GeoStrategies Inc.
2140 WEST WINTON AVENUE
HAYWARD, CALIFORNIA 94545
(510) 352-4800

October 8, 1992

STID 413

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

Reference: Former Shell Service Station
2800 Telegraph Avenue
Oakland, California
WIC 204-5508-2303

Gentlemen:

As requested by Mr. Paul Hayes of Shell Oil Company, we are forwarding a copy of the Quarterly Report dated October 8, 1992. The enclosed report presents the third quarter 1992 ground-water sampling conducted at the above referenced location.

If you have any questions, please call.

Sincerely,

Ellen Fostersmith

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.

QUARTERLY REPORT

Former Shell Service Station
2800 Telegraph Avenue
Oakland, California
WIC# 204-5508-2303

761001-21

October 8, 1992

GeoStrategies Inc.
2140 WEST WINTON AVENUE
HAYWARD, CALIFORNIA 94545
(510) 352-4800

October 8, 1992

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

Attn: Mr. Paul Hayes

Re: QUARTERLY REPORT
Former Shell Service Station
2800 Telegraph Avenue
Oakland, California
WIC# 204-5508-2303

Mr. Hayes:

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

There are currently eleven monitoring wells and one recovery well at the site; Wells S-1 through S-11 and SR-1 (Plate 2). These wells were installed in 1988 and 1989.

CURRENT QUARTER SAMPLING RESULTS

Depth to water-level measurements were obtained in each monitoring well on August 10, 1992. Static ground-water levels were measured from the surveyed top of the well box and recorded to the nearest $\pm$0.01 foot. Water-level elevations, referenced to Mean Sea Level (MSL) datum and the stabilized values of measured physical parameters are presented in the EMCON Report included in Appendix A. Water-level data were used to construct a quarterly potentiometric map (Plate 2). Shallow ground-water flow is to the southwest at an approximate hydraulic gradient of 0.01.

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

Ground-water samples were collected on August 10, 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 Anametrix Inc., a California State-certified laboratory located in San Jose, California. These data are summarized in the EMCON Report (Appendix A). A chemical isoconcentration map for benzene is presented on Plate 3. Historical chemical analytical data are included in Appendix A.

If you have any questions, please call.

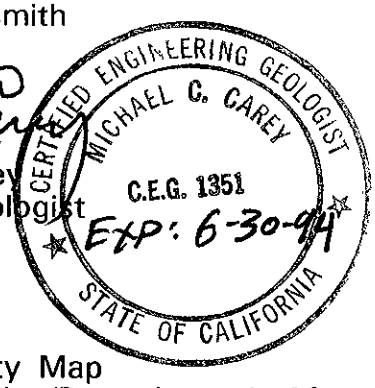
GeoStrategies Inc. by,

Ellen C. Fostersmith

Ellen C. Fostersmith
Geologist

Michael Carey

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



ECF/MCC/rmt

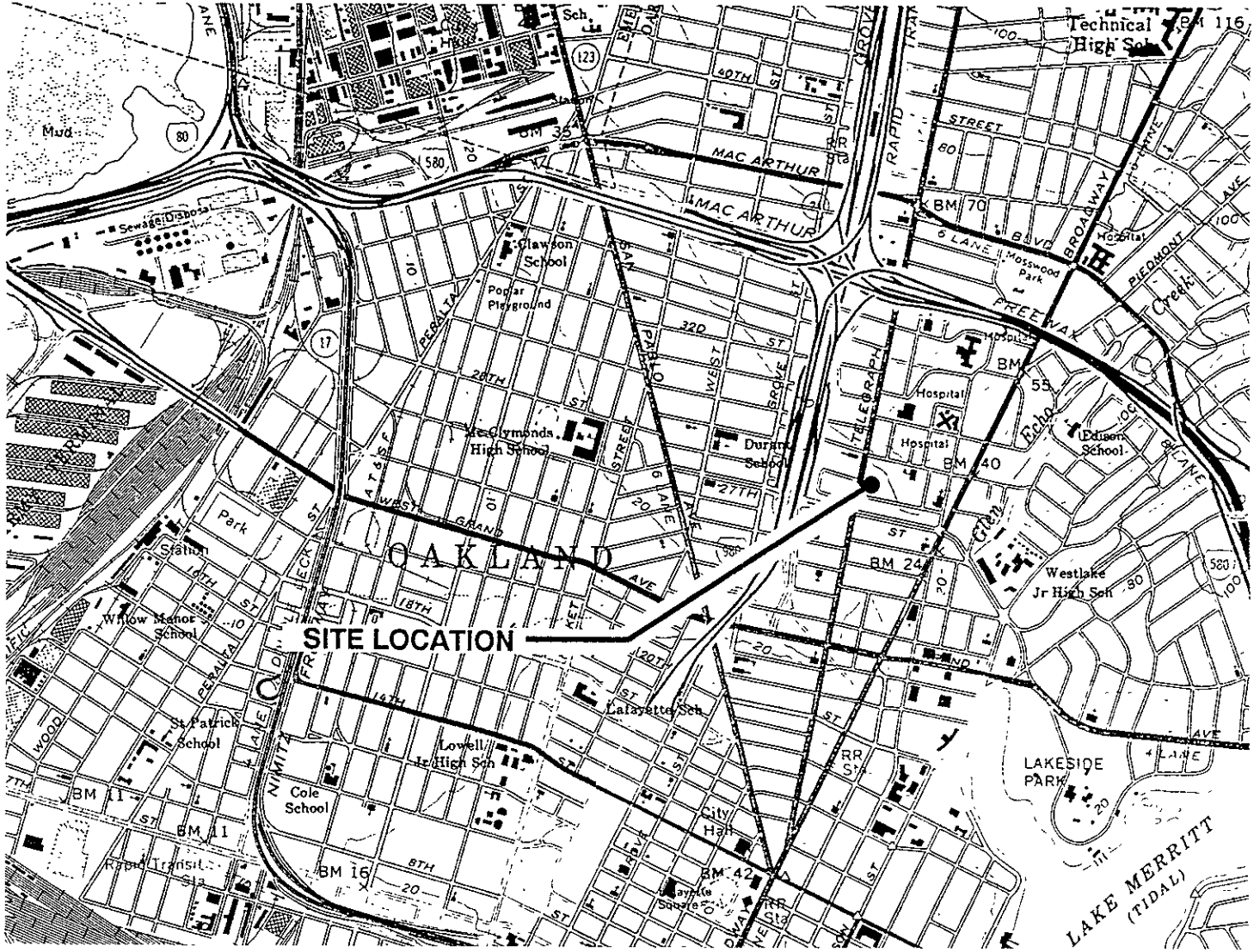
Plate 1. Vicinity Map
Plate 2. Site Plan/Potentiometric Map
Plate 3. Benzene Isoconcentration Map

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

QC Review JP

761001-21

ILLUSTRATIONS



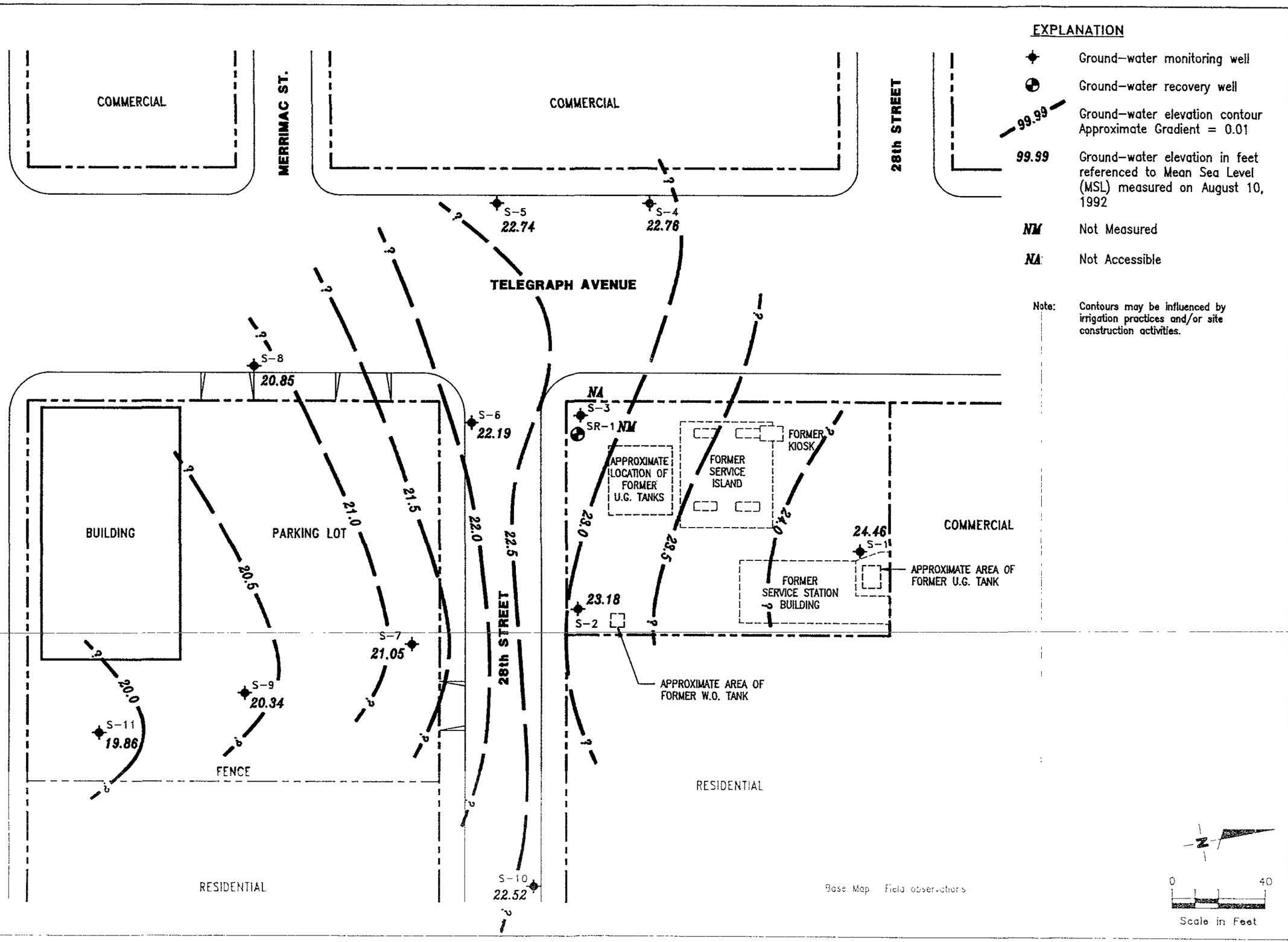
Base Map: USGS Topographic Map

GeoStrategies Inc.

VICINITY MAP
Former Shell Service Station
2800 Telegraph Avenue
Oakland, California

PLATE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
7610		3/91	



EXPLANATION

- Ground–water monitoring well
- Ground–water recovery well
- 99.99 Ground–water elevation contour Approximate Gradient = 0.01
- 99.99 Ground–water elevation in feet referenced to Mean Sea Level (MSL) measured on August 10, 1992
- NM Not Measured
- NA Not Accessible

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

PLATE 2

SITE PLAN/POTENTIOMETRIC MAP
Former Shell Service Station
2800 Telegraph Avenue
Oakland, California

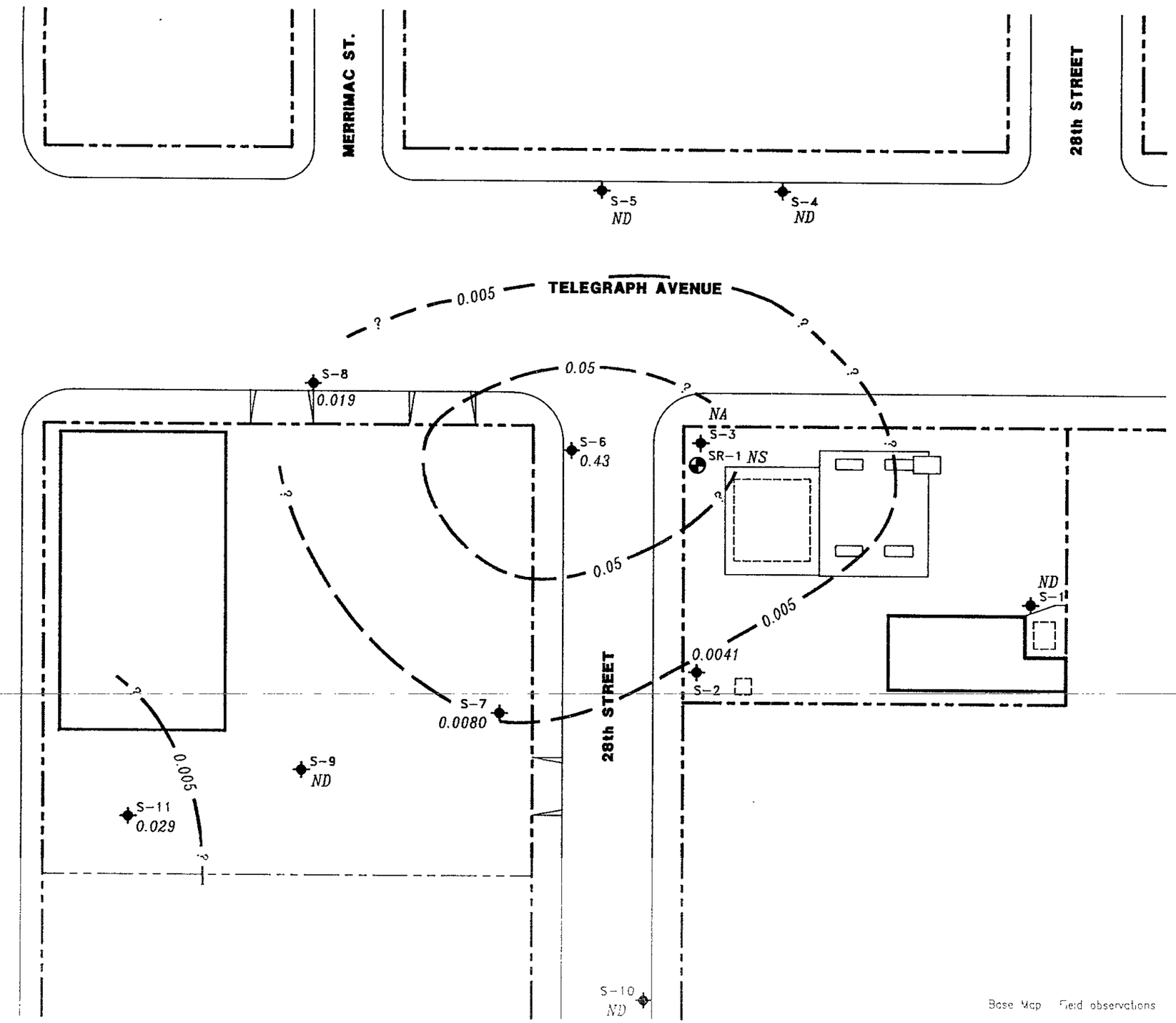
DATE 10/92

REVISED DATE

GeoStrategies Inc.

JOB NUMBER 761001-22

REVIEWED BY



EXPLANATION

- Ground–water monitoring well
- Ground–water recovery well
- 0.05 — Benzene isoconcentration contour
- 0.05 — Benzene concentration in ppm sampled on August 10, 1992
- *ND* — Not Detected (See laboratory reports for detection limits)
- *NS* — Not Sampled
- *NA* — Not Accessible

PLATE 3

BENZENE ISOCONCENTRATION MAP
Former Shell Service Station
2800 Telegraph Avenue
Oakland, California

DATE 10/92

REVISED DATE

GeoStrategies Inc.

JOB NUMBER 761001-22

REVIEWED BY

APPENDIX A
EMCON MONITORING REPORT
AND
CHAIN-OF-CUSTODY

EMCON
ASSOCIATES
Consultants in Wastes Management and Environmental Control

September 1, 1992
Project: G67-22.01
WIC#: 204-5508-2303

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

Re: Third quarter 1992 ground-water monitoring report, Shell Oil Company, 2800 Telegraph Avenue, Oakland, California

Dear Ms. Fostersmith:

This letter presents the results of the third quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) site located at 2800 Telegraph Avenue, Oakland, California. Third quarter monitoring was conducted on August 10, 1992. The site is monitored quarterly.

GROUND-WATER LEVEL SURVEY

A water-level survey preceded the purging and sampling of the monitoring wells. The wells included in the survey are identified in figure 1 (supplied by Geo Strategies Inc.). During the survey, wells S-1, S-2, S-4 through S-11, and SR-1 were measured for depth to water, floating product thickness, and total depth. Depth to water and floating product thickness were measured to the nearest 0.01 foot with an oil/water interface probe. No floating product was observed in any wells. Total depth was measured to the nearest 0.1 foot. Well S-3 could not be located during third quarter monitoring. Field notes from August 10, 1992, indicate the well may have been destroyed during recent construction at the site. Results of the third quarter water-level survey, and available data from four previous surveys, are summarized in table 1.

SAMPLING AND ANALYSIS

Ground-water samples were collected from wells S-1, S-2, and S-4 through S-11 on August 10, 1992. Prior to sample collection, the wells were purged with polyvinyl chloride bailers. During the purging operation, ground water was monitored for pH, electrical conductivity, and temperature as a function of volume of water removed. Purging continued until these parameters were stable and a minimum of three casing volumes of ground water were removed. Field measurements from third quarter monitoring, and available measurements from four previous monitoring events, are summarized in table 1. Purge water from the

monitoring wells was contained in 55-gallon drums. The drums were identified with Shell-approved labels and secured for on-site storage.

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

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

Quality control samples for third quarter monitoring included a trip blank (TB), a field blank (FB), and a duplicate well sample (SD-1) collected from well S-1. All water samples collected during third quarter monitoring were analyzed for total petroleum hydrocarbons as gasoline (TPH-g), and benzene, toluene, ethylbenzene, and total xylenes (BTEX).

ANALYTICAL RESULTS

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

If you have any questions, please call.

Very truly yours,

EMCON Associates

David Larsen
Environmental Sampling Coordinator

Orrin Childs
Environmental Sampling Supervisor

DL/OC:dl

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

Table 1
Monitoring Well Field Measurement Data
Third Quarter 1992

Shell Station: 2800 Telegraph Avenue
Oakland, California
WIC #: 204-5508-2303

Date: 09/01/92
Project Number: G87-22.01

Well Designation	Water Level Field Date	TOB Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	Total Well Depth (feet)	Floating Product Thickness (feet)	Water Sample Field Date	pH (std. units)	Electrical Conductivity (micromhos/cm)	Temperature (degrees F)	Turbidity (NTU)
S-1	07/12/91	35.31	10.13	25.18	29.0	ND	07/12/91	6.55	536	67.1	NR
S-1	10/04/91	35.31	10.48	24.83	27.8	ND	10/04/91	6.26	367	66.6	NR
S-1	01/29/92	35.31	10.14	25.17	27.8	ND	01/29/92	6.35	457	63.9	>200
S-1	05/04/92	35.31	9.50	25.81	27.9	ND	05/04/92	6.26	483	68.3	>1000
S-1	08/10/92	35.31	10.85	24.46	27.9	ND	08/10/92	6.97	410	67.0	>200
S-2	07/12/91	33.91	10.00	23.91	29.0	ND	07/12/91	6.67	703	68.9	NR
S-2	10/04/91	33.91	10.47	23.44	25.5	ND	10/04/91	6.90	483	68.2	NR
S-2	01/29/92	33.91	9.80	24.11	25.4	ND	01/29/92	6.28	616	60.0	>200
S-2	05/04/92	33.91	9.44	24.47	25.4	ND	05/05/92	6.80	737	67.1	>1000
S-2	08/10/92	33.91	10.73	23.18	25.5	ND	08/10/92	7.00	664	70.2	>200
S-3	07/12/91	33.56	9.90	23.76**	NR	0.13	07/12/91	FP	FP	FP	FP
S-3	10/04/91	33.56	10.22	23.43**	NR	0.11	10/04/91	FP	FP	FP	FP
S-3	01/29/92	33.56	NR	NR	NR	NR	01/29/92	NR	NR	NR	NR
S-3	05/04/92	33.56	9.22	24.35**	24.9	0.01	05/04/92	FP	FP	FP	FP
S-3	08/10/92	33.56	IW	IW	IW	IW	08/10/92	IW	IW	IW	IW
S-4	07/12/91	34.08	10.82	23.26	30.5	ND	07/12/91	6.51	469	66.9	NR
S-4	10/04/91	34.08	11.14	22.94	28.9	ND	10/04/91	7.38	326	71.7	NR
S-4	01/29/92	34.08	10.81	23.27	28.7	ND	01/29/92	6.59	456	65.6	>200
S-4	05/04/92	34.08	9.96	24.12	29.2	ND	05/04/92	6.61	393	70.5	>1000
S-4	08/10/92	34.08	11.32	22.76	30.5	ND	08/10/92	6.91	454	70.7	>200

TOB = top of well box
ft-MSL = elevation in feet, relative to mean sea level
std. units = standard pH units
micromhos/cm = micromhos per centimeter
degrees F = degrees Fahrenheit
NTU = nephelometric turbidity units
ND = None detected
NR = Not reported; data not available
** = groundwater elevation corrected to include 80 percent of the floating product thickness measured in the well
FP = Floating product; well contained floating product and was not sampled
IW = Inaccessible well

Table 1
Monitoring Well Field Measurement Data
Third Quarter 1992

Shell Station: 2800 Telegraph Avenue
Oakland, California
WIC #: 204-5508-2303

Date: 09/01/92
Project Number: G67-22.01

Well Designation	Water Level Field Date	TOB Elevation (ft-MSL)	Depth to Water (feet)	Ground-water Elevation (ft-MSL)	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-5	07/12/91	33.42	10.44	22.98	30.6	ND	07/12/91	6.98	134	68.1	NR
S-5	10/04/91	33.42	10.66	22.76	30.6	ND	10/04/91	6.96	86	70.5	NR
S-5	01/29/92	33.42	10.44	22.98	30.5	ND	01/29/92	7.51	1020	60.3	>200
S-5	05/04/92	33.42	10.27	23.15	30.6	ND	05/04/92	7.16	109	67.1	>1000
S-5	08/10/92	33.42	10.68	22.74	30.6	ND	08/10/92	7.83	1102	73.0	>200
S-6	07/12/91	32.59	9.83	22.76	22.2	ND	07/12/91	6.90	628	69.6	NR
S-6	10/04/91	32.59	10.21	22.38	22.1	ND	10/04/91	7.24	545	71.6	NR
S-6	01/29/92	32.59	9.64	22.95	22.1	ND	01/29/92	6.64	668	64.8	>200
S-6	05/04/92	32.59	9.42	23.17	22.2	ND	05/05/92	6.92	632	63.8	>1000
S-6	08/10/92	32.59	10.40	22.19	22.2	ND	08/10/92	6.72	701	70.3	>200
S-7	07/12/91	33.33	11.60	21.73	30.7	ND	07/12/91	6.87	595	68.9	NR
S-7	10/04/91	33.33	12.00	21.33	30.7	ND	10/04/91	6.32	557	71.3	NR
S-7	01/29/92	33.33	11.46	21.87	30.6	ND	01/29/92	7.02	645	70.1	>200
S-7	05/04/92	33.33	11.21	22.12	30.6	ND	05/05/92	6.79	638	67.2	92.8
S-7	08/10/92	33.33	12.28	21.05	30.8	ND	08/10/92	6.94	534	69.0	>200
S-8	07/12/91	31.97	10.53	21.44	19.2	ND	07/12/91	6.97	475	71.0	NR
S-8	10/04/91	31.97	10.87	21.10	19.2	ND	10/04/91	6.71	412	72.9	NR
S-8	01/29/92	31.97	10.50	21.47	19.1	ND	01/29/92	6.74	482	68.7	>200
S-8	05/04/92	31.97	10.29	21.68	19.2	ND	05/05/92	6.95	664	69.5	>1000
S-8	08/10/92	31.97	11.12	20.85	19.3	ND	08/10/92	6.76	542	76.0	>200

TOB = top of well box
ft-MSL = elevation in feet, relative to mean sea level
std. units = standard pH units
micromhos/cm = micromhos per centimeter
degrees F = degrees Fahrenheit
NTU = nephelometric turbidity units
ND = None detected
NR = Not reported; data not available

Table 1
Monitoring Well Field Measurement Data
Third Quarter 1992

Shell Station: 2800 Telegraph Avenue
Oakland, California
WIC #: 204-5508-2303

Date: 09/01/92
Project Number: G67-22.01

Well Designation	Water Level Field Date	TOB Elevation (ft-MSL)	Depth to Water (feet)	Groundwater Elevation (ft-MSL)	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-9	07/12/91	31.86	10.85	21.01	30.0	ND	07/12/91	6.88	537	68.7	NR
S-9	10/04/91	31.86	11.24	20.62	30.0	ND	10/04/91	6.28	523	69.6	NR
S-9	01/29/92	31.86	10.74	21.12	30.0	ND	01/29/92	6.79	653	61.4	>200
S-9	05/04/92	31.86	10.45	21.41	30.0	ND	05/05/92	7.00	659	61.4	>1000
S-9	08/10/92	31.86	11.52	20.34	30.1	ND	08/10/92	6.72	623	70.6	116.7
S-10	07/12/91	32.95	9.72	23.23	24.3	ND	07/12/91	6.88	173	67.9	NR
S-10	10/04/91	32.95	9.89	23.06	24.3	ND	10/04/91	7.20	706	68.8	NR
S-10	01/29/92	32.95	9.45	23.50	24.2	ND	01/29/92	7.10	208	63.0	>200
S-10	05/04/92	32.95	8.54	24.41	24.3	ND	05/05/92	7.67	210	62.3	>1000
S-10	08/10/92	32.95	10.43	22.52	24.3	ND	08/10/92	6.36	1698	71.8	>200
S-11	07/12/91	30.78	10.29	20.49	19.2	ND	07/12/91	6.68	439	67.6	NR
S-11	10/04/91	30.78	10.79	19.99	19.2	ND	10/04/91	6.06	439	69.4	NR
S-11	01/29/92	30.78	10.15	20.63	19.1	ND	01/29/92	6.43	495	63.2	>200
S-11	05/04/92	30.78	9.99	20.79	19.1	ND	05/05/92	6.56	467	63.4	>1000
S-11	08/10/92	30.78	10.92	19.86	19.2	ND	08/10/92	6.45	571	67.2	>200
SR-1	07/12/91	NR	9.67	NR	NR	ND	07/12/91	NA	NA	NA	NA
SR-1	10/04/91	NR	10.06	NR	34.4	ND	10/04/91	NA	NA	NA	NA
SR-1	01/29/92	NR	9.18	NR	34.0	ND	01/29/92	NA	NA	NA	NA
SR-1	05/04/92	NR	9.02	NR	34.1	ND	05/05/92	NA	NA	NA	NA
SR-1	08/10/92	NR	10.29	NR	34.3	ND	08/10/92	NA	NA	NA	NA

TOB = top of well box
ft-MSL = elevation in feet, relative to mean sea level
std. units = standard pH units
micromhos/cm = micromhos per centimeter
degrees F = degrees Fahrenheit
NTU = nephelometric turbidity units
ND = None detected
NR = Not reported; data not available
NA = Not analyzed

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

Shell Station: 2800 Telegraph Avenue
Oakland, California
WIC #: 204-5508-2303

Date: 09/01/92
Project Number: G67-22.01

Sample Designation	Water Sample Field Date	TPH-g (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl-benzene (mg/l)	Total Xylenes (mg/l)
S-1	07/12/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-1	10/04/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-1	01/29/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-1	05/04/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-1	08/10/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
SD-1	08/10/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-2	07/12/91	0.15	0.022	<0.0005	0.0036	0.0027
S-2	10/04/91	0.09	0.015	<0.0005	0.0007	0.0012
S-2	01/29/92	0.28	0.045	0.0008	0.0053	0.0052
S-2	05/05/92	1.6	0.19	0.006	0.024	0.054
S-2	08/10/92	<0.05	0.0041	<0.0005	<0.0005	<0.0005
S-3	07/12/91	FP	FP	FP	FP	FP
S-3	10/04/91	FP	FP	FP	FP	FP
S-3	01/29/92	NR	NR	NR	NR	NR
S-3	05/04/92	FP	FP	FP	FP	FP
S-3	08/10/92	IW	IW	IW	IW	IW
S-4	07/12/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-4	10/04/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-4	01/29/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-4	05/04/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-4	08/10/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

TPH-g = total petroleum hydrocarbons as gasoline
FP = Floating product; well contained floating product and was not sampled
NR = Not reported; data not available
IW = Inaccessible well

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

Shell Station: 2800 Telegraph Avenue
Oakland, California
WIC #: 204-5508-2303

Date: 09/01/92
Project Number: G67-22.01

Sample Designation	Water Sample Field Date	TPH-g (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl-benzene (mg/l)	Total Xylenes (mg/l)
S-5	07/12/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-5	10/04/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-5	01/29/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-5	05/04/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-5	08/10/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-6	07/12/91	2.9	0.66	0.02	0.02	0.08
S-6	10/04/91	4.0	0.40	0.0060	0.0047	0.0095
S-6	01/29/92	2.1	0.34	0.018	0.020	0.097
S-6	05/05/92	3.1	0.64	0.022	0.023	0.12
S-6	08/10/92	3.4	0.43	0.027	0.026	0.10
S-7	07/12/91	0.96	0.067	0.0043	0.0068	0.032
S-7	10/04/91	1.2	0.10	0.0074	0.0018	0.014
S-7	01/29/92	0.18	0.0041	0.0006	0.0005	0.0036
S-7	05/05/92	0.18	0.0016	<0.0005	0.0015	0.0030
S-7	08/10/92	0.19	0.0080	0.0014	0.0047	0.0085
S-8	07/12/91	0.82	0.034	0.038	0.041	0.11
S-8	10/04/91	0.96	0.018	0.024	0.038	0.13
S-8	01/29/92	1.4	0.013	0.037	0.054	0.23
S-8	05/05/92	1.6	0.020	0.042	0.096	0.33
S-8	08/10/92	1.5	0.019	0.037	0.060	0.25
S-9	07/12/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-9	10/04/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-9	01/29/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-9	05/05/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-9	08/10/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

TPH-g = total petroleum hydrocarbons as gasoline

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

Shell Station: 2800 Telegraph Avenue
Oakland, California
WIC #: 204-5508-2303

Date: 09/01/92
Project Number: G67-22.01

Sample Designation	Water Sample Field Date	TPH-g (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethyl-benzene (mg/l)	Total Xylenes (mg/l)
S-10	07/12/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-10	10/04/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-10	01/29/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-10	05/05/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-10	08/10/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-11	07/12/91	0.19	0.012	0.0023	0.010	0.044
S-11	10/04/91	0.44	0.020	0.0085	0.014	0.049
S-11	01/29/92	1.7	0.030	0.023	0.048	0.27
S-11	05/05/92	1.5	0.055	0.032	0.057	0.19
S-11	08/10/92	0.75	0.029	0.013	0.043	0.12
FB	08/10/92	<0.05	<0.0005	0.0006	<0.0005	<0.0005
TB	01/29/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	05/05/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	08/10/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

TPH-g = total petroleum hydrocarbons as gasoline

MERRIMAC ST.

28th STREET

S-5

S-4

TELEGRAPH AVENUE

S-8

S-6

SV-1

S-3

SR-1

SV-2

S-1

S-2

27th STREET

S-7

S-9

S-11

28th STREET

S-10

Base Map: Field observations

0 40

Scale in Feet

EXPLANATION

- Ground-water monitoring well
- Ground-water recovery well
- Vapor Extraction well

Figure 1
(Supplied by Geo Strategies, Inc.)

PLATE

Former Shell Service Station
2800 Telegraph Avenue
Oakland, California

REVISED DATE

GeoStrategies Inc.

DATE

REVIEWED BY

JOB NUMBER

510

ANAMETRIX INC
Environmental & Analytical Chemistry
1961 Concourse Drive, Suite E, San Jose, CA 95131
(408) 432-8192 • Fax (408) 432-8198

REPORT

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

Workorder # : 9208120
Date Received : 08/12/92
Project ID : 204-5508-2303
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9208120- 1	S-1
9208120- 2	S-4
9208120- 3	S-5
9208120- 4	S-9
9208120- 5	S-10
9208120- 6	S-2
9208120- 7	S-11
9208120- 8	S-8
9208120- 9	S-7
9208120-10	S-6
9208120-11	SD-1
9208120-12	TB
9208120-13	FB

This report consists of 7 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

8-21-92
Date

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

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

Workorder # : 9208120
Date Received : 08/12/92
Project ID : 204-5508-2303
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9208120- 1	S-1	WATER	08/10/92	TPHg/BTEX
9208120- 2	S-4	WATER	08/10/92	TPHg/BTEX
9208120- 3	S-5	WATER	08/10/92	TPHg/BTEX
9208120- 4	S-9	WATER	08/10/92	TPHg/BTEX
9208120- 5	S-10	WATER	08/10/92	TPHg/BTEX
9208120- 6	S-2	WATER	08/10/92	TPHg/BTEX
9208120- 7	S-11	WATER	08/10/92	TPHg/BTEX
9208120- 8	S-8	WATER	08/10/92	TPHg/BTEX
9208120- 9	S-7	WATER	08/10/92	TPHg/BTEX
9208120-10	S-6	WATER	08/10/92	TPHg/BTEX
9208120-11	SD-1	WATER	08/10/92	TPHg/BTEX
9208120-12	TB	WATER	08/10/92	TPHg/BTEX
9208120-13	FB	WATER	08/10/92	TPHg/BTEX

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

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

Workorder # : 9208120
Date Received : 08/12/92
Project ID : 204-5508-2303
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Balmer 8/21/92
Department Supervisor Date

M. Hasselman 8/20/92
Chemist Date

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

Anametrix W.O.: 9208120
Matrix : WATER
Date Sampled : 08/10/92

Project Number : 204-5508-2303
Date Released : 08/20/92

	Reporting Limit	Sample I.D.# S-1	Sample I.D.# S-4	Sample I.D.# S-5	Sample I.D.# S-9	Sample I.D.# S-10
COMPOUNDS	(mg/L)	-01	-02	-03	-04	-05
Benzene	0.0005	ND	ND	ND	ND	ND
Toluene	0.0005	ND	ND	ND	ND	ND
Ethylbenzene	0.0005	ND	ND	ND	ND	ND
Total Xylenes	0.0005	ND	ND	ND	ND	ND
TPH as Gasoline	0.050	ND	ND	ND	ND	ND
% Surrogate Recovery		136%	113%	111%	114%	136%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		08/13/92	08/13/92	08/13/92	08/13/92	08/13/92
RLMF		1	1	1	1	1

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

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

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

M. Hoffman 8/20/92
Analyst Date

Cheryl Balmer 8/21/92
Supervisor Date

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

Anametrix W.O.: 9208120
Matrix : WATER
Date Sampled : 08/10/92

Project Number : 204-5508-2303
Date Released : 08/20/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# S-2 -06	Sample I.D.# S-11 -07	Sample I.D.# S-8 -08	Sample I.D.# S-7 -09	Sample I.D.# S-6 -10
Benzene	0.0005	0.0041	0.029	0.019	0.0080	0.43
Toluene	0.0005	ND	0.013	0.037	0.0014	0.027
Ethylbenzene	0.0005	ND	0.043	0.060	0.0047	0.026
Total Xylenes	0.0005	ND	0.12	0.25	0.0085	0.10
TPH as Gasoline	0.050	ND	0.75	1.5	0.19	3.4
% Surrogate Recovery		102%	84%	85%	91%	94%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		08/14/92	08/14/92	08/14/92	08/14/92	08/14/92
RLMF		1	5	10	1	50

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

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

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

M. Hesselius 8/20/92
Analyst Date

Cheryl Balmer 8/21/92
Supervisor Date

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

Anametrix W.O.: 9208120
Matrix : WATER
Date Sampled : 08/10/92

Project Number : 204-5508-2303
Date Released : 08/20/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# SD-1 -11	Sample I.D.# TB -12	Sample I.D.# FB -13	Sample I.D.# BG1301E3 BLANK	Sample I.D.# BG1401E3 BLANK
Benzene	0.0005	ND	ND	ND	ND	ND
Toluene	0.0005	ND	ND	0.0006	ND	ND
Ethylbenzene	0.0005	ND	ND	ND	ND	ND
Total Xylenes	0.0005	ND	ND	ND	ND	ND
TPH as Gasoline	0.050	ND	ND	ND	ND	ND
% Surrogate Recovery		99%	124%	115%	108%	106%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		08/14/92	08/13/92	08/13/92	08/13/92	08/14/92
RLMF		1	1	1	1	1

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

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

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

M. Hasselman 8/24/92
Analyst Date

Cheryl Brewer 9/21/92
Supervisor Date

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

Sample I.D. : 204-5508-2303 S-10
Matrix : WATER
Date Sampled : 08/10/92
Date Analyzed : 08/13/92

Anametrix I.D. : 9208120-05
Analyst :
Supervisor :
Date Released : 08/20/92
Instrument ID : HP21

COMPOUND	SPIKE AMT. (mg/L)	MS (mg/L)	%REC MS	MD (mg/L)	%REC MD	RPD	%REC LIMIT
GASOLINE	1.0	1.1	110%	1.0	100%	-10%	48-145
P-BFB			65%		116%		53-147

*Limits established by Anametrix, Inc.

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

Sample I.D. : LAB CONTROL SAMPLE
Matrix : WATER
Date Sampled : N/A
Date Analyzed : 08/13/92

Anametrix I.D. : LCSW0813
Analyst : [illegible]
Supervisor : [illegible]
Date Released : 08/20/92
Instrument I.D.: HP21

COMPOUND	SPIKE AMT. (mg/L)	REC LCS (mg/L)	%REC LCS	% REC LIMITS
GASOLINE	0.25	0.25	100%	48-145
SURROGATE		103%		53-147

*Limits established by Anametrix, Inc.

9208 120 (B) 09:45

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No.: 7666

Date:
Page 1 of 2

Site Address: 2800 Telegraph Avenue
Oakland, CA

WIC#: 204-5508-2303

Shell Engineer: Paul Hayes
Phone No. Fax #: (510) 675-6168

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

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

Comments: 3-VOAs CHCl for gas, BTEX

Sampled By: Kevin Reichelderfer
Printed Name: KEVIN REICHELDERFER

LAB: Anametrix

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

TURN AROUND TIME	
24 hours	☐
48 hours	☐
15 days	X (Normal)
Other	☐ ____

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

Analysis Required

Sample ID	Date	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
1 S-1	8-10-92		X		3	X		X			40 ml	HCl	No		
2 S-4															
3 S-5															
4 S-9															
5 S-10															
6 S-2															
7 S-11															
8 S-8															

Bubbles (2)

Relinquished By (signature): Kevin Reichelderfer	Printed name: KEVIN REICHELDERFER	Date: 8-12-92 Time: 0800	Received (signature): Maria Barajas	Printed name: Maria Barajas	Date: 8/12/92 Time: 101
Relinquished By (signature):	Printed name:	Date: Time:	Received (signature): M Adler	Printed name: M ADLER	Date: 8-12-92 Time: 0800
Relinquished By (signature): M Adler	Printed name: M ADLER	Date: 8-12-92 Time: 0915	Received (signature): Maria Barajas	Printed name: Maria Barajas	Date: 8/12/92 Time: 09:15

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

Last Revision Date: 10/15/91

4207120 (18) 09:45

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No.: 7666

Date:
Page 2 of 2

Site Address: 2800 Telegraph Avenue
Oakland, CA

WIC#: 204-5508-2303

Shell Engineer: Paul Hayes
Phone No. / Fax #: (510) 675-6168

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

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

Comments: 3-40ml VOAs (HCl) for gas, BTEX

Sampled By: Kevin Reichelderfer
Printed Name: KEVIN REICHELDERFER

LAB: Anametrix

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

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

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

Sample ID	Date	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
1) S-7	8-10-92		X		3	X		X			40 ml	HCl	NO		Bubbles(1)
2) S-6															
3) SD-1															
4) TB															Bubbles(3)
5) FB															

Relinquished By (signature)	Printed name	Date / Time	Received (signature)	Printed name	Date / Time
Kevin Reichelderfer	KEVIN REICHELDERFER	8-12-92 0800	M Adler	MADLER	8-12-92 0800
M Adler	MADLER	8-12-92 0815	Maria Barajas	Maria-Barajas	8/12/92 0815
Relinquished By (signature):	Printed name:	Date: Time:	Received (signature):	Printed name:	Date: Time:

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

Last Revision Date: 10/15/91