



grettler — ryan inc.

91 AUG 13 PM 2:51

August 9, 1991

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

94607

Gentlemen:

As requested by Mr. Jack Brastad of Shell Oil Company, we are forwarding a copy of the Site Update Report dated August 5, 1991. The enclosed report presents the results of the second quarter 1991 ground-water sampling at the above referenced location.

Please do not hesitate to call should you have any questions or comments.

Sincerely,

John P. Werfal
Project Manager

enclosure

cc: Mr. Jack Brastad, Shell Oil Company
Mr. Tom Callaghan, Regional Water Quality Control Board



GeoStrategies Inc.

SITE UPDATE

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

764401-10

August 5, 1991



GeoStrategies Inc.

2140 WEST WINTON AVENUE
HAYWARD, CALIFORNIA 94545

(415) 352-4800

August 5, 1991

RECEIVED

AUG 7 1991

Gettler-Ryan Inc.
2150 West Winton Avenue
Hayward, California 94545

GETTLER-RYAN INC.
GENERAL CONTRACTORS

Attn: Mr. John Werfal

Re: SITE UPDATE
Former Shell Service Station
461 Eighth Street
Oakland, California

Gentlemen:

This Site Update has been prepared by GeoStrategies Inc. (GSI) and presents the results of the 1991 second quarter ground-water sampling performed by Gettler-Ryan Inc. (G-R) for the above referenced site (Plate 1). The scope of work presented in this document was performed at the request of Shell Oil Company. Field work and laboratory analysis methods were performed to comply with current State of California Water Resources Control Board guidelines.

SITE BACKGROUND

There are currently three monitoring wells in the site vicinity; Wells S-4 through S-6 (Plate 2). Seven ground-water monitoring wells (S-1 through S-7) were installed in 1981 by Groundwater Technology, Inc. (GTI). In 1982, GTI installed a ground-water recovery system in Well S-1. The recovery system was subsequently turned off in August 1982. Wells S-1 through S-3, and S-7 were destroyed in 1987. Wells S-4 through S-6 are off-site. These wells were installed to evaluate the vertical and horizontal extent of petroleum hydrocarbons in soils and shallow groundwater beneath and downgradient of the site.

Quarterly monitoring and sampling of wells began in 1988. Ground-water samples have been analyzed for Total Petroleum Hydrocarbons calculated as Gasoline (TPH-Gasoline) according to EPA Method 8015 (Modified) and Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX) according to EPA Method 8020.

764401-10

GeoStrategies Inc.

Gettler-Ryan Inc.
August 5, 1991
Page 2

CURRENT QUARTERLY SAMPLING RESULTS

Potentiometric Data

Prior to ground-water sampling, depth to water-level measurements were obtained in each monitoring well using an electronic oil-water interface probe. Static ground-water levels were measured from the surveyed top of well box and recorded to the nearest 0.01 foot. Corresponding elevations, referenced to project site datum are presented in Table 1. Water-level data were used to construct the potentiometric map on Plate 3. Potentiometric data indicate that shallow ground-water flow is to the northwest at a calculated gradient of 0.01.

Floating Product Measurements

Each well was checked for the presence of floating product using an electronic oil-water interface probe. A clear acrylic bailer was used to confirm probe results. Floating product was observed in Well S-5 at 0.03 feet in measured thickness.

Ground-water Analytical Data

Ground-water samples were collected on June 27, 1991. The samples were analyzed for TPH-Gasoline according to EPA Method 8015 (Modified) and BTEX according to EPA Method 8020 by International Technology (IT), a State of California certified laboratory located in San Jose, California.

TPH-Gasoline and benzene were detected in Well S-6 at concentrations of 51. and 19. parts per million (ppm), respectively. TPH-Gasoline and benzene were not detected in Well S-4. These data are summarized in Table 2 and included in Appendix A. A chemical concentration map for TPH-Gasoline and benzene is presented on Plate 4. Historical chemical analytical data are presented in Table 3.

Quality Control

The quality control (QC) sample for this quarter's sampling was a trip blank. This sample was prepared in the laboratory using organic-free water to evaluate laboratory handling procedures of samples. The results of QC sample analyses are presented in Table 2.

GeoStrategies Inc.

Gettler-Ryan Inc.
August 5, 1991
Page 3

If you have any questions, please call.

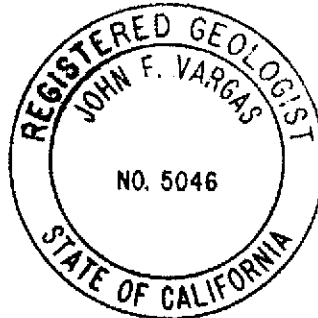
GeoStrategies Inc. by,

Ellen C. Fostersmith

Ellen C. Fostersmith
Geologist

John F. Vargas

John F. Vargas
Senior Geologist
R.G. 5046



ECF/JFV/kjj

- Plate 1. Vicinity Map
- Plate 2. Site Plan
- Plate 3. Potentiometric Map
- Plate 4. TPH-Gasoline/Benzene Concentration Map

Appendix A: Analytical Laboratory Report and Chain-of-Custody

QC Review: *JF*

764401-10

TABLE 1

FIELD MONITORING DATA

WELL NO.	MONITORING DATE	CASING DIA. (IN)	TOTAL WELL DEPTH (FT)	WELL ELEV. (FT)	DEPTH TO WATER (FT)	PRODUCT THICKNESS (FT)	STATIC WATER ELEV. (FT)	PURGED WELL VOLUMES	pH	TEMPERATURE (F)	CONDUCTIVITY (UMHDS/cm)
S-4	27-Jun-91	4	16.2	93.51	13.54	----	79.97	1	7.15	64.9	330
S-5	27-Jun-91	4	----	99.36	20.53	0.03	78.85	----	----	----	----
S-6	27-Jun-91	4	38.4	100.58	21.21	----	79.37	5	6.78	67.4	1016

- Notes:
1. Static water elevations referenced to project site datum.
 2. Physical parameter measurements represent stabilized values.
 3. pH values reported in pH units.
 4. Static water levels corrected for floating product (conversion factor = 0.80).

TABLE 2

 =====
 GROUND-WATER ANALYSIS DATA
 =====

WELL NO	SAMPLE DATE	ANALYSIS DATE	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)
S-4	27-Jun-91	03-Jul-91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-6	27-Jun-91	02-Jul-91	51.	19.	5.6	1.7	6.3
TB	----	02-Jul-91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

CURRENT REGIONAL WATER QUALITY CONTROL BOARD MAXIMUM CONTAMINANT LEVELS

Benzene 0.001 ppm Xylenes 1.750 ppm Ethylbenzene 0.680 ppm

CURRENT DHS ACTION LEVELS

Toluene 0.1000 ppm

TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline

TB = Trip Blank

PPM = Parts Per Million

Note: 1. All data shown as <x are reported as ND (none detected).

2. DHS Action Levels and MCLs are subject to change pending State review.

TABLE 3

HISTORICAL GROUND-WATER QUALITY DATABASE

SAMPLE DATE	SAMPLE POINT	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)
16-Apr-87	S-2	47.	8.2	4.7	----	3.1
26-Oct-88	S-4	0.13	0.0038	0.013	0.004	0.03
15-Feb-89	S-4	<0.05	0.0005	<0.001	<0.001	0.003
30-Apr-90	S-4	<0.050	<0.0005	<0.0005	<0.0005	<0.001
27-Jun-91	S-4	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
16-Apr-87	S-5	130.	15.	16.	----	14.
26-Oct-88	S-5	110.	20.	25.	2.3	10.
15-Feb-89	S-5	94.	16.	21.	1.8	10.
02-May-89	S-5	120.	29.	35.	3.1	15.
27-Jul-89	S-5	110.	20.	29.	2.4	14.
30-Apr-90	S-5	100.	13.	22.	2.1	11.
31-Jul-90	S-5	53.	8.3	14.	1.2	7.4
16-Apr-87	S-6	81.	16.	9.	----	6.4
26-Oct-88	S-6	110.	29.	18.	2.5	8.2
15-Feb-89	S-6	54.	18.	4.5	1.4	4.
02-May-89	S-6	93.	43.	9.9	3.	8.
27-Jul-89	S-6	52.	20.	3.2	1.7	5.5
05-Oct-89	S-6	55.	20.	2.9	1.6	5.5
09-Jan-90	S-6	76.	35.	9.1	2.3	8.6
30-Apr-90	S-6	39.	13.	2.3	0.9	2.8
31-Jul-90	S-6	48.	20.	4.6	1.5	4.9
30-Oct-90	S-6	27.	7.4	0.9	0.6	1.4
06-Mar-91	S-6	35.	3.9	2.7	2.3	3.5
27-Jun-91	S-6	51.	19.	5.6	1.7	6.3

TABLE 3

=====

HISTORICAL GROUND-WATER QUALITY DATABASE

=====

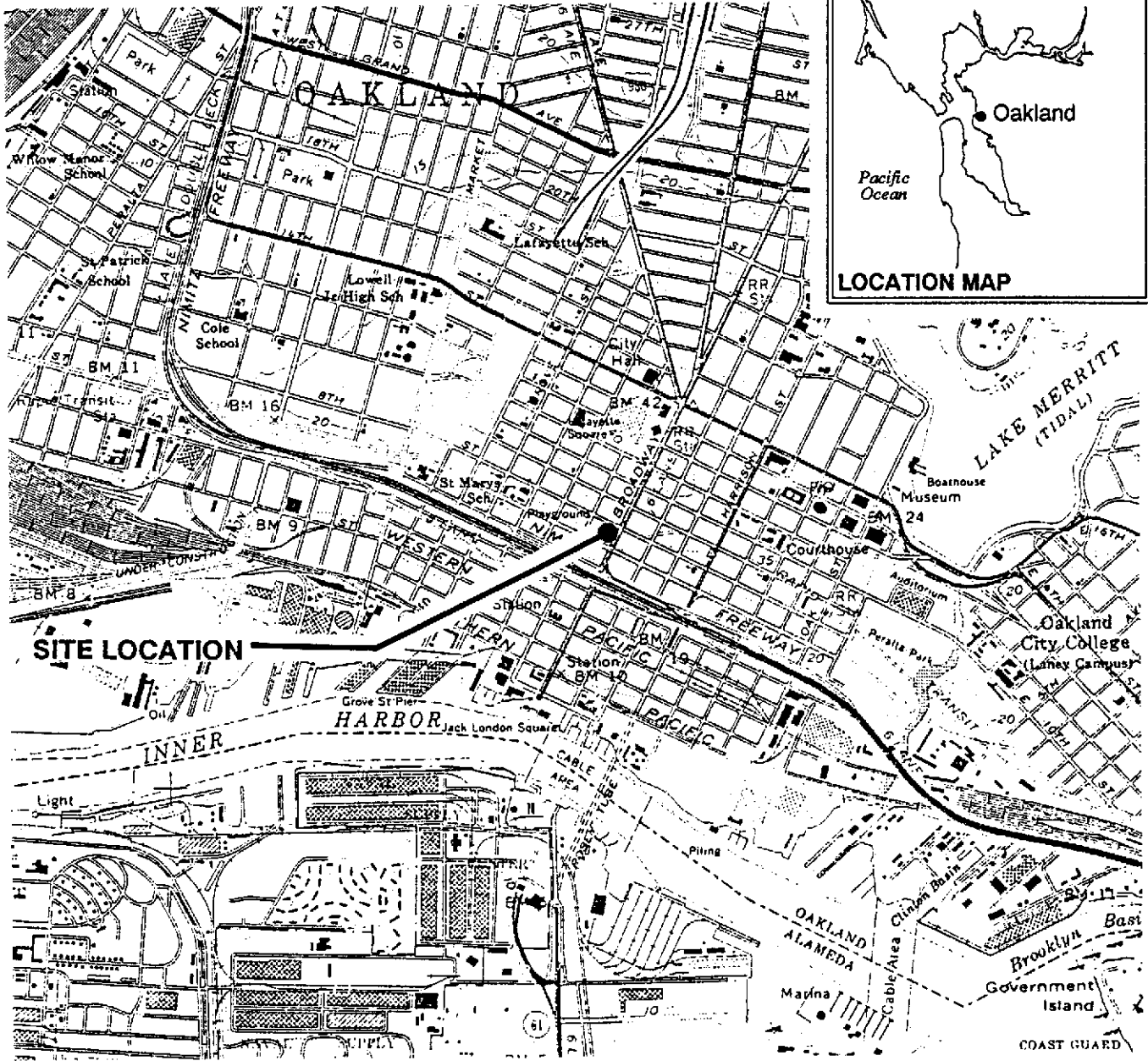
Current Regional Water Quality Control Board Maximum Contaminant Levels
Benzene 0.001 ppm Xylenes 1.750 ppm Ethylbenzene 0.680 ppm

Current DHS Action Levels Toluene 0.1000 ppm

TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline

PPM = Parts Per Million

- NOTE: 1. DHS Action levels and MCL's are subject to change pending
State of California review.
2. Ethylbenzenes and Xylenes were combined prior to May 1987.
3. All data shown as <X are reported as ND (none detected).



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

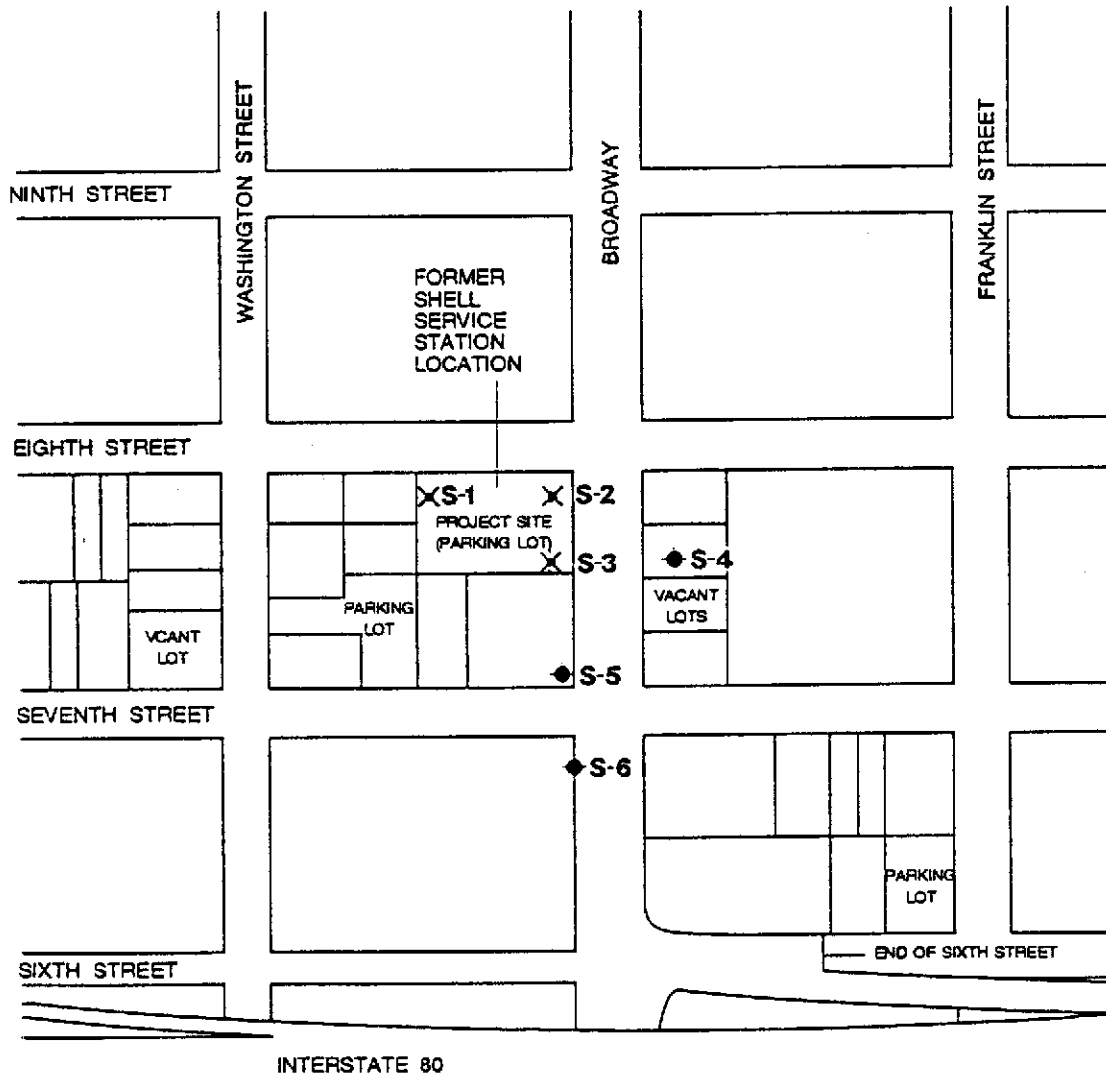
JOB NUMBER
7644

REVIEWED BY

DATE
5/90

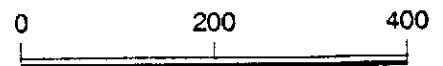
REVISED DATE

REVISED DATE



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

Scale in Feet

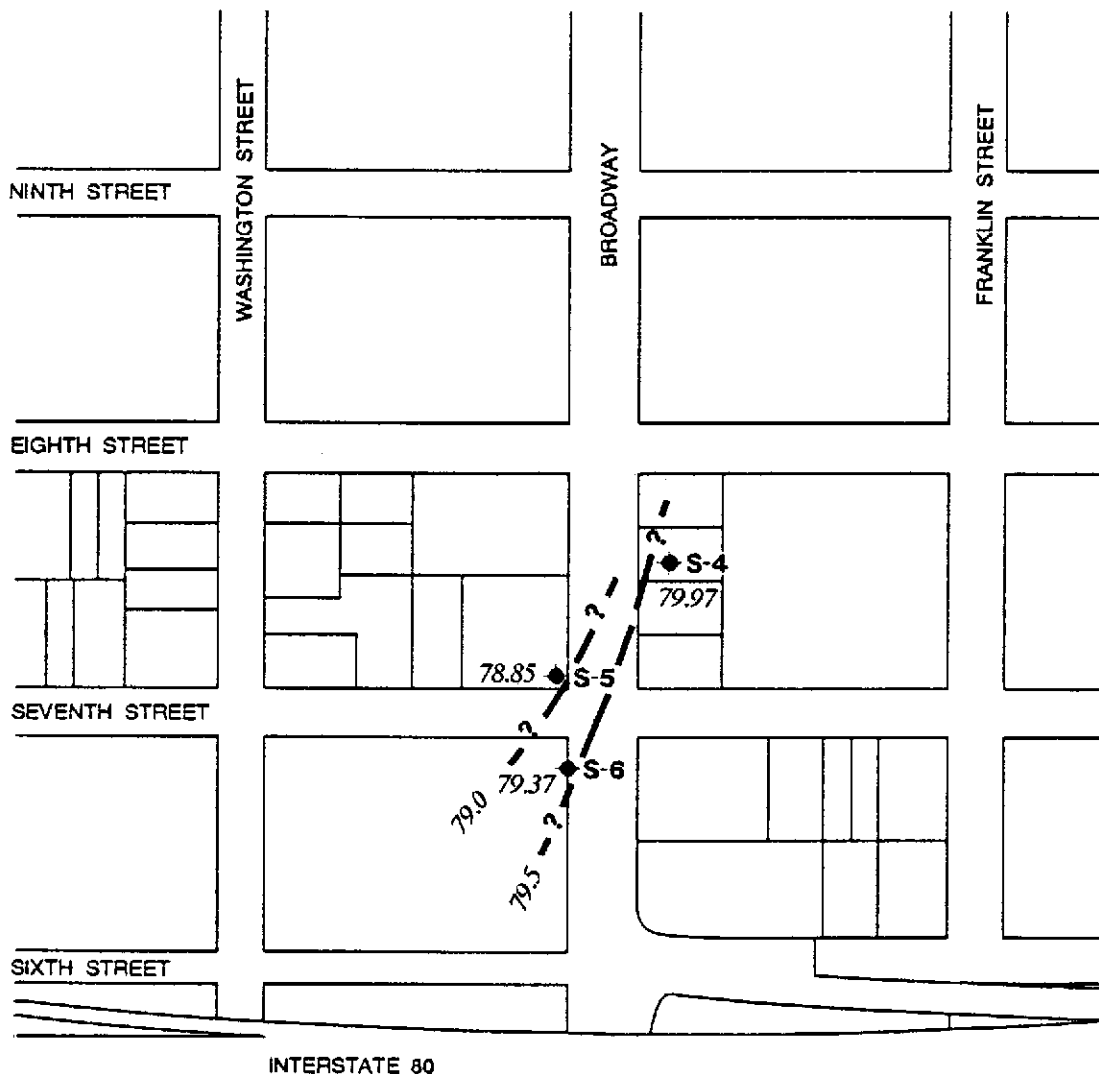


GeoStrategies Inc.

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

PLATE

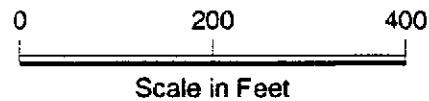
2



EXPLANATION

- ◆ S-1 Ground-water monitoring well location
- 79.0 / Ground-water elevation contour
Approximate Gradient = 0.01
- 79.37 Ground-water elevation in feet referenced to project datum measured on June 27, 1991

Note: Contours may be influenced by irrigation practices and/or site construction activities

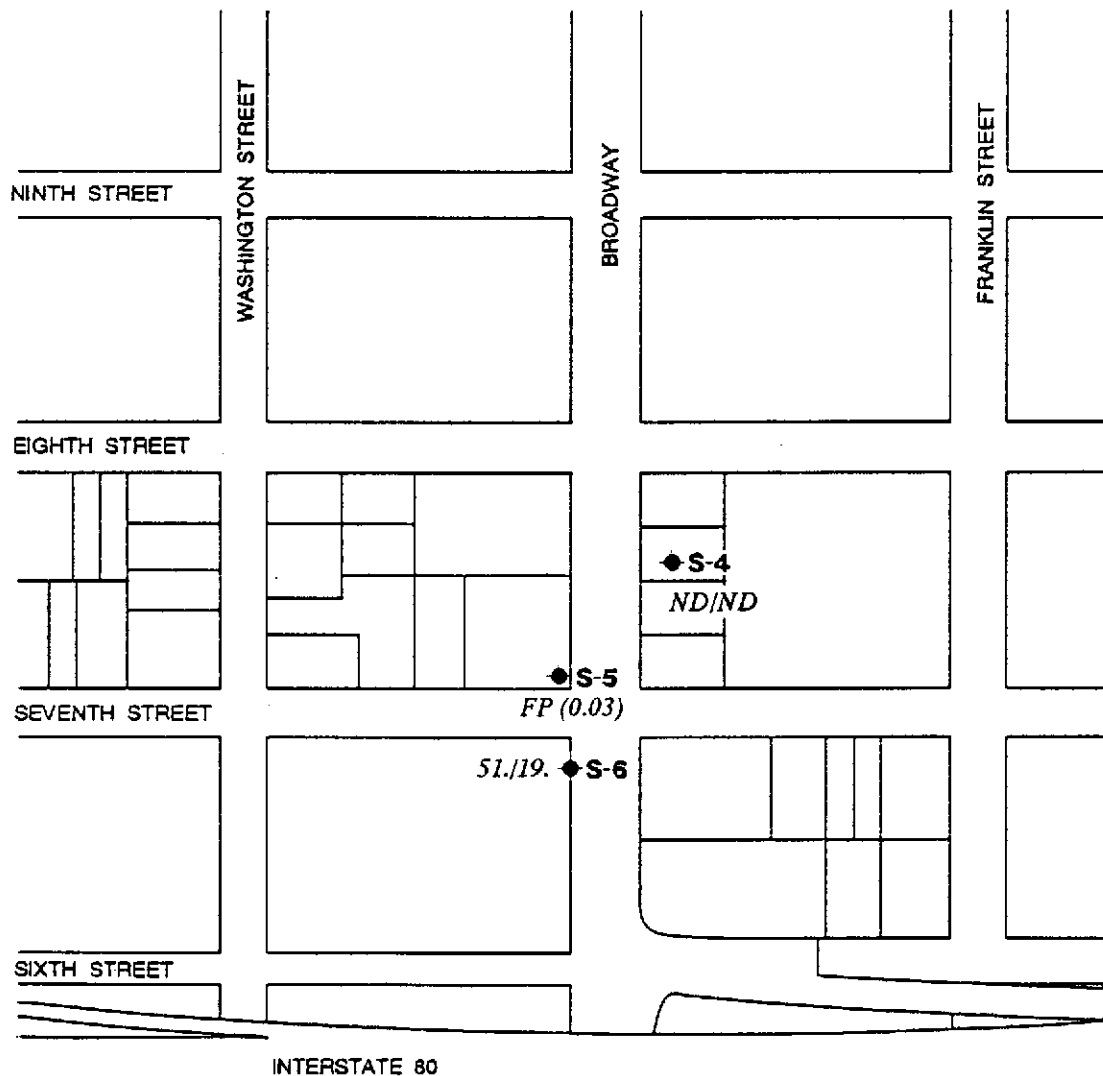


GeoStrategies Inc.

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

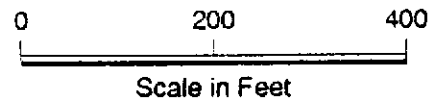
PLATE

3



EXPLANATION

- ◆ S-1 Ground-water monitoring well location
- 51./19. TPH-G (Total Petroleum Hydrocarbons calculated as Gasoline)/Benzene concentrations in ppm sampled on June 27, 1991
- ND Not Detected (see laboratory reports for detection limits)
- FP (0.03) Floating Product (measured thickness in feet)



GeoStrategies Inc.

TPH-G/Benzene Concentration Map
Former Shell Service Station
461 Eighth Street
Oakland, California

PLATE

4

GeoStrategies Inc.

**APPENDIX A
ANALYTICAL LABORATORY REPORT
AND CHAIN-OF-CUSTODY**



**INTERNATIONAL
TECHNOLOGY
CORPORATION**

**ANALYTICAL
SERVICES**

RECEIVED

JUL 24 1991

CERTIFICATE OF ANALYSIS **GETTLER-RYAN INC.**
GENERAL CONTRACTORS

Shell Oil Company
Gettler-Ryan
2150 West Winton
Hayward, CA 94545
Tom Paulson

Date: 07/24/91

Work Order: T1-D6-345

P.O. Number: MOH 880-021 Vendor #10002402

This is the Certificate of Analysis for the following samples:

Client Work ID: GR3644 461 8th St, Oakland, CORRECTED REPORT
Date Received: 06/28/91
Number of Samples: 3
Sample Type: aqueous

TABLE OF CONTENTS FOR ANALYTICAL RESULTS

<u>PAGES</u>	<u>LABORATORY #</u>	<u>SAMPLE IDENTIFICATION</u>
2	T1-06-345-01	S-4
3	T1-06-345-02	S-6
4	T1-06-345-03	Trip
5	T1-06-345-04	Quality Control

Reviewed and Approved:


Suzanne Veaudry
Project Manager

American Council of Independent Laboratories
International Association of Environmental Testing Laboratories
American Association for Laboratory Accreditation

Company: Shell Oil Company, CORRECTED REPORT
 Date: 07/24/91
 Client Work ID: GR3644 461 8th St, Oakland

IT ANALYTICAL SERVICES
 SAN JOSE, CA

Work Order: T1-06-345

TEST NAME: Petroleum Hydrocarbons

SAMPLE ID: S-4
 SAMPLE DATE: 06/27/91
 LAB SAMPLE ID: T106345-01
 SAMPLE MATRIX: aqueous
 RECEIPT CONDITION: Cool pH < 2

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		07/03/91
Low Boiling Hydrocarbons	Mod.8015		07/03/91

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	None
BTEX		
Benzene	0.0005	None
Toluene	0.0005	None
Ethylbenzene	0.0005	None
Xylenes (total)	0.0005	None

SURROGATES	% REC
1,3-Dichlorobenzene (Gasoline)	100.
1,3-Dichlorobenzene (BTEX)	98.

Company: Shell Oil Company, CORRECTED REPORT
 Date: 07/24/91
 Client Work ID: GR3644 461 8th St, Oakland

IT ANALYTICAL SERVICES
 SAN JOSE, CA

Work Order: T1-06-345

TEST NAME: Petroleum Hydrocarbons

SAMPLE ID: S-6
 SAMPLE DATE: 06/27/91
 LAB SAMPLE ID: T106345-02
 SAMPLE MATRIX: aqueous
 RECEIPT CONDITION: Cool pH < 2

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		07/02/91
Low Boiling Hydrocarbons	Mod.8015		07/02/91

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	10.	51.
BTEX		
Benzene	0.1	19.
Toluene	0.1	5.6
Ethylbenzene	0.1	1.7
Xylenes (total)	0.1	6.3

SURROGATES	% REC
1,3-Dichlorobenzene (Gasoline)	104.
1,3-Dichlorobenzene (BTEX)	101.

Company: Shell Oil Company, CORRECTED REPORT
 Date: 07/24/91
 Client Work ID: GR3644 461 8th St, Oakland

IT ANALYTICAL SERVICES
 SAN JOSE, CA

Work Order: T1-06-345

TEST NAME: Petroleum Hydrocarbons

SAMPLE ID: Trip
 SAMPLE DATE: not spec
 LAB SAMPLE ID: T106345-03
 SAMPLE MATRIX: aqueous
 RECEIPT CONDITION: Cool pH < 2

RESULTS in Milligrams per Liter:

	METHOD	EXTRACTION DATE	ANALYSIS DATE
BTEX	8020		07/02/91
Low Boiling Hydrocarbons	Mod.8015		07/02/91

PARAMETER	DETECTION LIMIT	DETECTED
Low Boiling Hydrocarbons calculated as Gasoline	0.05	None
BTEX		
Benzene	0.0005	None
Toluene	0.0005	None
Ethylbenzene	0.0005	None
Xylenes (total)	0.0005	None

SURROGATES	% REC
1,3-Dichlorobenzene (Gasoline)	98.
1,3-Dichlorobenzene (BTEX)	99.

Company: Shell Oil Company, CORRECTED REPORT
 Date: 07/24/91
 Client Work ID: GR3644 461 8th St, Oakland

IT ANALYTICAL SERVICES
 SAN JOSE, CA

Work Order: T1-06-345

TEST NAME: Spike and Spike Duplicates

SAMPLE ID: Quality Control
 SAMPLE DATE: not spec
 LAB SAMPLE ID: T106345-04A
 EXTRACTION DATE:
 ANALYSIS DATE: 07/02/91
 ANALYSIS METHOD: Mod. 8015

QUALITY CONTROL REPORT

Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Analyses

RESULTS in Micrograms per Liter

PARAMETER	Sample Amt	Spike Amt	MS Result	MSD Result	MS %Rec	MSD %Rec	RPD
Gasoline	ND<50.	500.	436.	427.	87.	85.	2.
SURROGATES					MS %Rec	MSD %Rec	
1,3-Dichlorobenzene					107.	106.	

Company: Shell Oil Company, CORRECTED REPORT
Date: 07/24/91
Client Work ID: GR3644 461 8th St, Oakland

IT ANALYTICAL SERVICES
SAN JOSE, CA

Work Order: T1-06-345

TEST CODE TPEVB TEST NAME TPH Gas, BTEX by 8015/8020

The method of analysis for low boiling hydrocarbons is taken from EPA Methods modified 8015, 8020 and 5030. The sample is examined using the purge and trap technique. Final detection is by gas chromatography using a flame ionization detector in series with a photoionization detector. The result for total low boiling hydrocarbons is calculated as gasoline. Results in soils are corrected for moisture content and are reported on a dry soil basis unless otherwise noted.

Gettler - Ryan Inc.

T1-06-345

2531 Chain of Custody

ENVIRONMENTAL DIVISION

COMPANY Shell Oil Company

JOB NO.

JOB LOCATION 7th / Broadway

CITY Oakland

PHONE NO. 783-7500

AUTHORIZED Tom Paulson

DATE 6-27-91

P.O. NO. 3644.01

SAMPLE ID	NO. OF CONTAINERS	SAMPLE MATRIX	DATE/TIME SAMPLED	ANALYSIS REQUIRED	SAMPLE CONDITION LAB ID
S-4	3	H ₂ O	6-27-91 / 10:15	THC (gas) BTXE ↓	Lab DC 6-28-91
S-6	↓	↓	↓ 10:45		
trip	1	↓	6-24-91 / -		

RELINQUISHED BY: Guadalupe Sanchez 6-27-91 16:30
 RELINQUISHED BY: Refrig #1 6-28-91 08:00
 RELINQUISHED BY: Paul 6-28-91 13:43

RECEIVED BY: Refrig #1 6-27-91 16:30
 RECEIVED BY: Paul 6-28-91 08:00
 RECEIVED BY LAB: DC 6-28-91 13:43

DESIGNATED LABORATORY: IT SCU DHS #: 137

REMARKS: Normal TAT
WIC # 204-5508-6200
EXP CODE 5461
ENG. J. Brastad
 DATE COMPLETED: 6-27-91 FOREMAN: Guadalupe Sanchez