GeoStrategies Inc.

QUARTERLY REPORT

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

761001-20

July 8, 1992

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

July 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 second 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 May 4, 1992. Static ground-water levels were measured from the surveyed top of the well box and recorded to the nearest ± 0.01 foot. Water-level elevations, referenced to 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 0.02.

Each well was checked for the presence of floating product. Floating product was observed in well S-3 at a measured thickness of 0.01 feet.

Ground-water samples were collected on May 4 and 5, 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.

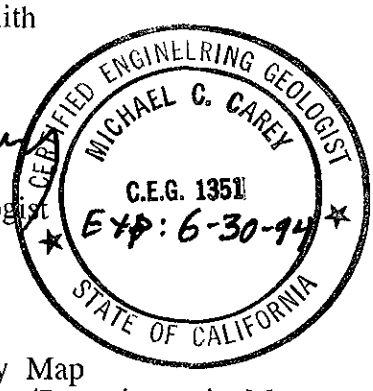
GeoStrategies Inc. by,

Ellen C. Fostersmith

Ellen C. Fostersmith
Geologist

Michael Carey

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



ECF/MCC/shl

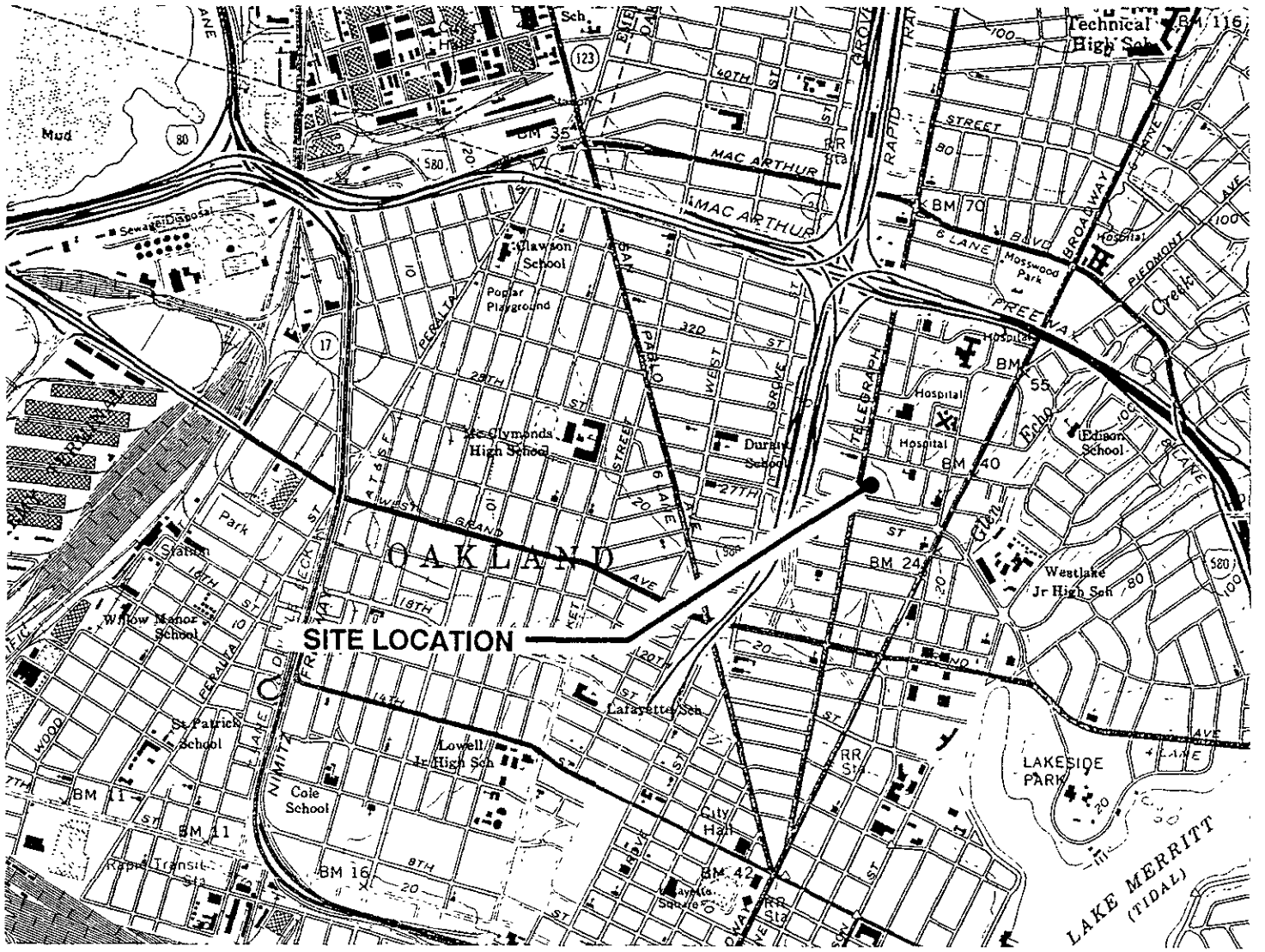
Plate 1. Vicinity Map
Plate 2. Site Plan/Potentiometric Map
Plate 3. Benzene Isoconcentration Map

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

QC Review RAL

761001-20

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	

PLATE 2

EXPLANATION

- Ground–water monitoring well
- Ground–water recovery well
- 99.99 — Ground–water elevation contour Approximate Gradient = 0.02
- 99.99 — Ground–water elevation in feet referenced to Mean Sea Level (MSL) measured on May 4, 1992
- NM — Not Measured

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

COMMERCIAL

COMMERCIAL

MERRIMAC ST.

28th STREET

TELEGRAPH AVENUE

S-5 23.15

S-4 24.12

S-8 21.68

S-6 23.17

24.35

S-3

SR-1 NM

KIOSK

APPROXIMATE LOCATION OF FORMER U.G. TANKS

SERVICE ISLANDS (Not in Use)

BUILDING

PARKING LOT

27th STREET

28th STREET

24.0

25.5

25.81 S-1

COMMERCIAL

APPROXIMATE AREA OF FORMER U.G. TANK

SERVICE STATION BUILDING (Not in Use)

24.47 S-2

APPROXIMATE AREA OF FORMER W.O. TANK

21.0

21.5

22.0

22.5

23.0

23.5

24.5

25.0

S-7 22.12

S-9 21.41

S-11 20.79

FENCE

RESIDENTIAL

RESIDENTIAL

S-10 24.41

Base Map Field observations

N

0 40

Scale in Feet

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

DATE 7/92

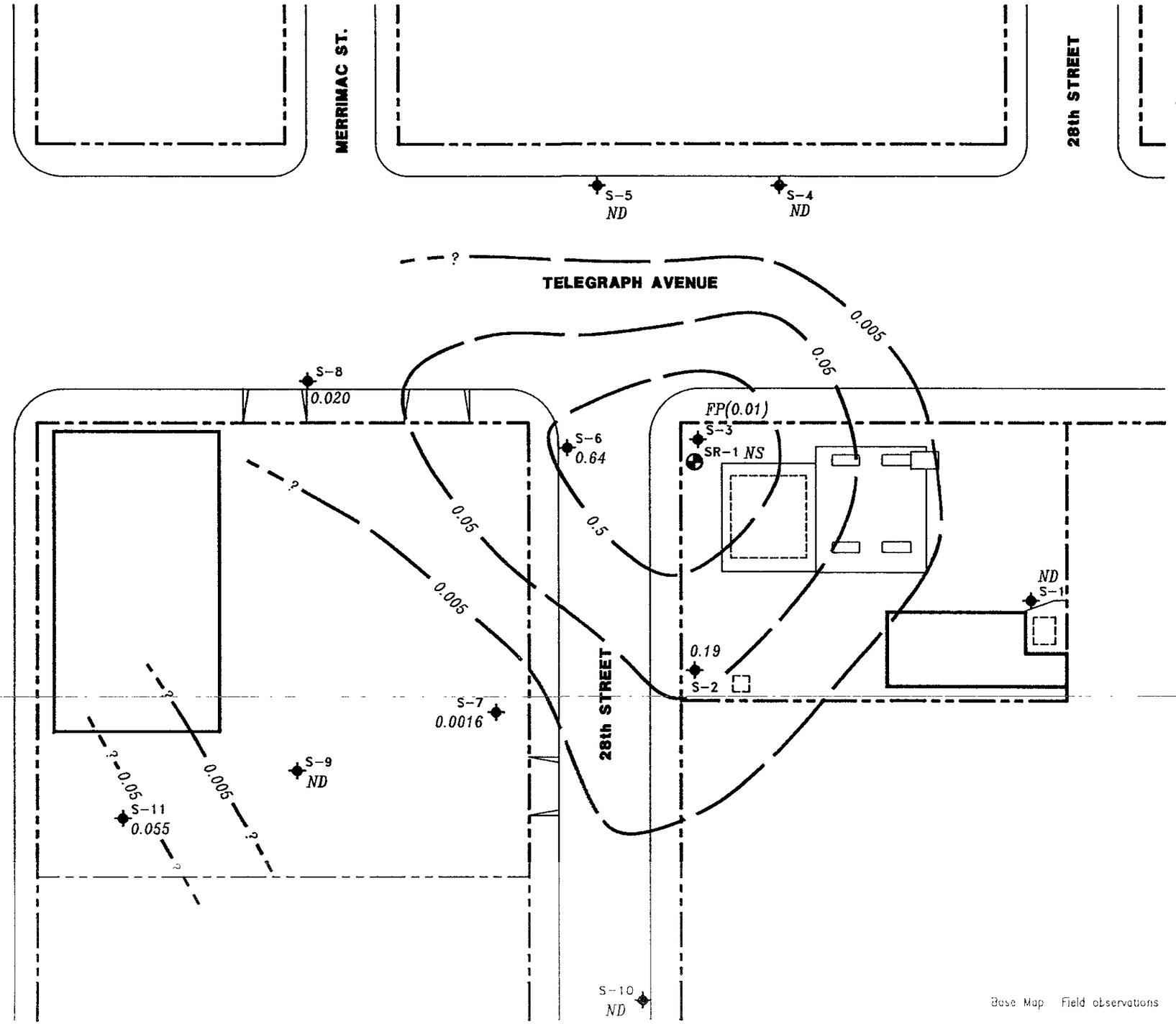
REVISED DATE

REVIEWED BY

JOB NUMBER 761001-20

GeoStrategies Inc.

GSI



EXPLANATION

- Ground-water monitoring well
- Ground-water recovery well
- 0.05 — Benzene isoconcentration contour
- 0.05 — Benzene concentration in ppm sampled on May 4 & 5, 1992
- *ND* — Not Detected (See laboratory reports for detection limits)
- *NS* — Not sampled
- *FP(0.01)* — Floating Product (measured thickness in feet)

PLATE 3

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

REVISED DATE

DATE 7/92

GeoStrategies Inc.

REVIEWED BY

JOB NUMBER 761001-20

APPENDIX A
EMCON MONITORING REPORT
AND
CHAIN-OF-CUSTODY

RECEIVED
JUN 9 1992
GeoStrategies Inc.

EMCON
ASSOCIATES
Consultants in Wastes Management and Environmental Control

June 8, 1992
Project: G67-22.01
WIC#: 204-5508-2303

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

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

Dear Ms. Fostersmith:

This letter presents the results of the second quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) site located at 2800 Telegraph Avenue, Oakland, California. Second quarter monitoring was conducted on May 4 and 5, 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 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. Floating product, 0.01 foot thick, was observed in well S-3. Total depth was measured to the nearest 0.1 foot. Results of the second 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 May 4 and 5, 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 second 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.

1936 Junction Avenue, San Jose, California 95131-2120 (408) 453-7300 Fax (408) 453-8450

Well S-3 contained 0.01 foot of floating product and was not sampled during second quarter monitoring. Well SR-1 is not sampled for chemical analysis.

Ground-water samples were collected with a Teflon® bailer, labeled, placed on ice, and transported to a Shell-approved and state-certified analytical laboratory 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 second quarter monitoring included a trip blank (TB) and a duplicate well sample (SD-6) collected from well S-6. All water samples collected during second 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 second quarter 1992 monitoring event, and available results from four previous monitoring events, are summarized in table 2. The original certified analytical report and 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
Second Quarter 1992

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

Date: 06/08/92
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	04/30/91	35.31	9.27	26.04	27.8	ND	04/30/91	6.15	427	63.5	NR
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-2	04/30/91	33.91	9.15	24.76	25.4	ND	04/30/91	6.18	548	65.2	NR
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-3	04/30/91	33.56	10.04	23.62**	NR	0.13	04/30/91	FP	FP	FP	FP
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-4	04/30/91	34.08	10.36	23.72	29.1	ND	04/30/91	6.38	364	67.2	NR
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

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

Table 1
Monitoring Well Field Measurement Data
Second Quarter 1992

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

Date: 06/08/92
Project Number: 087-22.01

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-5	04/30/91	33.42	10.12	23.30	30.6	ND	04/30/91	6.93	118	67.4	NR
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-6	04/30/91	32.59	9.13	23.46	22.1	ND	04/30/91	6.24	593	67.3	NR
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-7	04/30/91	33.33	10.70	22.63	30.7	ND	04/30/91	6.54	519	67.8	NR
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-8	04/30/91	31.97	10.00	21.97	19.2	ND	04/30/91	6.48	503	67.7	NR
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

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
Second Quarter 1992

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

Date: 06/08/92
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-9	04/30/91	31.86	9.68	22.18	30.0	ND	04/30/91	6.82	521	65.8	NR
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-10	04/30/91	32.95	8.33	24.62	24.2	ND	04/30/91	6.79	210	65.7	NR
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-11	04/30/91	30.78	9.38	21.40	19.2	ND	04/30/91	6.34	426	65.1	NR
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
SR-1	04/30/91	NR	8.57	NR	34.7	ND	04/30/91	NA	NA	NA	NA
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

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
Second Quarter 1992
milligrams per liter (mg/l) or parts per million (ppm)

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

Date: 06/08/92
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	04/30/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
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-2	04/30/91	0.60	0.060	0.0036	0.016	0.015
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-3	04/30/91	FP	FP	FP	FP	FP
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-4	04/30/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
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

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

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

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

Date: 06/08/92
Project Number: 087-22.01

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	04/30/91	<0.05	<0.0005	<0.0005	<0.0005	0.0008
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-6	04/30/91	4.8	0.64	0.15	0.17	0.48
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
SD-6	05/05/92	3.6	0.84	0.030	0.034	0.18
S-7	04/30/91	0.24	0.0032	0.0023	0.0036	0.010
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-8	04/30/91	2.9	0.046	0.11	0.12	0.33
S-8	07/12/91	0.62	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

TPH-g = total petroleum hydrocarbons as gasoline

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

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

Date: 06/08/92
Project Number: 087-22.01

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-9	04/30/91	<0.05	<0.0005	<0.0005	<0.0005	0.0006
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-10	04/30/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
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
SD-10	01/29/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-11	04/30/91	5.4	0.048	0.026	0.080	0.37
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
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

TPH-g = total petroleum hydrocarbons as gasoline

Figure 1
(Supplied by GeoStrategies, Inc.)

MERRIMAC ST.

28th STREET

S-5

S-4

TELEGRAPH AVENUE

S-8

S-6

27th STREET

S-7

S-9

S-11

SV-1

S-3

SR-1

SV-2

S-1

S-2

28th STREET

S-10

Base Map: Field observations

EXPLANATION

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

0 40

Scale In Feet

GeoStrategies Inc.

Former Shell Service Station
2800 Telegraph Avenue
Oakland, California

PLATE

REVISED DATE

DATE

REVIEWED BY

NUMBER

10

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 # : 9205076
Date Received : 05/06/92
Project ID : G67-22.01
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9205076- 1	S-1
9205076- 2	S-4
9205076- 3	S-5
9205076- 4	S-9
9205076- 5	S-10
9205076- 6	S-2
9205076- 7	S-11
9205076- 8	S-8
9205076- 9	S-7
9205076-10	S-6
9205076-11	SD-6
9205076-12	TB

This report consists of 6 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

5-18-92
Date

EMCON ASSOCIATES

MAY 2 0 1992

RECEIVED

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

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

Workorder # : 9205076
Date Received : 05/06/92
Project ID : G67-22.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9205076- 1	S-1	WATER	05/04/92	TPHg/BTEX
9205076- 2	S-4	WATER	05/04/92	TPHg/BTEX
9205076- 3	S-5	WATER	05/04/92	TPHg/BTEX
9205076- 4	S-9	WATER	05/05/92	TPHg/BTEX
9205076- 5	S-10	WATER	05/05/92	TPHg/BTEX
9205076- 6	S-2	WATER	05/05/92	TPHg/BTEX
9205076- 7	S-11	WATER	05/05/92	TPHg/BTEX
9205076- 8	S-8	WATER	05/05/92	TPHg/BTEX
9205076- 9	S-7	WATER	05/05/92	TPHg/BTEX
9205076-10	S-6	WATER	05/05/92	TPHg/BTEX
9205076-11	SD-6	WATER	05/05/92	TPHg/BTEX
9205076-12	TB	WATER	05/05/92	TPHg/BTEX

EMCON ASSOCIATES
MAY 2 0 1992
RECEIVED

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

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

Workorder # : 9205076
Date Received : 05/06/92
Project ID : G67-22.01
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for samples.

Department Supervisor Date

Chemist Date

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

Anametrix W.O.: 9205076
Matrix : WATER
Date Sampled : 05/04/92, 05/05/92

Project Number : G67-22.01
Date Released : 05/18/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# S-1 -01	Sample I.D.# S-4 -02	Sample I.D.# S-5 -03	Sample I.D.# S-9 -04	Sample I.D.# S-10 -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		105%	105%	105%	99%	102%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		05/13/92	05/13/92	05/13/92	05/13/92	05/13/92
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.

Analyst 5/18/92 Date

Supervisor 5/18/92 Date

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

Anametrix W.O.: 9205076
Matrix : WATER
Date Sampled : 05/05/92

Project Number : G67-22.01
Date Released : 05/18/92

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	0.19	0.055	0.020	0.0016	0.64
Toluene	0.0005	0.006	0.032	0.042	ND	0.022
Ethylbenzene	0.0005	0.024	0.057	0.096	0.0015	0.023
Total Xylenes	0.0005	0.054	0.19	0.33	0.0030	0.12
TPH as Gasoline	0.050	1.6	1.5	1.6	0.18	3.1
% Surrogate Recovery		80%	101%	102%	86%	125%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		05/16/92	05/16/92	05/16/92	05/15/92	05/16/92
RLMF		10	10	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.

Steve Jones 5/18/92
Analyst Date

Cheryl Balmes 5/18/92
Supervisor Date

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

Anametrix W.O.: 9205076
Matrix : WATER
Date Sampled : 05/05/92

Project Number : G67-22.01
Date Released : 05/18/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# SD-6 -11	Sample I.D.# TB -12	Sample I.D.# 21B0513A BLANK	Sample I.D.# 21B0514A BLANK	Sample I.D.# 21B0515A BLANK
Benzene	0.0005	0.84	ND	ND	ND	ND
Toluene	0.0005	0.030	ND	ND	ND	ND
Ethylbenzene	0.0005	0.034	ND	ND	ND	ND
Total Xylenes	0.0005	0.18	ND	ND	ND	ND
TPH as Gasoline	0.050	3.6	ND	ND	ND	ND
% Surrogate Recovery		99%	103%	103%	105%	102%
Instrument I.D.		HP21	HP21	HP21	HP21	HP21
Date Analyzed		05/17/92	05/13/92	05/13/92	05/15/92	05/16/92
RLMF		50	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.

Steve Sona 5/18/92
Analyst Date

Cheryl Balmer 5/18/92
Supervisor Date

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

Anametrix W.O.: 9205076
Matrix : WATER
Date Sampled : N/A

Project Number : G67-22.01
Date Released : 05/18/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# 21B0517A BLANK
Benzene	0.0005	ND
Toluene	0.0005	ND
Ethylbenzene	0.0005	ND
Total Xylenes	0.0005	ND
TPH as Gasoline	0.050	ND
% Surrogate Recovery		108%
Instrument I.D.		HP21
Date Analyzed		05/17/92
RLMF		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.

Analyst 5/18/92 Date

Supervisor 5/18/92 Date

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD 1230
9205076 Serial No.: 159 (2)a

Date: 5/5/92
Page 1 of 2

Site Address: 2800 Telegraph Avenue Oakland CA

WIC#: 204-5508-2303

Shell Engineer: Kurt Miller
Phone No. (510)
Fax #: 685-3853

Consultant Name & Address: EMCON Assoc. 1938 Junction Ave. San Jose, CA 95131

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

Comments: 3-40ml HCl VOAs for g, BTEX
2-40ml HCl VOAs for TB

Sampled By: Steve Horton
Printed Name: Steve Horton

LAB: ~~TT Cerritos~~ 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
S-1	5/4/92		X		3	X		X							40 ml	HCl	No		
S-4	5/4/92		↓		3	X		X							↓	↓	↓		
S-5	5/4/92		↓		3	X		X							↓	↓	↓		
S-9	5/5/92		↓		3	X		X							↓	↓	↓		
S-10	5/5/92		↓		3	X		X							↓	↓	↓		
S-2	5/5/92		↓		3	X		X							↓	↓	↓		
S-11	5/5/92		↓		3	X		X							↓	↓	↓		
S-8	5/5/92		↓		3	X		X							↓	↓	↓		

Relinquished By (signature):	Printed name:	Date/Time	Received (signature):	Printed name:	Date/Time
Steve Horton	Steve Horton	Date: 5/5/92 Time: 16:57	D. Larsen	D. Larsen	Date: 5-5-92 Time: 16:57
D. Larsen	D. Larsen	Date: 5-6-92 Time: 11:10	Carl C Bauer	Carl C Bauer	Date: 5/6/92 Time: 11:10
		Date: Time:			Date: Time:

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

Last Revision Date: 10/15/91

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD 1230

920576 Serial No.: 159 (2)cr

Date: 5/5/92

Site Address: 2800 Telegraph Avenue Oakland CA

WIC#: 204-5508-2303

Shell Engineer: Kurt Miller
Phone No. (510)
Fax #: 685-3853

Consultant Name & Address: EMCON Assoc. 1938 Junction Ave. San Jose, CA 95131

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

Comments: 3-40ml HCl VOAs for gBTEX
2-40 ml HCl VOAs for TB

Sampled By: Steve Horton
Printed Name: Steve Horton

Analysis Required

LAB: IT - Cerritos

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.

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
S-7	5/5/92		X		3	X		X			40 ml	HCl	No		
S-6	5/5/92				3	X		X							
S-3					3	X		X							
SD-6	5/5/92				3	X		X						No Sample	
TB	5/5/92				2	X		X							

Relinquished By (signature): Steve Horton
Printed name: Steve Horton
Date: 5/5/92
Time: 16:57

Relinquished By (signature):
Printed name: D. Larsen
Date: 5/6/92
Time: 11:10

Relinquished By (signature):
Printed name:
Date:
Time:

Received (signature):
Printed name: D. Larsen
Date: 5/5/92
Time: 16:57

Received (signature):
Printed name: Carl C Brandt
Date: 5/6/92
Time: 11:10

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