



GeoStrategies Inc.

February 8, 1993

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

Attn: Mr. Dan Kirk

Re: QUARTERLY REPORT
Shell Service Station
3790 Hopyard Road
Pleasanton, California
WIC #204-6138-0501

Mr. Kirk:

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

EXECUTIVE SUMMARY

- The dissolved hydrocarbon plume is delineated, and there is no evidence of offsite migration.
- Six of the nine wells (S-3 and S-6 through S-10) sampled were none-detected (ND) for benzene during the fourth quarter of 1992.
- Wells S-3, S-7 and S-10 have been ND for TPH-Gasoline and BTEX since August 1989.

Aug 93 = 4 yrs.

763201-16



GeoStrategies Inc.

February 8, 1993

Mr. Rick Mueller
City of Pleasanton
Pleasanton Fire Department
Post Office Box 520
Pleasanton, California 94566-0802

Re: Shell Service Station
3790 Hopyard Road
Pleasanton, California
WIC 204-6138-0501

Mr. Mueller:

As requested by Mr. Dan Kirk of Shell Oil Company, we are forwarding a copy of the February 8, 1993 Quarterly Report prepared for the above referenced location. The report presents the results of the ground-water sampling conducted during the fourth quarter of 1992.

If you have any questions, please call.

Sincerely,

A handwritten signature in cursive script that reads "Ellen Fostersmith".

Ellen Fostersmith
Geologist

EF/rmt

Enclosure

cc: Mr. Dan Kirk, Shell Oil Company
Mr. Lester Feldman, Regional Water Quality Control Board

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GeoStrategies Inc.

Shell Oil Company
February 8, 1993
Page 2

SITE DESCRIPTION

There are currently twelve monitoring wells at the site; Wells S-2 through S-10, SR-1, SR-2 and SR-3 (Plate 2). These wells were installed between 1986 and 1989 by EMCON Associates, Woodward-Clyde Consultants, Pacific Environmental Group and GSI. Well S-1 was destroyed in 1988.

CURRENT QUARTER SAMPLING RESULTS

Depth to water-level measurements were obtained in each monitoring well on December 11, 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 Monitoring Report (Appendix A). Water-level data were used to construct a quarterly potentiometric map (Plate 2). Shallow ground-water flow is to the south 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 December 11, 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. The analytical laboratory report and Chain-of-Custody form are presented in Appendix A. These data are summarized and included with the historical chemical analytical data presented in Appendix A. A chemical isoconcentration map for benzene is presented on Plate 3.

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Shell Oil Company
February 8, 1993
Page 3

DISCUSSION

The dissolved hydrocarbon plume is well-defined in the downgradient and cross-gradient directions, and the plume does not appear to be migrating. All site wells (except Wells S-4 and S-5) have been near or below the detection limits for TPH-Gasoline and BTEX during at least the past 5 quarters, and Wells S-3, S-7 and S-10 have been ND since at least August 1989.

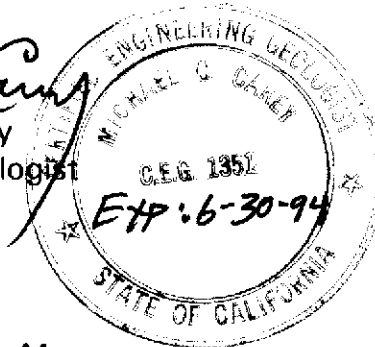
If you have any questions, please call.

GeoStrategies Inc. by,

Ellen C. Fostersmith

Ellen C. Fostersmith
Geologist

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

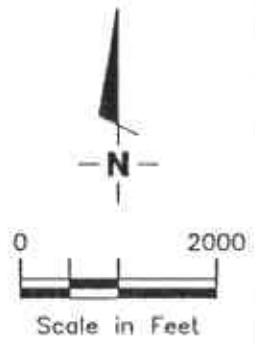
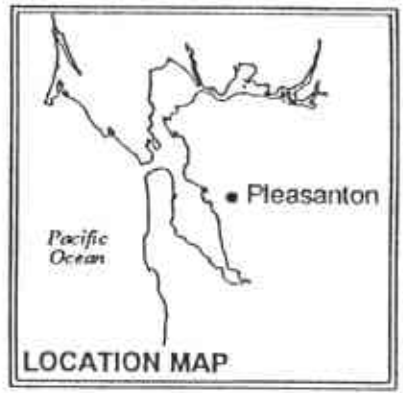
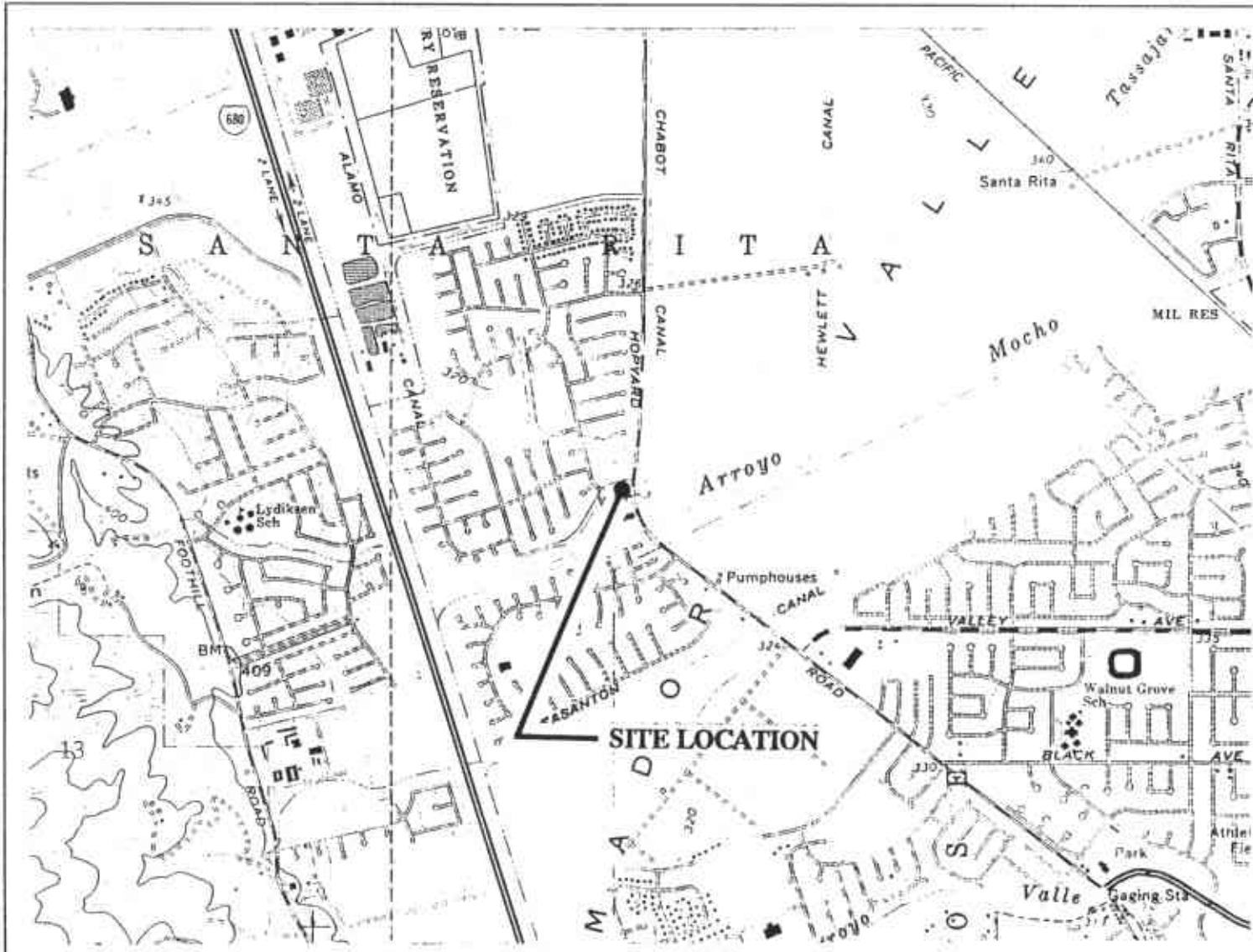


ECF/MCC/kjj

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

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

QC Review: *JOL*



Base Map: USGS Topographic Map



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VICINITY MAP
 Shell Service Station
 3790 Hopyard Road
 Pleasanton, California

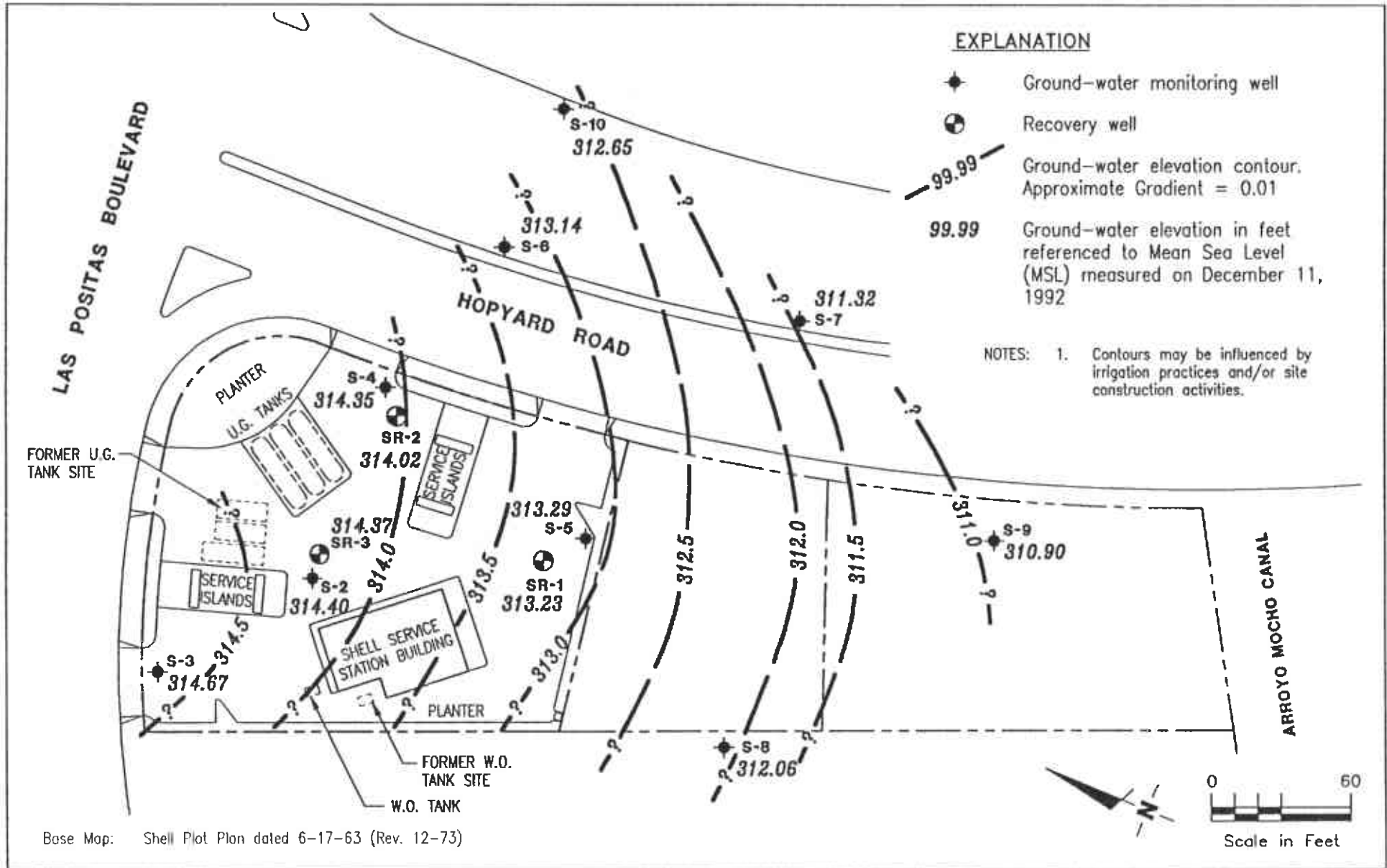
PLATE
1

JOB NUMBER
 7632

REVIEWED BY
[Signature]

DATE
 2/91

REVISED DATE



GSI GeoStrategies Inc.

SITE PLAN/POTENTIOMETRIC MAP
 Shell Service Station
 3790 Hopyard Road
 Pleasanton, California

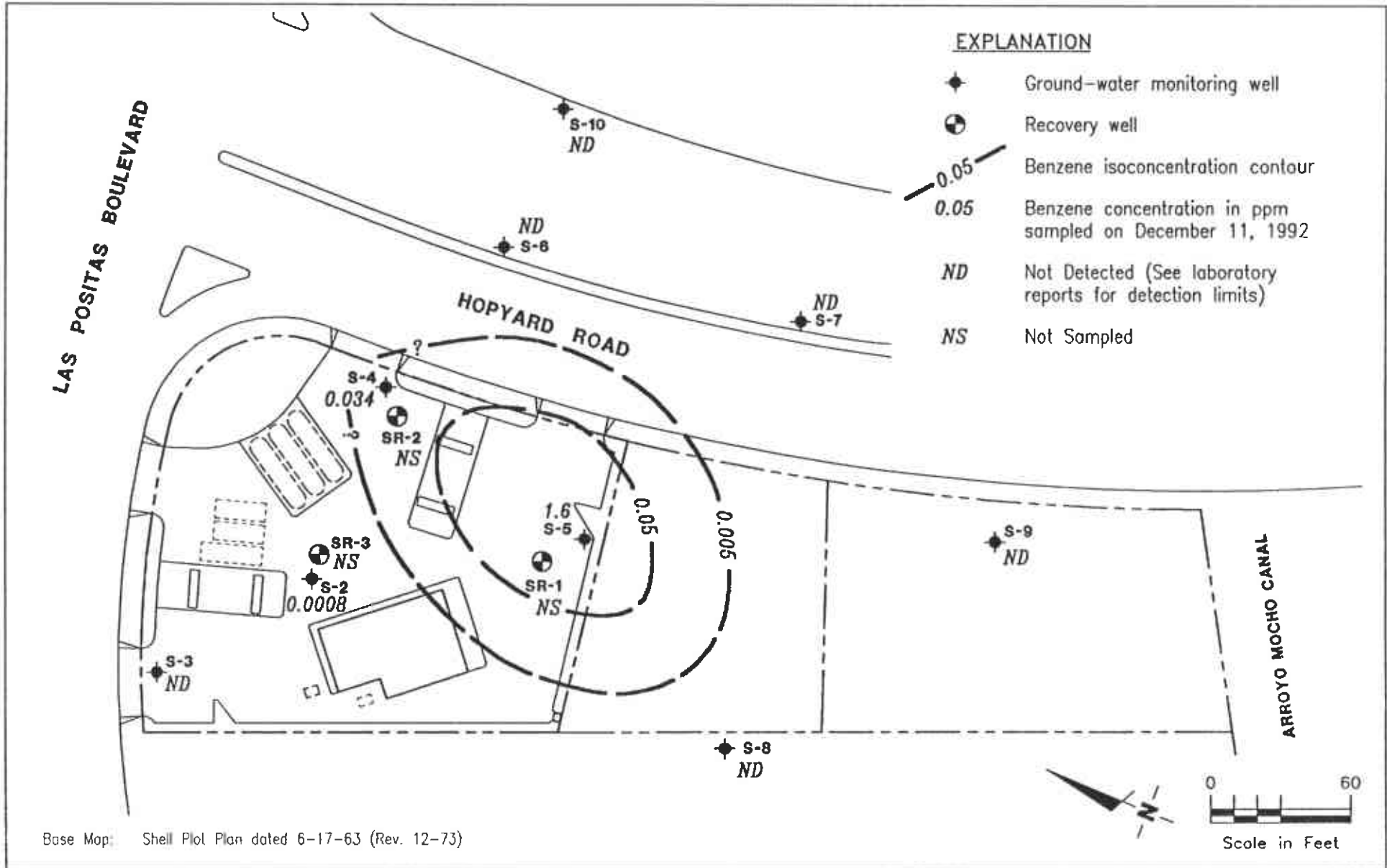
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 2/93

REVISED DATE



GeoStrategies Inc.

BENZENE ISOCONCENTRATION MAP
 Shell Service Station
 3790 Hopyard Road
 Pleasanton, California

PLATE

3

JOB NUMBER
763201-16

REVIEWED BY
CV

DATE
2/93

REVISED DATE

GeoStrategies Inc.

**APPENDIX A
EMCON MONITORING REPORT
AND
CHAIN-OF-CUSTODY FORM**



EMCON
ASSOCIATES
Consultants in Wastes
Management and
Environmental Control

RECEIVED

JAN 13 1993

January 6, 1993
Project: 0G67-026.01
WIC#: 204-6138-0501

GeoStrategies Inc.

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

Re: Fourth quarter 1992 ground-water monitoring report, Shell Oil
Company, 3790 Hopyard Road, Pleasanton, California

Dear Ms. Fostersmith:

This letter presents the results of the fourth quarter 1992 ground-water monitoring event for the Shell Oil Company (Shell) site located at 3790 Hopyard Road, Pleasanton, California. Fourth quarter monitoring was conducted on December 11, 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-2 through S-10, SR-1, SR-2, and SR-3 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. Results of the fourth 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 monitoring wells S-2 through S-10 on December 11, 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. Wells S-2 and S-4 were evacuated to dryness before the removal of three casing volumes. The wells were allowed to recharge for up to 24 hours. Samples were collected after the wells had recharged to a sufficient level. Field measurements from fourth quarter monitoring, and available measurements from four previous monitoring events, are summarized in table 1. Purge water from the

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Ms. Ellen Fostersmith
January 6, 1993
Page 2

Project 0G67-026.01
WIC# 204-6138-0501

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 fourth quarter monitoring included a trip blank (TB), a field blank (FB), and a duplicate well sample (SD-8) collected from well S-8. All water samples collected during fourth 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 fourth 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 - Site plan
Certified analytical report
Chain-of-custody document

Table 1
Monitoring Well Field Measurement Data
Fourth Quarter 1992

Shell Station: 3790 Hopyard Road
Pleasanton, California
WIC #: 204-6138-0501

Date: 01/06/93
Project Number: 667-26.01

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-2	12/13/91	329.21	15.85	313.36	34.1	NR	12/13/91	7.21	3360	66.3	NR
S-2	03/11/92	329.21	14.94	314.27	34.0	ND	03/11/92	6.59	4830	68.2	>200
S-2	06/24/92	329.21	15.78	313.43	35.1	ND	06/15/92	6.68	4320	63.3	>200
S-2	09/17/92	329.21	15.03	314.18	35.1	ND	09/17/92	6.96	4770	69.2	>1000
S-2	12/11/92	329.21	14.81	314.40	35.1	ND	12/11/92	6.83	5040	62.0	>1000
S-3	12/13/91	327.67	13.87	313.80	34.9	NR	12/13/91	6.79	3610	69.5	NR
S-3	03/11/92	327.67	13.05	314.62	34.6	ND	03/11/92	6.67	5280	65.2	>200
S-3	06/24/92	327.67	13.86	313.81	35.1	ND	06/15/92	6.62	4440	63.5	>200
S-3	09/17/92	327.67	13.01	314.66	34.9	ND	09/17/92	6.60	5600	67.5	>200
S-3	12/11/92	327.67	13.00	314.67	35.1	ND	12/11/92	6.61	4100	62.9	>200
S-4	12/13/91	328.53	15.20	313.33	35.5	NR	12/13/91	7.00	2760	65.0	NR
S-4	03/11/92	328.53	14.37	314.16	35.5	ND	03/11/92	7.62	3440	65.8	>200
S-4	06/24/92	328.53	15.30	313.23	36.1	ND	06/16/92	6.86	3380	69.8	>200
S-4	09/17/92	328.53	14.17	314.36	36.0	ND	09/17/92	6.88	4730	69.7	>1000
S-4	12/11/92	328.53	14.18	314.35	36.1	ND	12/11/92	6.62	3170	60.2	>1000
S-5	12/13/91	329.66	17.48	312.18	34.4	NR	12/13/91	7.50	2670	63.9	NR
S-5	03/11/92	329.66	16.22	313.44	34.0	ND	03/11/92	6.55	1831	66.0	>200
S-5	06/24/92	329.66	17.47	312.19	34.5	ND	06/16/92	6.53	2250	70.3	>200
S-5	09/17/92	329.66	16.84	312.82	34.5	ND	09/17/92	6.42	3050	66.8	>200
S-5	12/11/92	329.66	16.37	313.29	34.5	ND	12/11/92	6.50	3210	63.0	>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
NR = Not reported; data not available
ND = None detected

Table 1
Monitoring Well Field Measurement Data
Fourth Quarter 1992

Shell Station: 3790 Hopyard Road
Pleasanton, California
WIC #: 204-6138-0501

Date: 01/06/93
Project Number: G67-26.01

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-6	12/13/91	327.62	15.11	312.51	34.2	NR	12/13/91	6.80	1561	68.1	NR
S-6	03/11/92	327.62	16.35	311.27	34.0	ND	03/11/92	6.76	2090	64.5	>200
S-6	06/24/92	327.62	16.51	311.11	34.8	ND	06/15/92	6.64	1771	61.9	>200
S-6	09/17/92	327.62	14.33	313.29	34.8	ND	09/17/92	6.83	2210	67.8	>1000
S-6	12/11/92	327.62	14.48	313.14	34.7	ND	12/11/92	6.76	2180	64.8	>1000
S-7	12/13/91	328.67	17.70	310.97	34.8	NR	12/13/91	6.73	3150	67.1	NR
S-7	03/11/92	328.67	17.06	311.61	34.7	ND	03/11/92	7.35	4310	63.4	>200
S-7	06/24/92	328.67	17.80	310.87	35.0	ND	06/15/92	6.87	4440	66.3	>200
S-7	09/17/92	328.67	17.00	311.67	34.6	ND	09/17/92	6.74	5390	66.1	>1000
S-7	12/11/92	328.67	17.35	311.32	35.0	ND	12/11/92	6.67	4160	61.2	>1000
S-8	12/13/91	327.00	15.73	311.27	34.2	NR	12/13/91	7.50	3490	63.8	NR
S-8	03/11/92	327.00	14.64	312.36	34.0	ND	03/11/92	7.00	3550	62.0	>200
S-8	06/24/92	327.00	15.77	311.23	34.4	ND	06/15/92	6.60	4280	60.9	>200
S-8	09/17/92	327.00	15.37	311.63	34.2	ND	09/17/92	6.51	5800	68.1	>200
S-8	12/11/92	327.00	14.94	312.06	34.3	ND	12/11/92	6.16	809	62.9	>200
S-9	12/13/91	328.24	18.18	310.06	34.9	NR	12/13/91	7.50	3010	63.4	NR
S-9	03/11/92	328.24	17.37	310.87	34.7	ND	03/11/92	6.63	4600	63.4	>200
S-9	06/24/92	328.24	18.45	309.79	34.8	ND	06/16/92	6.60	4080	68.8	>200
S-9	09/17/92	328.24	17.88	310.36	34.8	ND	09/17/92	6.80	4590	67.8	>1000
S-9	12/11/92	328.24	17.34	310.90	34.8	ND	12/11/92	6.89	4500	59.6	>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
NR = Not reported; data not available
ND = None detected

Table 1
Monitoring Well Field Measurement Data
Fourth Quarter 1992

Shell Station: 3790 Hopyard Road
Pleasanton, California
WIC #: 204-6138-0501

Date: 01/06/93
Project Number: G67-26.01

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-10	12/13/91	326.55	14.77	311.78	34.1	NR	12/13/91	6.82	1904	66.1	NR
S-10	03/11/92	326.55	14.16	312.39	34.1	ND	03/11/92	7.28	1385	62.9	>200
S-10	06/24/92	326.55	14.83	311.72	34.3	ND	06/15/92	6.49	1696	64.6	>200
S-10	09/17/92	326.55	13.85	312.70	34.4	ND	09/17/92	6.59	2310	65.8	148
S-10	12/11/92	326.55	13.90	312.65	34.3	ND	12/11/92	6.95	1380	58.9	>1000
SR-1	12/13/91	329.78	17.37	312.41	35.2	NR	12/13/91	6.50	3460	65.2	NR
SR-1	03/11/92	329.78	16.39	313.39	34.9	ND	03/11/92	6.56	4890	68.9	80.
SR-1	06/24/92	329.78	17.42	312.36	35.1	ND	06/15/92	6.78	5220	67.2	>200
SR-1	09/17/92	329.78	16.73	313.05	35.1	ND	09/17/92	6.45	5490	68.9	>200
SR-1	12/11/92	329.78	16.55	313.23	34.6	ND	12/11/92	NA	NA	NA	NA
SR-2	12/13/91	328.35	15.27	313.08	35.2	NR	12/13/91	7.50	3070	65.5	NR
SR-2	03/11/92	328.35	15.02	313.33	35.0	ND	03/11/92	7.51	4700	68.3	51.
SR-2	06/24/92	328.35	15.41	312.94	35.3	ND	06/15/92	6.64	3510	59.8	>200
SR-2	09/17/92	328.35	14.41	313.94	35.2	ND	09/17/92	6.95	5540	66.9	>1000
SR-2	12/11/92	328.35	14.33	314.02	35.2	ND	12/11/92	NA	NA	NA	NA
SR-3	12/13/91	329.11	15.80	313.31	35.0	NR	12/13/91	6.50	3140	66.8	NR
SR-3	03/11/92	329.11	14.85	314.26	34.8	ND	03/11/92	6.51	4350	67.8	>200
SR-3	06/24/92	329.11	15.78	313.33	35.1	ND	06/16/92	6.24	3400	73.3	>200
SR-3	09/17/92	329.11	14.92	314.19	34.9	ND	09/17/92	7.72	4260	68.2	>1000
SR-3	12/11/92	329.11	14.74	314.37	35.1	ND	12/11/92	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
NR = Not reported; data not available
ND = None detected
NA = Not analyzed

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

Shell Station: 3790 Hopyard Road
 Pleasanton, California
 WIC #: 204-6138-0501

Date: 01/05/93
 Project Number: GG-26.01

Sample Designation	Water Sample Field Date	TPH-g (mg/l)	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Total Xylenes (mg/l)
S-2	12/13/91	<0.05	0.012	<0.0005	<0.0005	<0.0005
S-2	03/11/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-2	06/15/92	<0.05	0.0009	<0.0005	<0.0005	<0.0005
S-2	09/17/92	0.078	0.0026	<0.0005	0.0013	0.0009
S-2	12/11/92	<0.05	0.0008	<0.0005	<0.0005	<0.0005
S-3	12/13/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-3	03/11/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-3	06/15/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-3	09/17/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-3	12/11/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-4	12/13/91	0.37	0.024	0.0009	0.0013	0.046
S-4	03/11/92	1.6	0.023	0.0012	0.012	0.02
S-4	06/16/92	0.48	0.048	<0.001	0.095	0.022
S-4	09/17/92	0.26	0.035	0.0012	0.051	0.0078
S-4	12/11/92	0.27	0.034	0.0006	0.028	0.0045
S-5	12/13/91	1.4	0.58	0.019	0.11	0.08
S-5	03/11/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-5	06/16/92	1.8	0.38	0.052	0.12	0.18
S-5	09/17/92	2.2	0.75	0.091	0.17	0.17
S-5	12/11/92	8.7	1.6	0.086	0.048	0.34
S-6	12/13/91	0.15	0.0023	<0.0005	<0.0005	0.15
S-6	03/11/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-6	06/15/92	0.17	<0.0005	<0.0005	<0.0005	<0.0005
S-6	09/17/92	0.19	<0.0005	0.0016	<0.0005	0.0012
S-6	12/11/92	0.18	<0.0005	0.0008	<0.0005	0.0007

TPH-g = total petroleum hydrocarbons as gasoline

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

Shell Station: 3790 Hopyard Road
 Pleasanton, California
 WIC #: 204-6138-0501

Date: 01/15/93
 Project Number: G67-26.01

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-7	12/13/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-7	03/11/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-7	06/15/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-7	09/17/92	<0.05	0.0006	0.0006	<0.0005	<0.0005
S-7	12/11/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-8	12/13/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-8	03/11/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-8	06/15/92	<0.05	0.0014	0.0019	<0.0005	<0.0005
S-8	09/17/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-8	12/11/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
SD-8	12/11/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-9	12/13/91	<0.05	<0.0005	0.0008	<0.0005	<0.0005
S-9	03/11/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-9	06/15/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-9	09/17/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-9	12/11/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-10	12/13/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-10	03/11/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
S-10	06/15/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-10	09/17/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
S-10	12/11/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

TPH-g = total petroleum hydrocarbons as gasoline

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

Shell Station: 3790 Hopyard Road
 Pleasanton, California
 WIC #: 204-6138-0501

Date: 01/06/93
 Project Number: G67-26.01

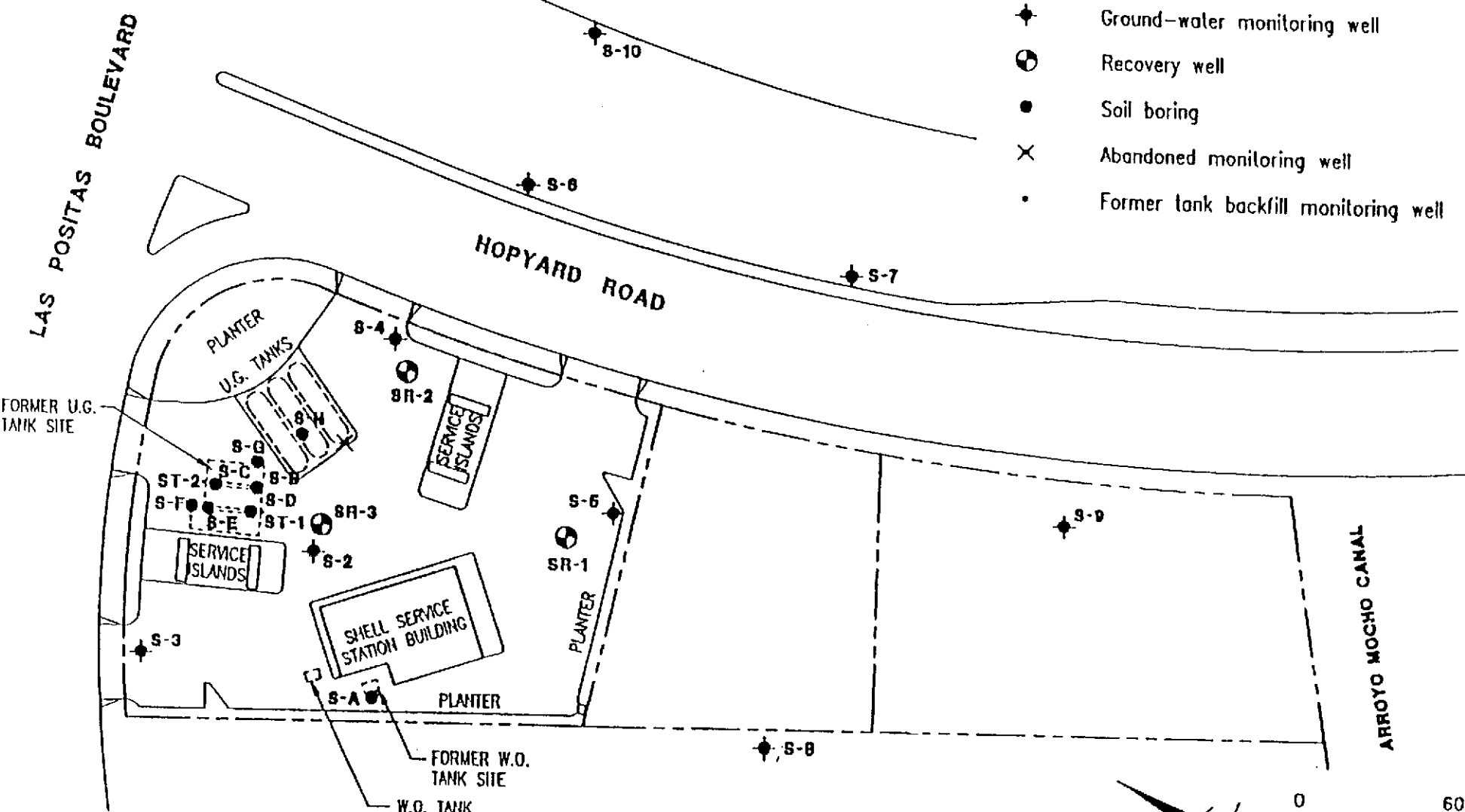
Sample Designation	Water Sample Field Date	TPH-g (mg/L)	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Total Xylenes (mg/L)
SR-1	12/13/91	0.07	0.0094	0.0071	0.0066	0.022
SR-1	03/11/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
SR-1	06/15/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
SR-1	09/17/92	0.051	0.0014	<0.0005	<0.0005	<0.0005
SR-1	12/11/92	NA	NA	NA	NA	NA
SR-2	12/13/91	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
SR-2	03/11/92	<0.03	0.00051	<0.0003	<0.0003	<0.0003
SR-2	06/15/92	0.12	0.0060	0.0010	0.0007	0.0021
SR-2	09/17/92	0.14	0.0083	0.0006	0.0009	0.0007
SR-2	12/11/92	NA	NA	NA	NA	NA
SR-3	12/13/91	0.05	0.013	<0.0005	0.0031	0.0047
SR-3	03/11/92	0.41	0.028	0.0016	0.022	0.024
SR-3	06/16/92	0.60	0.055	0.0021	0.028	0.033
SR-3	09/17/92	0.21	0.025	0.0018	0.017	0.020
SR-3	12/11/92	NA	NA	NA	NA	NA
FB	09/17/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
FB	12/11/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	03/11/92	<0.03	<0.0003	<0.0003	<0.0003	<0.0003
TB	06/16/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	09/17/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
TB	12/11/92	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

TPH-g = total petroleum hydrocarbons as gasoline
 NA = Not analyzed

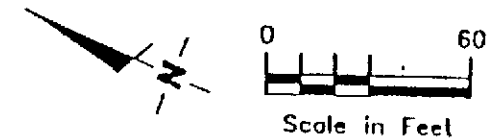
Figure 1
 (Supplied by Geo Strategies Inc.)

EXPLANATION

- ◆ Ground-water monitoring well
- ⊕ Recovery well
- Soil boring
- ✕ Abandoned monitoring well
- Former tank backfill monitoring well



Base Map: Shell Plot Plan dated 6-17-63 (Rev. 12-73)



GeoStrategies Inc.

SITE PLAN
 Shell Service Station
 3790 Hopyard Road
 Pleasanton, California



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

Workorder # : 9212200
Date Received : 12/11/92
Project ID : 204-6138-0501
Purchase Order: MOH-B813

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

ANAMETRIX ID	CLIENT SAMPLE ID
9212200- 1	S-3
9212200- 2	S-7
9212200- 3	S-8
9212200- 4	S-9
9212200- 5	S-10
9212200- 6	S-6
9212200- 7	S-2
9212200- 8	S-4
9212200- 9	S-5
9212200-10	TB
9212200-11	FB
9212200-12	SD-8

This report consists of 9 pages not including the cover letter, and is organized in sections according to the specific Anamatrix laboratory group or section which performed the analysis(es) and generated the data. The Report Summary that precedes each section will help you determine which Anamatrix group is responsible for those test results, and will bear the signatures of the department supervisor and the chemist who have reviewed the analytical data. Please refer all questions to the department supervisor who signed the form.

Anamatrix is certified by the California Department of Health Services (DHS) to perform environmental testing under Certificate Number 1234. A detailed list of the approved fields of testing can be obtained by calling our office, or the DHS Environmental Laboratory Accreditation Program at (415)540-2800.

If you have any further questions or comments on this report, please give us a call as soon as possible. Thank you for using Anamatrix.

Sarah Schoen, Ph.D.
Laboratory Director

12-21-92
Date

EMCON ASSOCIATES

DEC 22 1992

RECEIVED

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

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

Workorder # : 9212200
Date Received : 12/11/92
Project ID : 204-6138-0501
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

SAMPLE INFORMATION:

ANAMETRIX SAMPLE ID	CLIENT SAMPLE ID	MATRIX	DATE SAMPLED	METHOD
9212200- 1	S-3	WATER	12/11/92	TPHg/BTEX
9212200- 2	S-7	WATER	12/11/92	TPHg/BTEX
9212200- 3	S-8	WATER	12/11/92	TPHg/BTEX
9212200- 4	S-9	WATER	12/11/92	TPHg/BTEX
9212200- 5	S-10	WATER	12/11/92	TPHg/BTEX
9212200- 6	S-6	WATER	12/11/92	TPHg/BTEX
9212200- 7	S-2	WATER	12/11/92	TPHg/BTEX
9212200- 8	S-4	WATER	12/11/92	TPHg/BTEX
9212200- 9	S-5	WATER	12/11/92	TPHg/BTEX
9212200-10	TB	WATER	12/11/92	TPHg/BTEX
9212200-11	FB	WATER	12/11/92	TPHg/BTEX
9212200-12	SD-8	WATER	12/11/92	TPHg/BTEX

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

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

Workorder # : 9212200
Date Received : 12/11/92
Project ID : 204-6138-0501
Purchase Order: MOH-B813
Department : GC
Sub-Department: TPH

QA/QC SUMMARY :

- No QA/QC problems encountered for these samples.

Cheryl Salma 12/18/92
Department Supervisor Date

Charles M. Burt 12-21-92
Chemist Date

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

Anamatrix W.O.: 9212200
Matrix : WATER
Date Sampled : 12/11/92

Project Number : 204-6138-0501
Date Released : 12/18/92

Reporting Limit	Sample I.D.# S-3	Sample I.D.# S-7	Sample I.D.# S-8	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
Toluene	0.0005	ND	ND	ND	ND
Ethylbenzene	0.0005	ND	ND	ND	ND
Total Xylenes	0.0005	ND	ND	ND	ND
TPH as Gasoline	0.050	ND	ND	ND	ND
% Surrogate Recovery	101%	104%	113%	121%	118%
Instrument I.D.	HP12	HP12	HP12	HP12	HP12
Date Analyzed	12/15/92	12/15/92	12/15/92	12/15/92	12/15/92
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.

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

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

Charles Burch 12.21.92
Analyst Date

Cheryl Balmer 12/18/92
Supervisor Date

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

Anamatrix W.O.: 9212200
Matrix : WATER
Date Sampled : 12/11/92

Project Number : 204-6138-0501
Date Released : 12/18/92

Reporting Limit	Sample I.D.# S-6	Sample I.D.# S-2	Sample I.D.# S-4	Sample I.D.# S-5	Sample I.D.# TB
COMPOUNDS (mg/L)	-06	-07	-08	-09	-10
Benzene	0.0005 ND	0.0008	0.034	1.6	ND
Toluene	0.0005 0.0008	ND	0.0006	0.086	ND
Ethylbenzene	0.0005 ND	ND	0.028	0.048	ND
Total Xylenes	0.0005 0.0007	ND	0.0045	0.34	ND
TPH as Gasoline	0.050 0.18	ND	0.27	8.7	ND
% Surrogate Recovery	113%	114%	114%	70%	116%
Instrument I.D.	HP12	HP12	HP12	HP12	HP12
Date Analyzed	12/15/92	12/15/92	12/15/92	12/16/92	12/15/92
RLMF	1	1	1	50	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.

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

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

Charles Burch 12.21.92
Analyst Date

Charles Burch 12/18/92
Supervisor Date

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

Anametrix W.O.: 9212200
Matrix : WATER
Date Sampled : 12/11/92

Project Number : 204-6138-0501
Date Released : 12/18/92

COMPOUNDS	Reporting Limit (mg/L)	Sample I.D.# FB	Sample I.D.# SD-8	Sample I.D.# BD1501E3	Sample I.D.# BD1601E3	Sample I.D.# BD1701E3
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		87%	90%	113%	110%	98%
Instrument I.D.		HP21	HP21	HP12	HP21	HP21
Date Analyzed		12/16/92	12/18/92	12/15/92	12/16/92	12/17/92
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.

Charles Burt 12-21-92
Analyst Date

Cheryl Balme 12/21/92
Supervisor Date

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

Sample I.D. : 204-6138-0501 S-10
 Matrix : WATER
 Date Sampled : 12/11/92
 Date Analyzed : 12/15/92

Anamatrix I.D. : 9212200-05
 Analyst : *CMS*
 Supervisor : *AS*
 Date Released : 12/18/92
 Instrument ID : HP12

COMPOUND	SPIKE AMT (mg/L)	SAMPLE AMT (mg/L)	REC MS (mg/L)	% REC MS	REC MD (mg/L)	% REC MD	RPD	% REC LIMITS
GASOLINE	0.25	0.00	0.16	64%	0.20	80%	22%	48-145
P-BFB				85%		107%		53-147

* Limits established by Anamatrix, Inc.

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

Sample I.D. : 204-6138-0501 S-10	Anamatrix I.D. : 9212200-05
Matrix : WATER	Analyst : <i>AMS</i>
Date Sampled : 12/11/92	Supervisor : <i>CA</i>
Date Analyzed : 12/16/92	Date Released : 12/18/92
	Instrument ID : HP12

COMPOUND	SPIKE AMT (mg/L)	SAMPLE AMT (mg/L)	REC MS (mg/L)	% REC MS	REC MD (mg/L)	% REC MD	RPD	% REC LIMITS
GASOLINE	0.25	0.00	0.26	104%	0.21	84%	-21%	48-145
P-BFB				95%		97%		53-147

* Limits established by Anamatrix, 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 : 12/15/92

Anamatrix I.D. : LCSW1215
 Analyst : *CS*
 Supervisor : *CS*
 Date Released : 12/18/92
 Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (mg/L)	REC LCS (mg/L)	%REC LCS	% REC LIMITS
GASOLINE	0.25	0.27	108%	56-116
SURROGATE			123%	53-147

* Quality control established by Anamatrix, 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 : 12/16/92

Anamatrix I.D. : LCSW1215
 Analyst : *Chb*
 Supervisor : *AS*
 Date Released : 12/18/92
 Instrument I.D.: HP12

COMPOUND	SPIKE AMT. (mg/L)	REC LCS (mg/L)	%REC LCS	% REC LIMITS
GASOLINE	0.25	0.27	108%	56-116
SURROGATE		100%		53-147

* Quality control established by Anamatrix, Inc.



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: 1726-5

Date:

Page 1 of 2

Site Address: 3790 Hopyard Road
Pleasanton CA

WIC#: 204-6138-0501

Shell Engineer: Dan Kirk Phone No.: (510) 675-6168

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

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

Comments: 3-VOLAS (HEI) for gas, BTEX

Sampled by: Jane Ratto

Printed Name: Lisle Rath

Analysis Required

LAB: Anamatrix

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
Quarterly Monitoring <input checked="" type="checkbox"/>	8441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	8441	48 hours <input type="checkbox"/>
Soil Clarity/Disposal <input type="checkbox"/>	8442	16 days <input checked="" type="checkbox"/> (Normal)
Water Clarity/Disposal <input type="checkbox"/>	8443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	8462	
Water Rem. or Sys. O & M <input type="checkbox"/>	8463	
Other <input type="checkbox"/>		

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

Sample ID	Date	Sludge	Soil	Water	Air	No. of conls.	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	
																			S-3
S-7	12/11/92			X		3													
S-8	12/11/92			X		3												Bubbles (2)	
S-9	12/11/92			X		3												" (3)	
S-10	12/11/92			X		3													
S-6	12/11/92			X		3													
S-2	12/11/92			X		3													
S-4	12/11/92			X		3													

Relinquished By (signature): <u>Jane Ratto</u>	Printed Name: <u>Lisle Rath</u>	Date: <u>12/11/92</u>	Time: <u>15:25</u>	Received (signature): <u>Maria Barros</u>	Printed Name: <u>Maria Barros</u>	Date: <u>12/11/92</u>	Time: <u>15:25</u>
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:
Relinquished By (signature):	Printed Name:	Date:	Time:	Received (signature):	Printed Name:	Date:	Time:



SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Date: _____
 Page 2 of 2

9212 200 (18)

Site Address: 370 Hopwood Road
 Pleasanton, CA

WIC#: 204-6138-0501

Shell Engineer: Dan Kirk
 Phone No.: (510) 675-6168

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

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

Comments: See page 1.

Sampled by: Lisa Ruth

Printed Name: LISLE RATH

Analysis Required

LAB: Anamatrix

CHECK ONE (1) BOX ONLY	CI/DI	TURN AROUND TIME
Quarterly Monitoring <input checked="" type="checkbox"/>	6441	24 hours <input type="checkbox"/>
Site Investigation <input type="checkbox"/>	6441	48 hours <input type="checkbox"/>
Soil Classfy/Disposal <input type="checkbox"/>	6442	15 days <input checked="" type="checkbox"/> (Normal)
Water Classfy/Disposal <input type="checkbox"/>	6443	Other <input type="checkbox"/>
Soil/Air Rem. or Sys. O & M <input type="checkbox"/>	6462	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M <input type="checkbox"/>	6463	
Other <input type="checkbox"/>		

Sample ID	Date	Sludge	Soil	Water	Air	No. of conls.
S-5	12/11/92			X		3
TB	12/11/92			X		3
FB	12/11/92			X		3
SD- 8	12/11/92			X		3

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
					X		40 ml	HLI	No
					X				
					X				
					X				

MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
Bubbles (4)	
Bubbles (3)	

Relinquished By (signature): Lisa Ruth
 Relinquished By (signature):
 Relinquished By (signature):

Printed Name: LISLE RATH
 Printed Name:
 Printed Name:

Date: 12/11/92
 Time: 1525
 Date:
 Time:

Received (signature): Maria Berger
 Received (signature):
 Received (signature):

Printed Name: Maria Berger
 Printed Name:
 Printed Name:

Date: 12/11/92
 Time: 15:25
 Date:
 Time: