GeoStrategies Inc.

93 JUL 23 PM 1:52

July 21, 1993

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

4254

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

Ms. Eberle:
At your request, GeoStrategies, Inc. is pleased to enclose a copy of the Historic Groundwater Database for the above-referenced site. This Database contains all available chemical analytical data from the site, and includes one sampling event from onsite well S-2. This initial groundwater sampling was conducted on April 16, 1987; quarterly sampling and analysis began on October, 1988.

If you have any questions, please call.

Sincerely,

Michael Carey
Engineering Geologist

enclosure

cc: Mr. Randy Orlowski, Shell Oil Company
Mr. Jeff Holland, Shell Oil Company
Mr. Richard Hiett, RWQCB - San Francisco Bay Region

644.ltr

TABLE 2

HISTORICAL GROUNDWATER QUALITY DATABASE

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

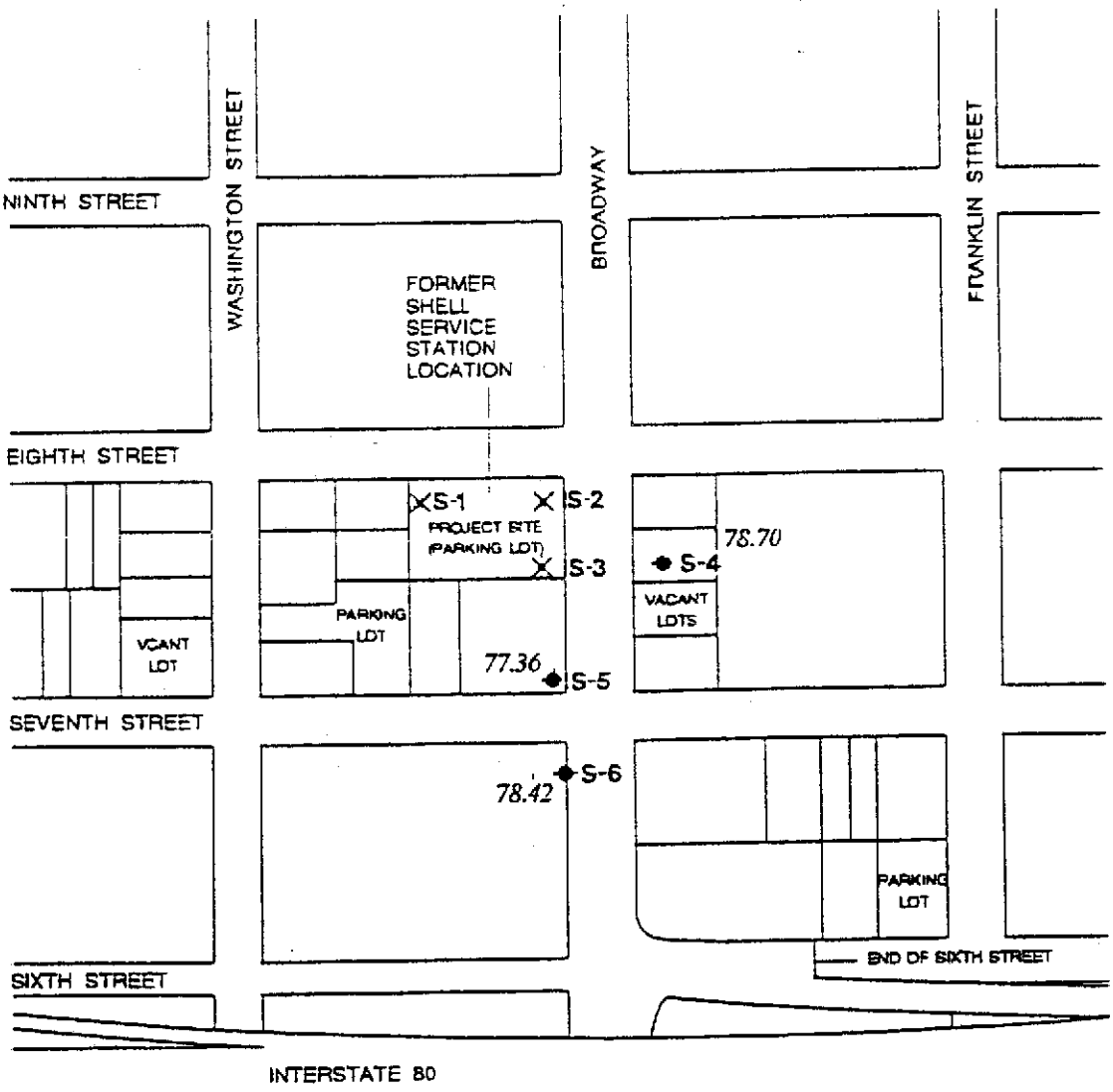
TABLE 2

HISTORICAL GROUNDWATER QUALITY DATABASE

SAMPLE DATE	SAMPLE POINT	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
13-Feb-92	S-5		Floating Product 0.31 ft			
11-May-92	S-5		Floating Product 0.58 ft			
03-Dec-92	S-5		Inaccessible			
13-May-93	S-5		Floating Product 0.27 ft			
16-Apr-87	S-6	81,000	16,000	9,000	---	6,400
26-Oct-88	S-6	110,000	29,000	18,000	2,500	8,200
14-Feb-89	S-6	54,000	18,000	4,500	1,400	4,000
01-May-89	S-6	93,000	43,000	9,900	3,000	8,000
27-Jul-89	S-6	52,000	20,000	3,200	1,700	5,500
05-Oct-89	S-6	55,000	20,000	2,900	1,600	5,500
09-Jan-90	S-6	76,000	35,000	9,100	2,300	8,600
30-Apr-90	S-6	39,000	13,000	2,300	900	2,800
31-Jul-90	S-6	48,000	20,000	4,600	1,500	4,900
30-Oct-90	S-6	27,000	7,400	900	600	1,400
06-Mar-91	S-6	35,000	3,900	2,700	2,300	3,500
27-Jun-91	S-6	51,000	19,000	5,600	1,700	6,300
24-Sep-91	S-6	42,000	14,000	4,300	1,200	4,000
07-Nov-91	S-6	39,000	11,000	2,000	800	2,300
13-Feb-92	S-6	64,000	21,000	6,200	1,600	5,100
11-May-92	S-6	57,000	22,000	7,600	2,200	7,700
03-Dec-92	S-6	110,000	26,000	9,400	2,100	8,700
13-May-93	S-6	58,000	21,000	6,800	2,500	9,800

TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline.
PPB = Parts Per Billion.

Notes:
1. Ethylbenzene and Xylenes were combined prior to May 1987.
2. All data shown as <x are reported as ND (none detected).



EXPLANATION

◆ S-1	Groundwater monitoring well
X	Destroyed well
78.42	Groundwater elevation in feet referenced project datum measured on May 13, 1993

N

0 200 400

Scale in Feet

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

GeoStrategies Inc.

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

PLATE 2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE	REVISED DATE
764401-17		6/93		

GeoStrategies Inc.

June 7, 1993

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

Re: Transmittal of Well Monitoring Data
And Current Project Status for
Former Shell Service Station
461 Eighth Street
Oakland, California
WIC: 204-5508-6200

Ms. Eberlee:

This letter was prepared by GeoStrategies, Inc., on behalf of Shell Oil Company, and contains well monitoring data from the Second Quarter of 1993, and a summary of the current status of the project.

Groundwater monitoring and sampling was conducted on **May 13, 1993,** by the Shell sampling contractor (Blaine Tech. Services). Monitoring Well S-4 had insufficient water for sampling, and Monitoring Well **S-5 contained a total of 0.27 feet of free product. Approximately 150 gallons of groundwater and free product were extracted from Well S-5 by Crosby and Overton, Inc.** Groundwater samples were collected from Monitoring Well S-6, and are currently being analyzed for TPH-Gasoline and BTEX. Chemical analyses of the groundwater samples will be included in the Quarterly Report for the Second Quarter of 1993, due on July 5, 1993. The Blaine Field Monitoring Data Sheet is attached.

In our previous letter, dated April 16, 1993, GSI stated that a Phase II Work Plan was being prepared to further assess conditions at the site. During work plan preparations, potential offsite sources were identified near the former Shell Service Station. In addition to these offsite sources, the multiple BART tubes located near the site adds to uncertainty regarding the fate and transport of contaminants in this area.

Randy Orlowski, the Environmental Project Manager for Shell, has directed GSI to conduct a **Phase I Preliminary Site Assessment (PSA)** prior to completing the Phase II Work Plan. This PSA will provide information on the number and location of potential offsite sources in this old, highly urbanized neighborhood. The PSA is being conducted to exercise due diligence in the definition of Shell's contribution to onsite and offsite contamination. **The PSA is expected to be complete by late June, 1993.**

Additional work may be required to further assess Shells involvement in the known groundwater contamination near the BART tubes, and to determine how construction methods and drainage facilities in the BART tubes affect local groundwater flow direction and gradients.

In light of the above, Shell plans to proceed with the utmost caution. Future Phase II investigations will be conducted after GSI and Shell develop a better understanding of the potential sources and hydrogeology at and near the site.

If you have any questions, please call our office.

GeoStrategies, Inc.

John Vargas
Project Manager

cc: Mr. Randy Orlowski; Shell Oil Co.
Mr. Frank Fosatti, Shell Oil Co.
Shell WIC file 204-5508-6200

GeoStrategies Inc.

July 6, 1993

Ms. Jennifer Eberle
Alameda County Health Agency
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. Randy Orlowski of Shell Oil Company, we are forwarding a copy of the **Quarterly Report dated** July 6, 1993. This report presents the results of ground-water monitoring and sampling at the above-referenced site for the second quarter of 1993.

If you have any questions, please call.

Sincerely,

Michael Carey
Engineering Geologist

enclosure

cc: Mr. Randy Orlowski, Shell Oil Company
Mr. Jeff Holland, Shell Oil Company
Mr. Richard Hiett, RWQCB - San Francisco Bay Region

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GeoStrategies Inc.

July 6, 1993

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

Attn: Mr. Randy F. Orlowski

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

Mr. Orlowski:

This Quarterly Report has been prepared by GeoStrategies Inc. (GSI) and presents the results of the 1993 second quarter sampling for the above referenced site (Plate 1). Sampling data were furnished by the Shell Oil Company sampling contractor.

EXECUTIVE SUMMARY

- TPH-Gasoline and benzene concentrations in Well S-6 decreased from the previous sampling in the second quarter 1993 sampling
- Floating product was observed in Well S-5 at a measured thickness of 0.27 feet during the second quarter 1993 sampling.
- Approximately 150 gallons of groundwater and product from Well S-5 were vacuumed out by Crosby and Overton Inc. on May 13, 1993.

764401-17

SITE DESCRIPTION

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. (GTI). Wells S-1, S-2, S-3, and S-7 were destroyed in 1987.

CURRENT QUARTER SAMPLING RESULTS

Depth-to-water measurements were obtained in each monitoring well on May 13, 1993. Static groundwater levels were measured from the surveyed top of the well box and recorded to the nearest $\pm$0.01 feet. Depth-to-water measurements and water-level elevations, referenced to project site datum are presented in the Blaine Tech Services Inc. (Blaine) report (Appendix A) and in Table 1. Water-level data were used to construct a quarterly Water-level map (Plate 2). Groundwater beneath the site has historically flowed to the north or northeast.

Each well was checked for the presence floating product prior to sampling. Floating product was observed in Well S-5 at a measured thickness of 0.27 feet.

Groundwater samples were collected from site wells on May 13, 1993. Well S-4 was not accessable to sampling equipment, due to a chain-link fence surrounding the property. Samples were 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. Groundwater samples were analyzed by Anametrix Inc., a California State-certified laboratory located in San Jose, California. The laboratory analytical report and Chain-of-Custody form are presented in Appendix A. A chemical concentration map for benzene is presented on Plate 3. Current and historical chemical analytical data are summarized in Table 2.

DISCUSSION

Well S-4 was accessible only for monitoring this quarter due to a chain-link fence surrounding the property where this well is located. The fence prevented access of sampling equipment to the wellhead.

Concentrations of TPH-Gasoline and benzene decreased slightly from the previous sampling. Floating product in Well S-5 continued to be reported however the measured thickness decreased from 0.31 feet to 0.27 feet for the current sampling. Approximately 150 gallons of groundwater and product were vacuumed from Well S-5 on May 13, 1993 by Crosby and Overton Inc., as discussed in a GSI letter to the Alameda County Health Agency on June 7, 1993.

If you have any questions or comments, please call.

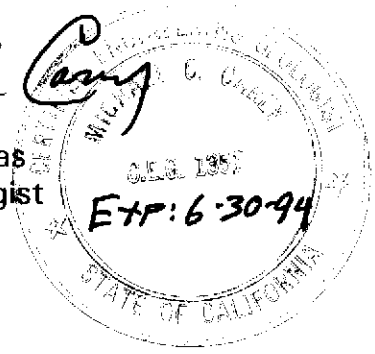
GeoStrategies Inc. by,

Robert C. Mallory

Robert C. Mallory
Geologist

Michael Carey (for)

John F. Vargas
Senior Geologist
R.G. 5046



RCM/JFV

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

Appendix A: Blaine Sampling Report and Chain-of-Custody Form

cc: Mr. Jeff Holland, Shell Oil Company
Ms. Jennifer Eberle, Alameda County Health Agency
Mr. Richard Hiett, Regional Water Quality Control Board - San Francisco Bay Region

QC Review: JV

764401-17

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)	METHOD OF PURGING	METHOD OF SAMPLING	TIME	PURGED WELL VOLUMES	pH	CONDUCTIVITY (umhos/cm)	TEMP (F)	TURBIDITY (NTU)
S-4	13-May-93	4	17.05	93.51	14.81	0.00	78.70	—	—	—	—	—	—	—	—
S-5	13-May-93	4	37.98	99.36	22.22	0.27	77.36	—	—	—	—	—	—	—	—
S-6	13-May-93	4	37.16	100.58	22.16	0.00	78.42	Middleburg	Bailer	10:55	30	7.4	900	66.8	13.4

Notes:
1. Water elevations are corrected for floating product (conversion factor = 0.80).
2. Well S-4 was not accessible for sampling on May 13, 1993.
3. Static water elevations are referenced to Project Site Datum.

TABLE 2

HISTORICAL GROUNDWATER QUALITY DATABASE

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

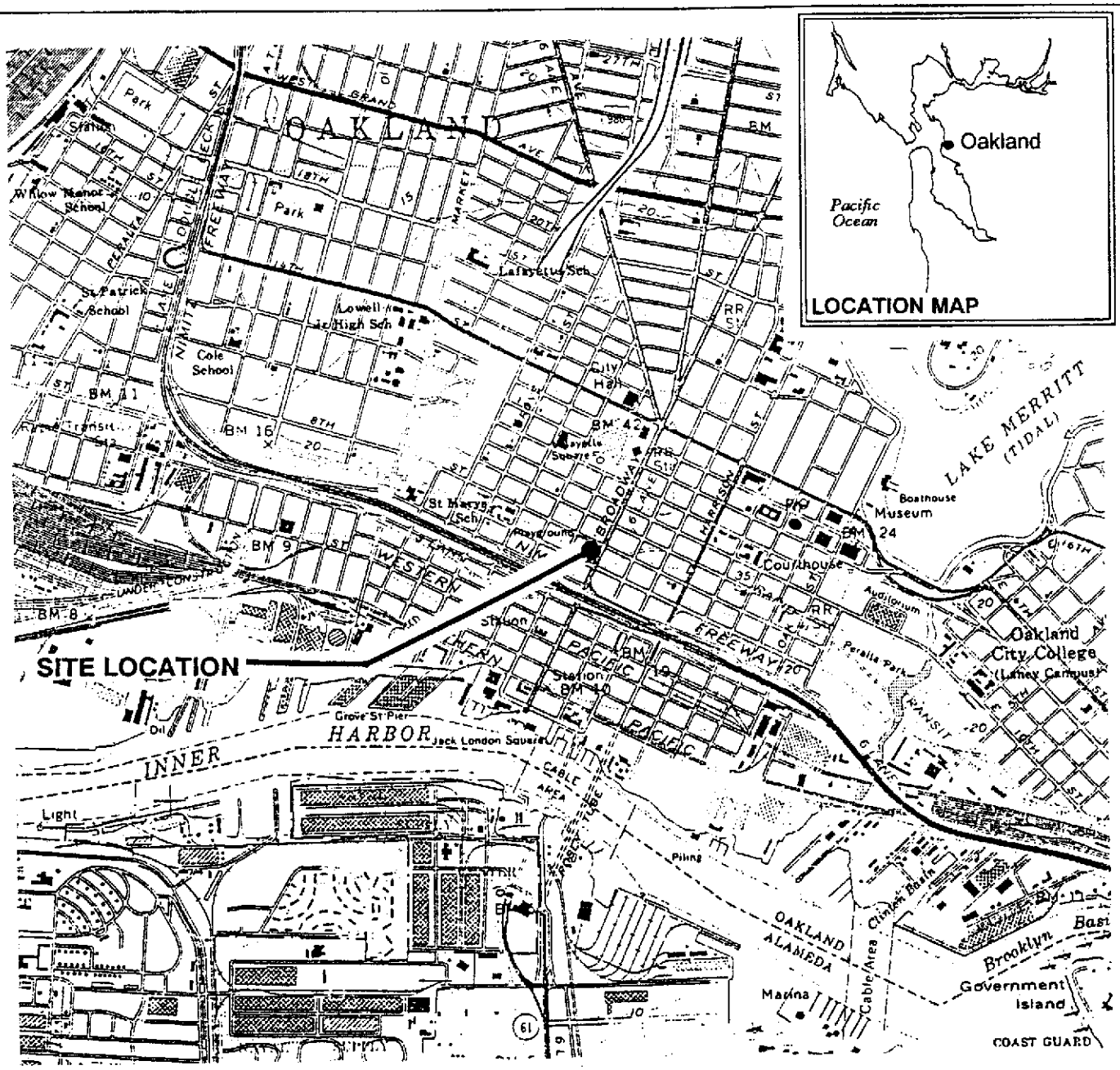
TABLE 2

HISTORICAL GROUNDWATER QUALITY DATABASE

SAMPLE DATE	SAMPLE POINT	TPH-G (PPB)	BENZENE (PPB)	TOLUENE (PPB)	ETHYLBENZENE (PPB)	XYLENES (PPB)
13-Feb-92	S-5	Floating Product 0.31 ft				
11-May-92	S-5	Floating Product 0.58 ft				
03-Dec-92	S-5	Inaccessible				
13-May-93	S-5	Floating Product 0.27 ft				
16-Apr-87	S-6	81,000	16,000	9,000	---	6,400
26-Oct-88	S-6	110,000	29,000	18,000	2,500	8,200
14-Feb-89	S-6	54,000	18,000	4,500	1,400	4,000
01-May-89	S-6	93,000	43,000	9,900	3,000	8,000
27-Jul-89	S-6	52,000	20,000	3,200	1,700	5,500
05-Oct-89	S-6	55,000	20,000	2,900	1,600	5,500
09-Jan-90	S-6	76,000	35,000	9,100	2,300	8,600
30-Apr-90	S-6	39,000	13,000	2,300	900	2,800
31-Jul-90	S-6	48,000	20,000	4,600	1,500	4,900
30-Oct-90	S-6	27,000	7,400	900	600	1,400
06-Mar-91	S-6	35,000	3,900	2,700	2,300	3,500
27-Jun-91	S-6	51,000	19,000	5,600	1,700	6,300
24-Sep-91	S-6	42,000	14,000	4,300	1,200	4,000
07-Nov-91	S-6	39,000	11,000	2,000	800	2,300
13-Feb-92	S-6	64,000	21,000	6,200	1,600	5,100
11-May-92	S-6	57,000	22,000	7,600	2,200	7,700
03-Dec-92	S-6	110,000	26,000	9,400	2,100	8,700
13-May-93	S-6	58,000 ✓	21,000 ✓	6,800	2,500	9,800

TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline.
PPB = Parts Per Billion.

Notes:
1. Ethylbenzene and Xylenes were combined prior to May 1987.
2. All data shown as <x are reported as ND (none detected).



Base Map: USGS Topographic Map

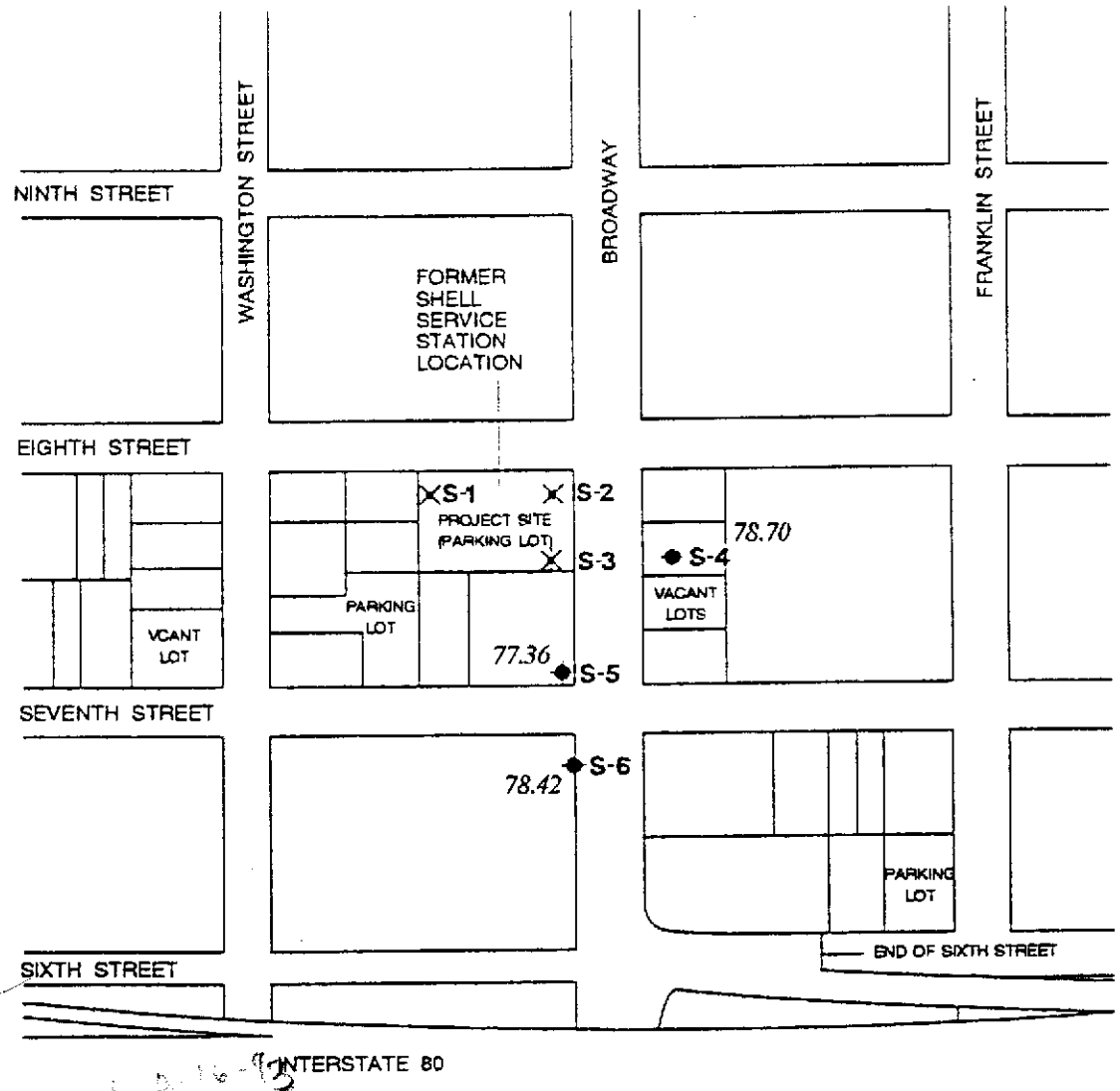
Approximate Scale : 1" = 2000'

GeoStrategies Inc.

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

PLATE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE	REVISED DATE
7644		5/90		



EXPLANATION

◆ S-1	Groundwater monitoring well
X	Destroyed well
78.42	Groundwater elevation in feet referenced project datum measured on May 13, 1993

N

0 200 400

Scale in Feet

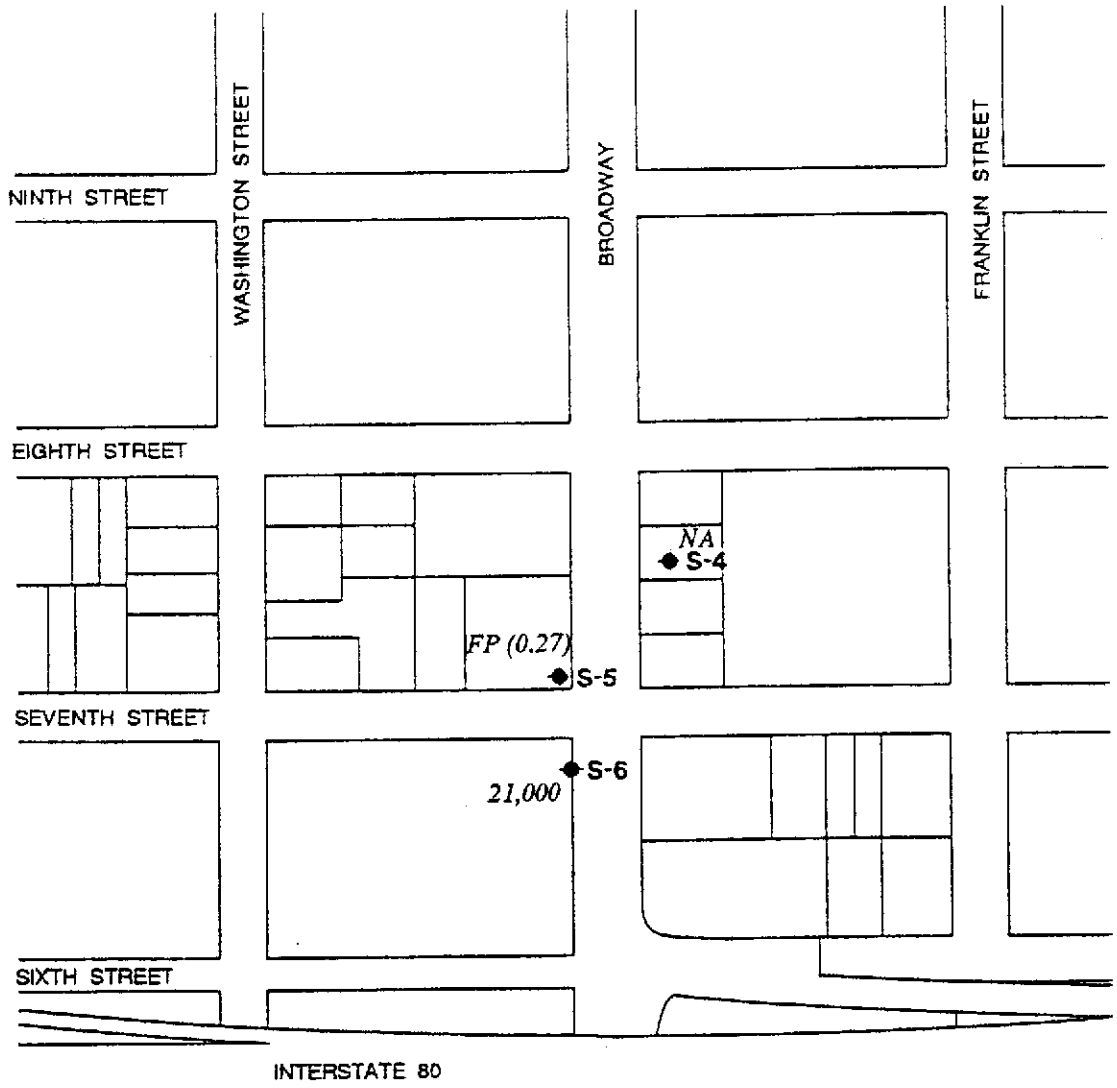
Note: Well S-7 located at Washington and Fifth Streets was destroyed in 1987

GeoStrategies Inc.

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

PLATE 2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE	REVISED DATE
764401-17		6/93		



EXPLANATION

◆ S-1	Groundwater monitoring well
610	Benzene concentration in ppb sampled on May 13, 1993
ND	Not Detected (see laboratory reports for detection limits)
FP (0.01)	Floating Product (measured thickness in feet)
NA	Not Accessible

N

0 200 400

Scale in Feet

GeoStrategies Inc.

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

PLATE
3

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE	REVISED DATE
764401-17		6/93		

APPENDIX A

BLAINE SAMPLING REPORT

AND

CHAIN-OF-CUSTODY

BLAINE
TECH SERVICES INC.

985 TIMOTHY DRIVE
SAN JOSE, CA 9513
(408) 995-553
FAX (408) 293-877

May 27, 1993

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

Attn: Daniel T. Kirk

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

QUARTER:
2nd quarter of 1993

QUARTERLY GROUNDWATER SAMPLING REPORT 930513-A-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 the 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.

TABLE OF WELL GAUGING DATA

WELL I.D.	WELL DIAMETER (inches)	DATA COLLECTION DATE	MEASUREMENTS REFERRENCED TO	QUALITATIVE OBSERVATIONS (sheen)	DEPTH TO FIRST IMMISCIBLE LIQUID (FPZ) (feet)	THICKNESS OF IMMISCIBLE LIQUID ZONE (feet)	VOLUME OF IMMISCIBLES REMOVED (ml)	DEPTH TO WATER (feet)	DEPTH TO WELL BOTTOM (feet)
S-4	4	05-13-93	GRADE	--	NONE	--	--	14.81	17.05
S-5	4	05-13-93	GRADE	FREE PRODUCT	21.95	0.27	--	22.2	37.99
S-6	4	05-13-93	GRADE	ODOR	NONE	--	--	22.16	37.18

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 may be removed in cases where more evacuation is needed to achieve stabilization of water parameters. Less than three case volumes of water may be obtained 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.

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 site 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. Either the requested analyses or the specific analytes are written on the sample label (e.g. TPH-G, BTEX).

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/kkl

attachments: chain of custody
certified analytical report

cc: GeoStrategies, Inc.
2140 W. Winton Ave.
Hayward, CA 94545
ATTN: Ellen Fostersmith

9305 151 (18)

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: ____________

Date: 5/13/93
Page 1 of 1

Site Address: 461 8th St.

WIC#: 204 5508 6200

Shell Engineer: Daniel Kirk | Phone No.: 510 | Fax #: 675 6177

Consultant Name & Address: Blaine Tech Services

Consultant Contact: Jim Keller | Phone No.: | Fax #:

Comments:

Sampled by: Jeff Curtis

Printed Name: Jeff Curtis

LAB: Anametrix

CHECK ONE (1) BOX ONLY	CT/DT
Quarterly Monitoring ☒	5461
Site Investigation ☐	5441
Soil Classify/Disposal ☐	5442
Water Classify/Disposal ☐	5443
Soil/Air Rem. or Sys. O & M ☐	5452
Water Rem. or 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.

Analysis Required

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			Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
(1) S-6	5/13			W		3						✓							[illegible]	
(2) TRIP	5/13			W		2						✓							[illegible]	

Relinquished By (signature):	Printed Name:	Date/Time:	Received (signature):	Printed Name:	Date/Time:
Jeff Curtis	Jeff Curtis	Date: 5-14-93 Time: 6:00	Simon Heagle	Simon Heagle	Date: 5-14-93 Time: 5:00
Simon Heagle	Simon Heagle	Date: 5-14-93 Time: 8:30	Maria Burgins	Maria Burgins	Date: 5/14/93 Time: 17:30
		Date: Time:			Date: Time:

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

ANAMETRIX INC
Environmental & Analytical Chemistry

Part of INCHCAPE ENVIRONMENTAL

REPORT

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

Workorder # : 9305151
Date Received : 05/14/93
Project ID : 204-5508-6200
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9305151- 1	S-6
9305151- 2	TRIP

This report consists of 4 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

5-26-93
Date

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

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

Workorder # : 9305151
Date Received : 05/14/93
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
9305151- 1	S-6	WATER	05/13/93	TPHg/BTEX
9305151- 2	TRIP	WATER	05/13/93	TPHg/BTEX

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

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

Workorder # : 9305151
Date Received : 05/14/93
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 Badmon 5/24/93
Department Supervisor Date

CR Patel 05/24/93
Chemist Date

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

Anametrix W.O.: 9305151
Matrix : WATER
Date Sampled : 05/13/93

Project Number : 204-5508-6200
Date Released : 05/24/93

COMPOUNDS	Reporting Limit (ug/L)	Sample I.D.# S-6 -01	Sample I.D.# TRIP -02	Sample I.D.# BY1801E3 BLANK	Sample I.D.# BY1901E3 BLANK
Benzene	0.5	21000	ND	ND	ND
Toluene	0.5	6800	ND	ND	ND
Ethylbenzene	0.5	2500	ND	ND	ND
Total Xylenes	0.5	9800	ND	ND	ND
TPH as Gasoline	50	58000	ND	ND	ND
% Surrogate Recovery		117%	123%	123%	105%
Instrument I.D.		HP4	HP4	HP4	HP4
Date Analyzed		05/19/93	05/18/93	05/18/93	05/19/93
RLMF		500	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.

CRPatel 05/24/93
Analyst Date

Supervisor 5/24/93
Date

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.	: LCSW0519
Matrix	: WATER	Analyst	: BRP
Date Sampled	: N/A	Supervisor	: CS
Date Analyzed	: 05/19/93	Date Released	: 05/24/93
		Instrument ID	: HP4

COMPOUND	SPIKE AMT. (ug/L)	LCS (ug/L)	REC LCS	%REC LIMITS
Benzene	10.0	9.7	97%	52-133
Toluene	10.0	10.2	102%	57-136
Ethylbenzene	10.0	11.0	110%	56-139
TOTAL Xylenes	10.0	12.0	120%	56-141
P-BFB			105%	61-139

* Limits established by Anametrix, Inc.

WELL GAUGING DATA

Project # 930513 Date 5-13-93 Client Shell

Site 461 8th Oakland Sampler Justice

Well I.D.	Well Size (in.)	Sheen/ Odor	Depth to Immisible Liquid (feet)	Thickness of Immisible Liquid (ft.)	Volume of Immisibles Removed (ml)	Depth to Water (feet)	Depth to Well Bottom (feet)	Measured to: Top of Pipe or Grade
S-4	4	—	—	—	—	14.81	17.05	grade
S-5	4	FP	21.95	.27	—	22.22	37.99	grade
S-6	4	ODOR	—	—	—	22.16	37.18	grade