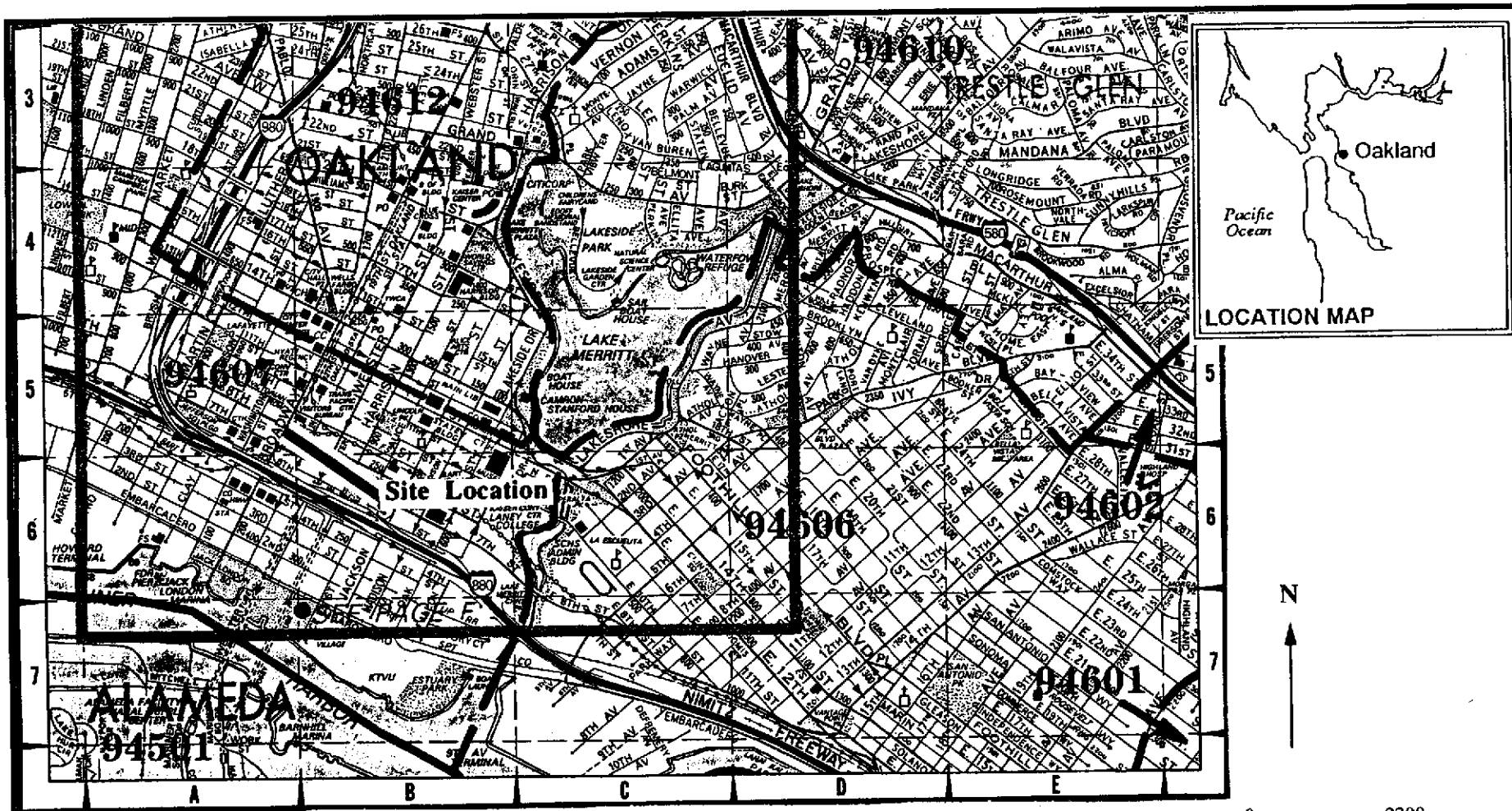
Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015

Benzene, Toluene, Ethylbenzene, and Xylenes analyzed by EPA Method 8020

--- = Ethylbenzene and Xylenes were combined prior to May 1987

<x = Not detected at detection limit of x



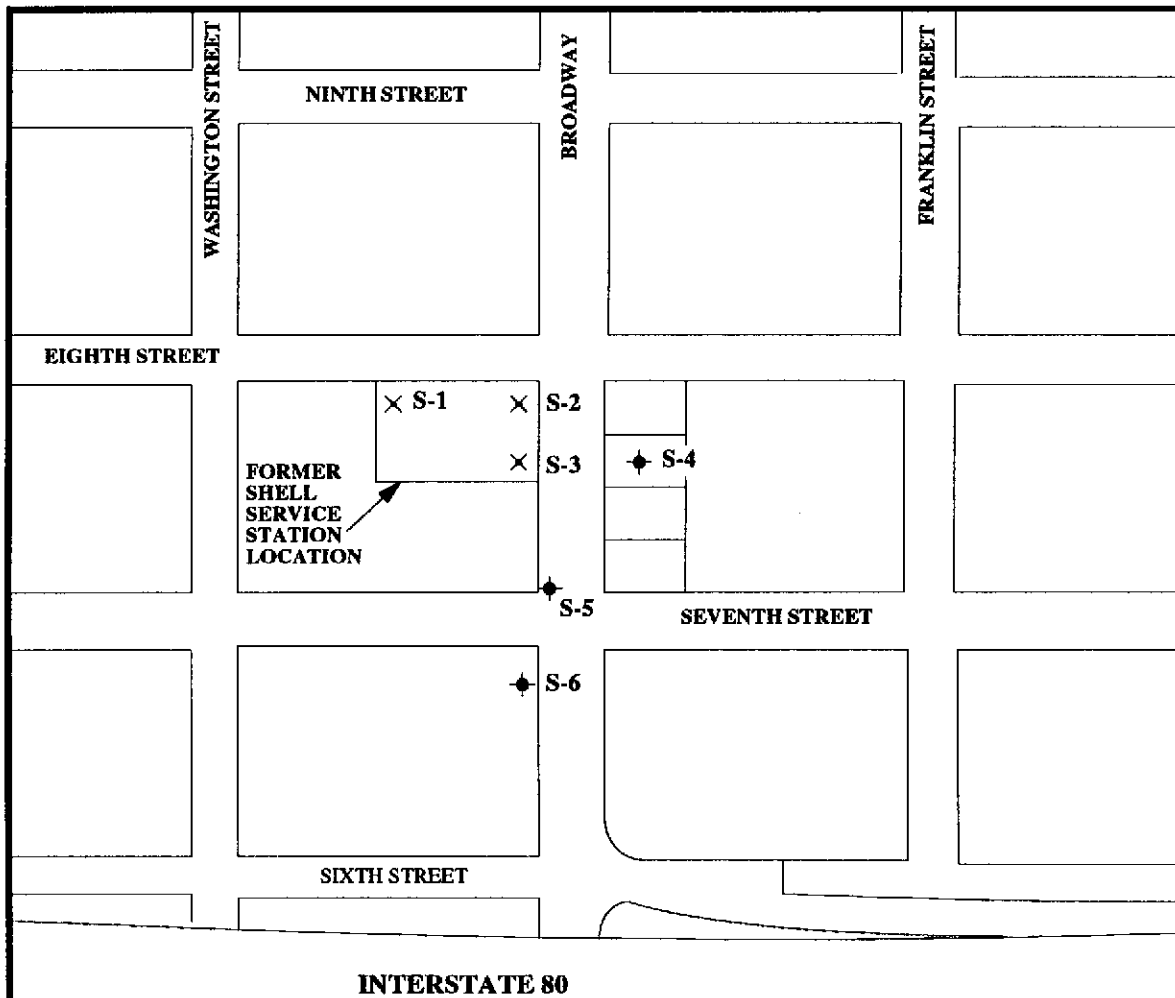
Base Map: 1993 Thomas Guide

<p>PLATE</p> <p>1</p>	<p>VICINITY MAP Former Shell Service Station 461 Eighth Street Oakland, California</p>
------------------------------	--

enviros[®]
E49307216

<p>Drawn By: CJG</p>	<p>Date: 12/6/93</p>
----------------------	----------------------

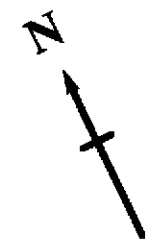
<p>Approved By: <u>AK</u></p>	<p>Date: <u>1-11-94</u></p>
-------------------------------	-----------------------------



EXPLANATION

- ◆ Groundwater Monitoring Well
- × Destroyed Well

Note: Well S-7 destroyed in 1987



Note: Base Map taken from GeoStrategies Inc. Report dated 10-4-93.

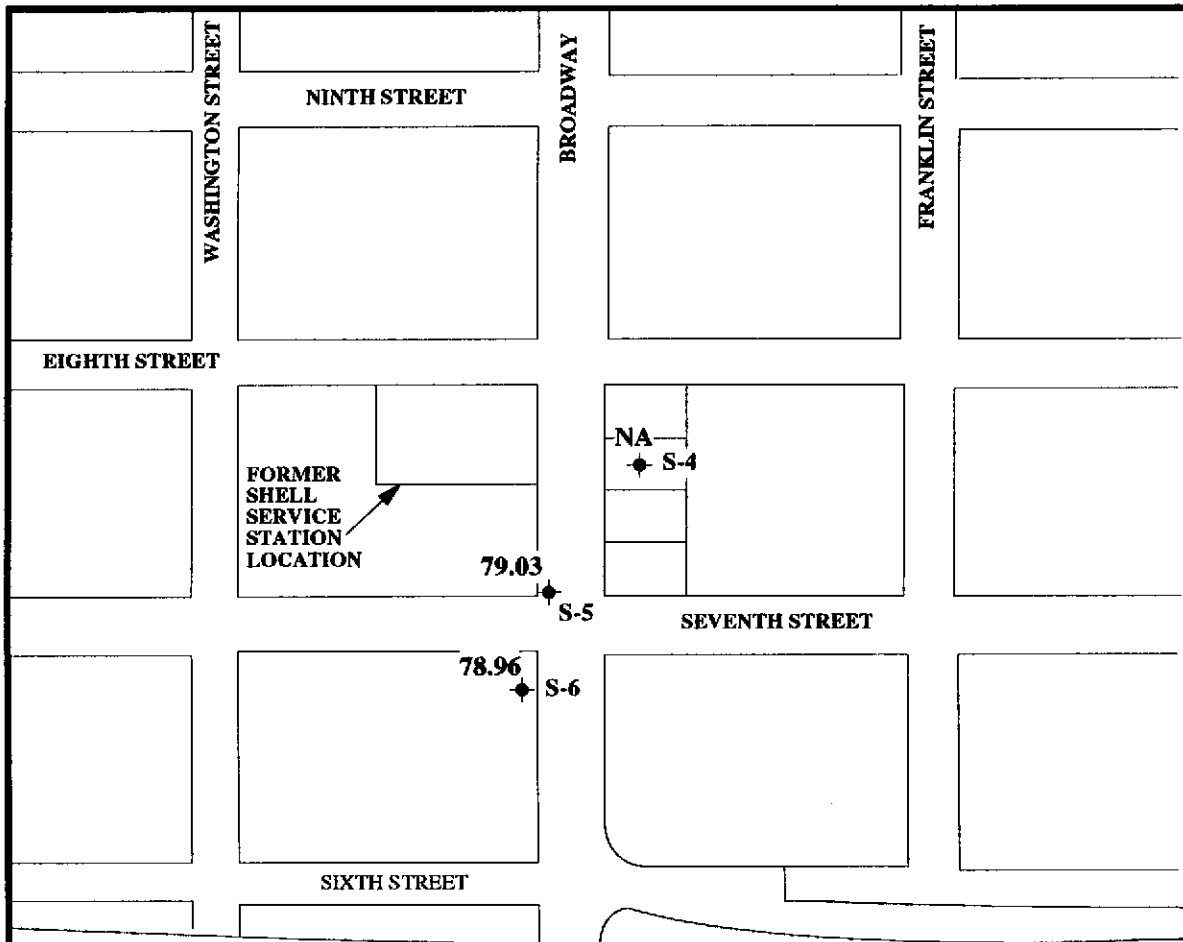
PLATE
2

SITE PLAN
Former Shell Service Station
461 Eighth Street
Oakland, California

enviros®
E4/9307216

Drawn By: JLP Date: 1-5-93

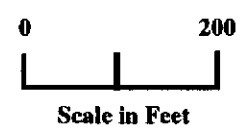
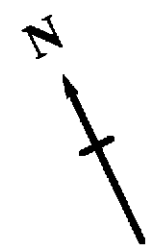
Approved By: *AK* Date: *1-11-94*



EXPLANATION

- ◆ Groundwater Monitoring Well
- 78.96 S-6
- ◆ Benzene Concentrations in parts per billion (ppb)
- NA Not Accessible

Note: Water levels measured on 10-20-93



Note: Base Map taken from GeoStrategies Inc. Report dated 10-4-93.

PLATE
3

GROUNDWATER ELEVATION MAP
Former Shell Service Station
461 Eighth Street
Oakland, California

enviros®
E4/9307216

Drawn By: JLP Date: 1-5-93

Approved By: AK Date: 1-11-94

Appendix A
Blaine Tech Services Inc.
Quarterly Groundwater Sampling Report

November 5, 1993

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

Attn: Lynn Walker

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

QUARTER:
4th quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 931020-J-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 obtained in cases where the well dewateres 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.

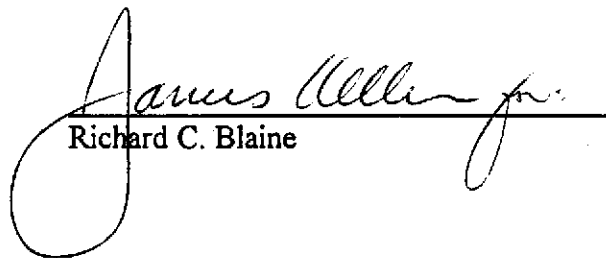
Objective Information Collection

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/dk

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


cc: Enviros, Inc.
P.O. Box 259
Sonoma, CA 95476-0259
ATTN: Diane Lundquist

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)
S-4	10/20/93	INACCESSIBLE						
S-5	10/20/93	TOB	FREE PRODUCT	20.28	0.23	VACUMED	20.51	--
S-6	10/20/93	TOB	ODOR	NONE	--	--	21.62	36.63

5/21/93

9310 318 (18)

 SHELL OIL COMPANY RETAIL ENVIRONMENTAL ENGINEERING - WEST		CHAIN OF CUSTODY RECORD Serial No: <u>931020-71</u>				Date: _____ Page <u>1</u> of <u>1</u>	
Site Address: 461 8th Street, Oakland WIC#: 204-5508-6200 Shell Engineer: Lynn Walker Phone No.: (510) 675-6170 Fax #: 675-6170 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: <i>[Signature]</i> Printed Name: JERRY ROTORFF		Analysis Required 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 _____ Asbestos _____ Container Size _____ Preparation Used _____ Composite Y/N _____				LAB: <u>Anametrix</u> CHECK ONE (1) BOX ONLY Quarterly Monitoring <input checked="" type="checkbox"/> 6441 Site Investigation <input type="checkbox"/> 6441 Soil Classfy/Disposal <input type="checkbox"/> 6442 Water Classfy/Disposal <input type="checkbox"/> 6443 Ice/Air Rem. or Sys. O & M <input type="checkbox"/> 6442 Water Rem. or Sys. O & M <input type="checkbox"/> 6443 Other <input type="checkbox"/> _____ TURN AROUND TIME 24 hours <input type="checkbox"/> 48 hours <input type="checkbox"/> 15 days <input checked="" type="checkbox"/> (Normal) Other <input type="checkbox"/> _____ NOTE: Notify Lab as soon as possible of 24/48 hr. TAT.	
						MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
Sample ID	Date	Sludge	Soil	Water	Air	No. of conls.	
① S-6						3	X
② TB						2	X
Relinquished By (signature): <i>[Signature]</i>		Printed Name: JERRY ROTORFF		Date: <u>5-21-93</u>		Time: <u>16:10</u>	
Relinquished By (signature): <i>[Signature]</i>		Printed Name: BENNY S. GARRIOSA		Date: <u>5-21-93</u>		Time: <u>16:35</u>	
Relinquished By (signature): <i>[Signature]</i>		Printed Name: _____		Date: _____		Time: _____	
Relinquished By (signature): <i>[Signature]</i>		Printed Name: _____		Date: _____		Time: _____	

①
②

THE LABORATORY MUST PROVIDE A COPY OF THIS CHAIN-OF-CUSTODY WITH INVOICE AND RESULTS

Shell Oil Company



Inchcape Testing Services

Anamatrix 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 # : 9310318
Date Received : 10/21/93
Project ID : 204-5508-6200
Purchase Order: MOH-B813

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

ANAMATRIX ID	CLIENT SAMPLE ID
9310318- 1	S-6
9310318- 2	TB

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

11-0493
Date

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

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

Workorder # : 9310318
Date Received : 10/21/93
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
9310318- 1	S-6	WATER	10/20/93	TPHgBTEX
9310318- 2	TB	WATER	10/20/93	TPHgBTEX

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

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

Workorder # : 9310318
Date Received : 10/21/93
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 11/3/93
Department Supervisor Date

Laura Sher 11/4/93
Chemist Date

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

Anamatrix W.O.: 9310318
Matrix : WATER
Date Sampled : 10/20/93

Project Number : 204-5508-6200
Date Released : 11/03/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# S-6	Sample I.D.# TB	Sample I.D.# BO2502E2
Benzene	0.5	28000	ND	ND
Toluene	0.5	9800	ND	ND
Ethylbenzene	0.5	3200	ND	ND
Total Xylenes	0.5	12000	ND	ND
TPH as Gasoline	50	48000	ND	ND
%		115%	109%	108%
Instrument I.D.		HP8	HP8	HP8
Date Analyzed		10/26/93	10/25/93	10/25/93
RLMF		500	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 (Dilution).

Anamatrix control limits for surrogate p-Bromofluorobenzene recovery are 61-139%.

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

Lucia Shor 11/3/93
Analyst Date

Cheryl Palmer 11/3/93
Supervisor Date

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

Sample I.D. : LAB CONTROL SAMPLE
 Matrix : WATER
 Date Sampled : N/A
 Date Analyzed : 10/25/93

Anamatrix I.D. : MO2501E3
 Analyst : ~~IS~~
 Supervisor : ~~ca~~
 Date Released : 11/01/93
 Instrument I.D.: HP8

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS *
Benzene	20.0	20.2	101%	52-133
Toluene	20.0	20.7	103%	57-136
Ethylbenzene	20.0	21.9	110%	56-139
Total Xylenes	20.0	23.3	117%	56-141
P-BFB			109%	61-139

* Quality control limits established by Anamatrix, Inc.