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

Rec'd 6/2/92

STID 530

June 1, 1992

Mr. Barney Chan
Alameda County Health Agency Division of Hazardous Materials
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Reference: Shell Service Station
285 Hegenberger Road
Oakland, California
WIC #204-5508-5504

Mr. Chan:

As requested by Mr. Stan Roller of Shell Oil Company, we are forwarding a copy of the May 29, 1992 Waste Oil Tank Removal Observation Report for the above referenced location.

Should you have any questions or comments, please call.

Sincerely

Clyde J. Galantine

Clyde J. Galantine
Geologist

enclosure

cc: Mr. Stan Roller, Shell Oil Company
Mr. Dan Kirk, Shell Oil Company
Mr. Steven Hallert, Oakland Fire Prevention Bureau
Mr. Lester Feldman, Regional Water Quality Control Board

GeoStrategies Inc.

WASTE OIL TANK REMOVAL OBSERVATION REPORT

Shell Service Station
285 Hegenberger Road
Oakland, California
WIC #204-5508-5504

768201-1

May 29, 1992

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

May 29, 1992

Shell Oil Company
Post Office Box 4023
Concord, California 94524

Attn: Dan Kirk

Re: WASTE OIL TANK REMOVAL OBSERVATION REPORT
Shell Service Station
285 Hegenberger Road
Oakland, California
WIC #204 5508 5504

Gentlemen:

This Tank Removal Observation Report was prepared by GeoStrategies Inc (GSI) and summarizes our observations at the above referenced site during the recent removal of the waste oil tank, hydraulic lifts and oil/water separator (Plate 1). Field excavation work was performed by Gettler-Ryan Inc (G-R) of Hayward, California in February and March, 1992. Field sampling was performed by GSI to comply with procedures in the State of California Water Resources Control Board (SWRCB) Leaking Underground Fuel Tank (LUFT) Field Manual and local regulations. A GSI geologist was present on-site to observe the removal of the tank, hydraulic lifts and oil/water separator and to collect samples from each excavation and from the related soil stockpiles. A description of field procedures and sampling results is discussed in this report.

The site is currently occupied by an operating Shell Service Station. The tank, hydraulic lifts and oil/water separator were removed from the station building as part of the conversion from lube bays to a convenience store. A double walled fiberglass 550-gallon waste oil tank was located near the southwest corner of the station building (Plate 2).

WORK DESCRIPTION

The waste oil tank was removed on March 20, 1992. Tank removal and soil sampling were witnessed by representatives from the Alameda County Health Agency (ACHA) and the Oakland Fire Department. The tank appeared to be in good condition with no visible holes or cracks. After the tank removal, a soil sample was collected from beneath the tank. Soils generated during the tank removal were stockpiled on-site and sampled. Upon receipt of the analytical data, stockpiled soil was used to backfill the tank excavation.

The three hydraulic lifts and oil/water separator were removed on February 11, 1992. After removal, soil samples were collected from beneath the oil/water separator and the northernmost hydraulic lift. Groundwater samples were collected from beneath the center and southernmost hydraulic lifts. Soils generated during their removal were stockpiled together on-site and sampled. Upon receipt of the analytical results, the stockpile was transported to an appropriate disposal facility.

FIELD METHODS AND PROCEDURES

Soil samples were collected by pushing a clean stainless steel sample tube into the soil until completely full. The tube was removed, covered at both ends with teflon tape and sealed with plastic end caps. The samples were labeled, placed in a cooler with blue ice, entered on a Chain-of-Custody form and transported to Sequoia Analytical, a State-certified analytical laboratory located in Redwood City, California.

The soil sample from beneath the waste oil tank was collected by using a backhoe bucket. The top 1 to 3 inches of soil were removed, and the sample was collected as described above.

The soil samples from beneath the hydraulic lifts and oil/water separator were collected by using a drive sampler. The soil-filled sample tube was removed from the drive sampler and handled as described above.

The soil stockpile samples were collected by removing the top 6 to 12 inches of soil, then collecting the sample as described above. Four subsamples were collected for each stockpile sample. The subsamples were later composited in the laboratory.

The groundwater samples were collected by lowering a clean acrylic bailer into the groundwater. The groundwater was poured from the bailer into 40-milliliter sample vials (VOAs) and 1-liter amber bottles. The containers were sealed with teflon lined plastic caps and inspected to insure that no air bubbles were present in the sample. The samples were then labeled, placed in a cooler with blue ice, entered on a Chain-of-Custody form and transported to Sequoia.

Waste Oil Tank Excavation Sample

The waste oil tank excavation measured approximately 8 by 11 by 7 feet deep. Soil sample SW-1 was collected on the south sidewall at a depth of approximately 6 feet below grade (Plate 3). Groundwater was encountered at approximately 7 feet, but no groundwater sample was collected per ACHA instructions due to the presence of a nearby groundwater monitoring well.

Soil sample SW-1 was analyzed for Total Petroleum Hydrocarbons calculated as Gasoline (TPH-Gasoline) and Diesel (TPH-Diesel) according to EPA Method 8015 (Modified), benzene, toluene, ethylbenzene and xylenes (BTEX) according to EPA Method 8020, Oil and Grease (O&G) according to ASTM Method 5520 D&F, Volatile Organics (CL HC) according to EPA Method 8240 and ICAP Metals according to EPA Methods 6010 and 7421. Chemical analytical data and the sample depth are summarized in Table 1.

Hydraulic Lift Samples

Three hydraulic lift excavation samples were collected on February 12, 1992. Groundwater samples SLH-1 and SLH-2 were collected at depths of 5.5 and 7 feet below grade, respectively. Soil sample SL-3 was collected at a depth of 6.5 feet below grade (Plate 3). No groundwater sample could be collected below this lift due to caving sidewalls.

Each sample was analyzed for TPH-Diesel and O&G. Chemical analytical data and sample collection depths are summarized in Table 1.

Oil/Water Separator

The oil/water separator excavation was sampled on February 12, 1992. Soil sample SOW-1 was collected at a depth of approximately 5 feet below grade (Plate 3).

The sample was analyzed for the same chemicals as soil sample SW-1. Chemical analytical data and the sample collection depth are summarized in Table 1.

Stockpile Samples

Approximately 20 cubic yards of soil was generated during the waste oil tank removal (Plate 3). Soil sample SWS-1A-D was collected and analyzed for TPH-Gasoline, TPH - Diesel, BTEX and O&G. Chemical analytical data are summarized in Table 1.

Approximately 2 cubic yards of soil was generated during the hydraulic lift and oil/water separator removal. Soil sample SLS-1A-D was collected and analyzed in accordance with Shell's waste oil soil disposal decision tree. Chemical analytical data are summarized on Table 1.

SOIL STOCKPILE DISPOSITION

Approximately 20 cubic yards of soil represented by sample SWS-1A-D was used as backfill material for the waste oil tank excavation.

Approximately 2 cubic yards of soil represented by sample SLS-1A-D was transported to the Laidlaw Environmental Services Landfill located in Buttonwillow, California.

Overexcavation in the vicinity of the hydraulic lifts and oil/water separator was performed by G-R in April 1992. Overexcavation activities will be documented in a report prepared by others.

If you have any questions, please call.

GeoStrategies Inc by,

Clyde J. Galantine
Geologist

Diane M. Lundquist, P.E.
Senior Engineer
C 46725

REGISTERED PROFESSIONAL ENGINEER
DIANE M. LUNDQUIST
NO. C46725
CIVIL
STATE OF CALIFORNIA

CJG/DML/shl

768201-1

Plate 1. Vicinity Map
Plate 2. Site Plan
Plate 3. Sample Map

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

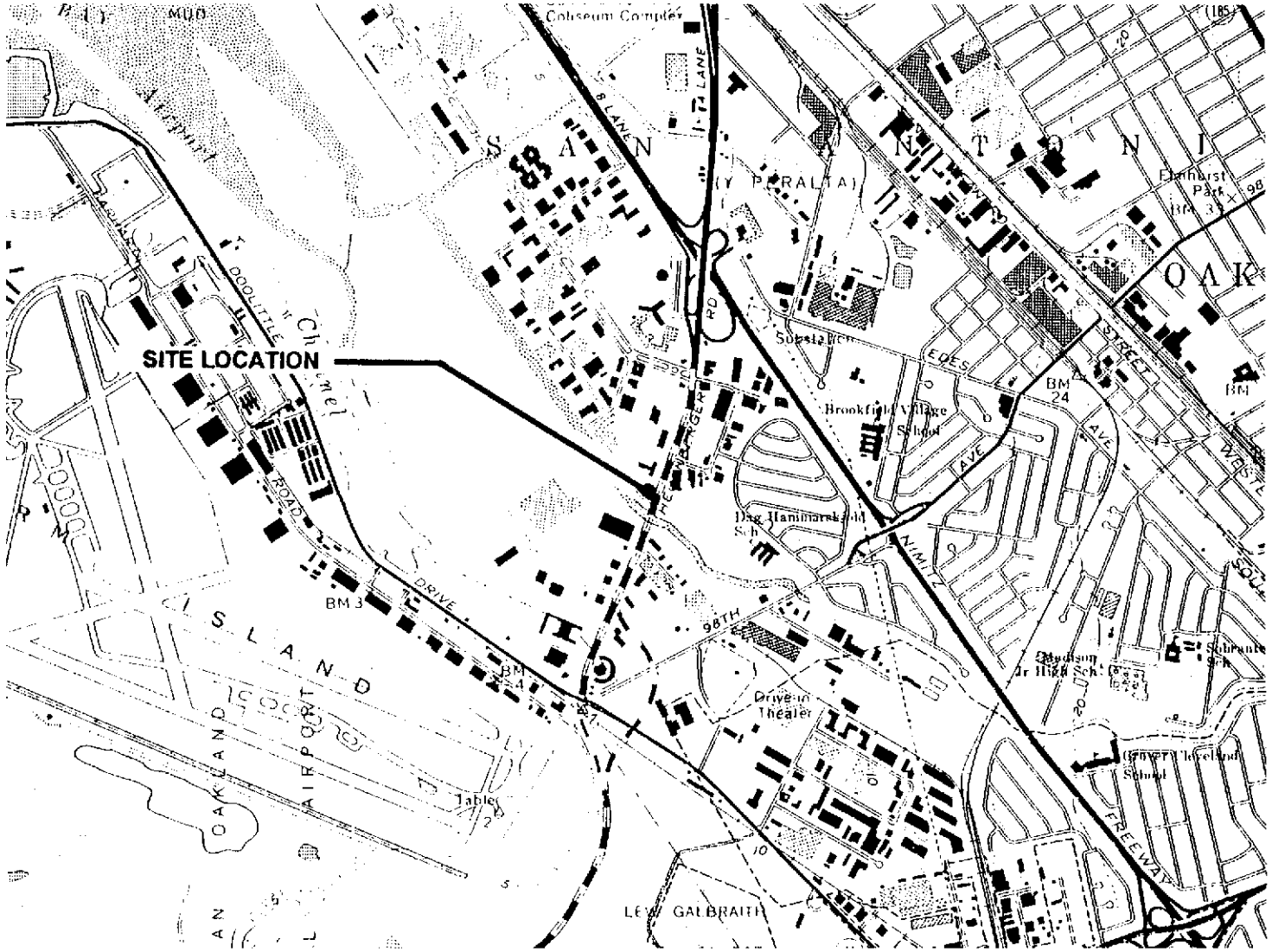
QC Review: RAL

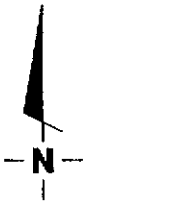
TABLE 1

SOIL AND GROUNDWATER ANALYSIS DATA

SAMPLE NO	DEPTH (feet)	SAMPLE DATE	ANALYSIS DATE	TPH-G (PPM)	BENZENE (PPM)	TOLUENE (PPM)	ETHYLBENZENE (PPM)	XYLENES (PPM)	TPH-DIESEL (PPM)	OIL & GREASE (PPM)	TOTAL LEAD (PPM)	TPH-OIL (PPM)	ORGANIC LEAD (PPM)
SOW-1	5'	12-Feb-92	14-Feb-92	1,900	2.2	2.6	25	82	400	830	11		
SW-1	6'	20-Mar-92	24-Mar-92	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	<30	1.4		
SLH-1 (Water)	5-1/2'	12-Feb-92	14-Feb-92						460	720			
SLH-2 (Water)	7'	12-Feb-92	14-Feb-92						370	400			
SL-3	6-1/2'	12-Feb-92	14-Feb-92						1,100	15,000			
SLS-1A-D		12-Feb-92	18-Feb-92		<0.50	<0.50	1.1	1.8				10,000	0.19
SWS-1A-D		20-Mar-92	24-Mar-92	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	<1.0	<30			

TPH-G = Total Petroleum Hydrocarbons calculated as Gasoline
TPH-D = Total Petroleum Hydrocarbons calculated as Diesel
TPH-O = Total Petroleum Hydrocarbons calculated as Oil
O&G = Oil and Grease
PPM = Parts per Million
SOW = Oil/Water Separator Soil Sample
SW = Waste Oil Tank Soil Sample
SLH = Hydraulic Lift Groundwater Sample
SL = Hydraulic Lift Soil Sample
SLS = Hydraulic Life and Oil/Water Separator Stockpile Sample
SWS = Waste Oil Tank Stockpile Sample





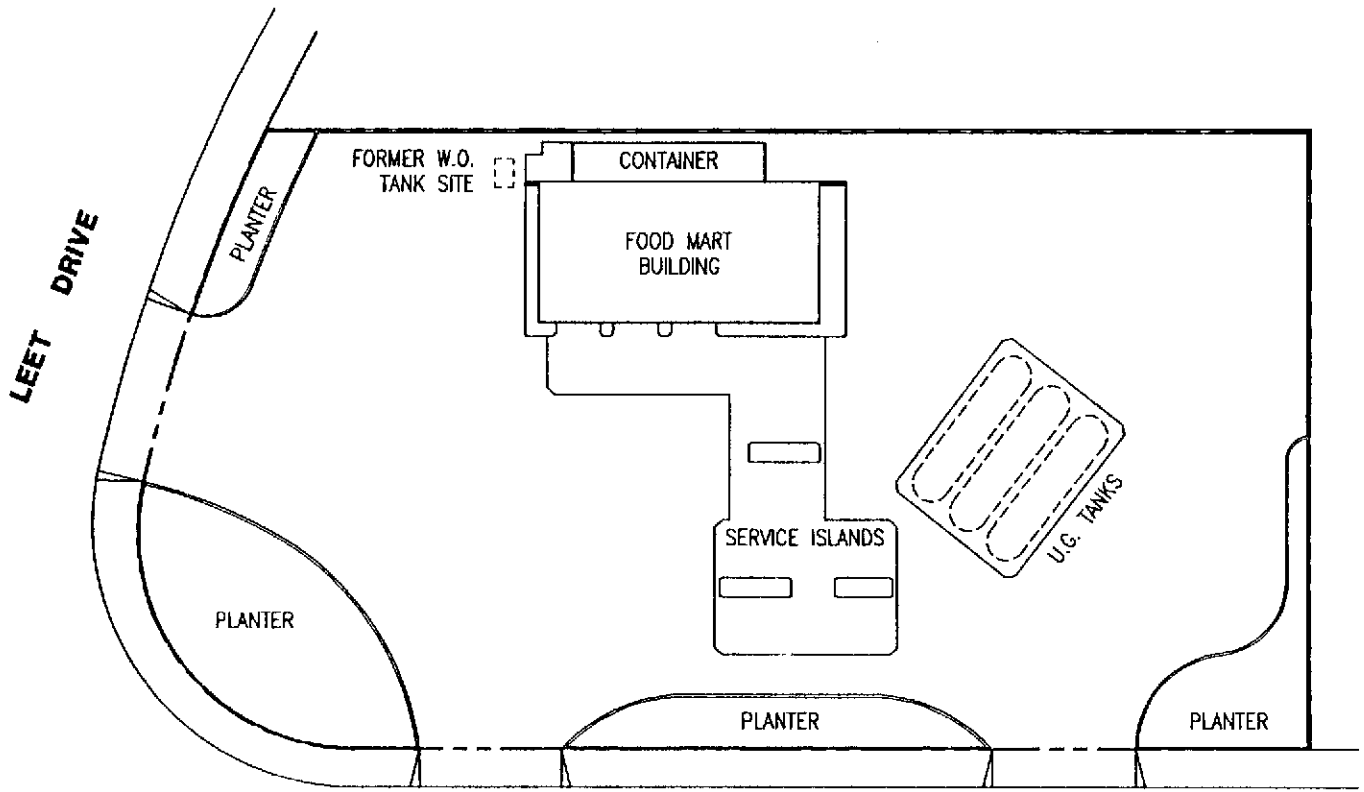
Base Map: USGS Topographic Map

GeoStrategies Inc.

VICINITY MAP
Shell Service Station
285 Hegenberger Road
Oakland, California

PLATE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
7682		2/92	



HEGENBERGER ROAD

Base Map: Shell Oil Company Plot Plan
dated September 1991

N

0 40

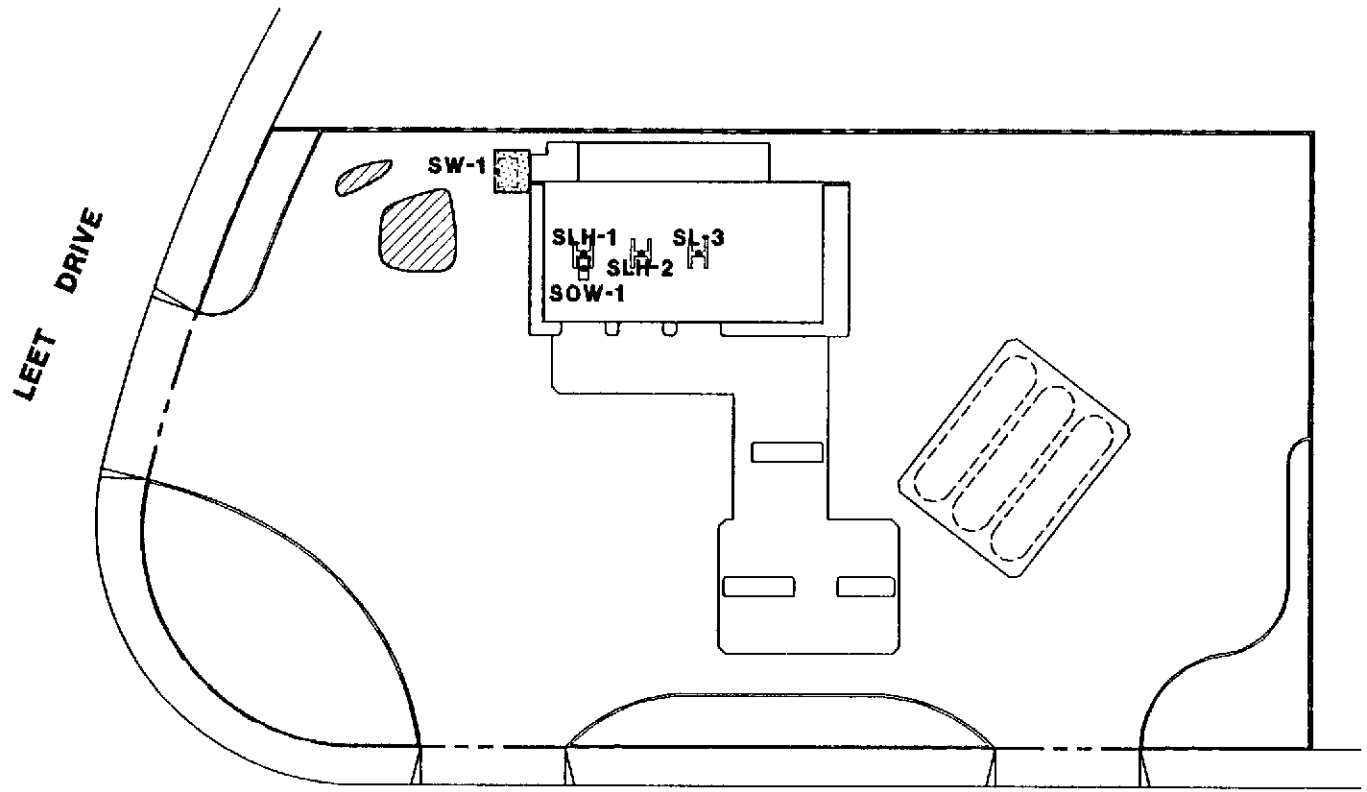
Scale in Feet

GeoStrategies Inc.

SITE PLAN
Shell Service Station
285 Hegenberger Road
Oakland, California

PLATE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
768201-1	CJG	5/92	



EXPLANATION

- Approximate waste oil tank excavation area
- Approximate soil stokpile area
- • Sample location
- **SL** Hydraulic lift soil sample
- **SLH** Hydraulic lift ground-water sample
- **SOW** Oil/water separator soil sample
- **SW** Excavation soil soil sample

N

0 40

Scale in Feet

Base Map: Shell Oil Company Plot Plan dated September 1991

GeoStrategies Inc.

SOIL SAMPLE AND STOCKPILE MAP
Shell Service Station
285 Hegenberger Road
Oakland, California

PLATE 3

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
768201-1	CJG	5/92	

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Zwierzycki

Project: 7682.01, Shell, Oakland

Enclosed are the results from 3 soil samples, 2 water samples, 0 other samples received at Sequoia Analytical on February 13,1992. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2022160	Soil, SOW-1	2/12/92	EPA 8240 EPA 3550/8015 EPA 5030/8015/8020 SM 5520 E&F (Gravimetric) Miscellaneous Metals
2022158	Water, SLH-1	2/12/92	EPA 3510/8015 SM 5520 B&F (Gravimetric)
2022159	Water, SLH-2	2/12/92	EPA 3510/8015 SM 5520 B&F (Gravimetric)
2022161	Soil, SL-3	2/12/92	EPA 3550/8015 SM 5520 E&F (Gravimetric)

on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Snell, Oakland	Sampled: Feb 12, 1992
2150 W. Winton Avenue	Matrix Descript:	Water	Received: Feb 13, 1992
Hayward, CA 94545	Analysis Method:	EPA 3510/8015	Extracted: Feb 14, 1992
Attention: John Zwierzycki	First Sample #:	202-2158	Analyzed: Feb 18, 1992
			Reported: Feb 19, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/L (ppm)
202-2158	SLH-1	460
202-2159	SLH-2	370

Detection Limits:	10

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

Please Note:
The chromatograms of the above samples do not match the diesel standard. Sample SLH-1 contains lower boiling point and higher boiling point compounds. In sample SLH-2, lower boiling point compounds predominate.

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Getter Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled: Feb 12, 1992
2150 W. Winton Avenue	Matrix Descript:	Soil	Received: Feb 13, 1992
Hayward, CA 94545	Analysis Method:	EPA 3550/8015	Extracted: Feb 14, 1992
Attention: John Zwierzycki	First Sample #:	202-2160	Analyzed: Feb 18, 1992
			Reported: Feb 19, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
202-2160	SOW-1	400
202-2161	SL-3	1,100

Detection Limits:	100

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

Please Note:
The chromatograms of the above samples do not match the diesel standard. They contain lower and higher boiling point compounds.

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Feb 12, 1992
2150 W. Winton Avenue	Matrix Descript:	Water	Received:	Feb 13, 1992
Hayward, CA 94545	Analysis Method:	SM 5520 B&F (Gravimetric)	Extracted:	Feb 14, 1992
Attention: John Zwierzycki	First Sample #:	202-2158	Analyzed:	Feb 14, 1992
			Reported:	Feb 19, 1992

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/L (ppm)
202-2158	SLH-1	720
202-2159	SLH-2	400

Detection Limits:	5.0

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Snell, Oakland	Sampled: Feb 12, 1992
2150 W. Winton Avenue	Matrix Descript:	Soil	Received: Feb 13, 1992
Hayward, CA 94545	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted: Feb 14, 1992
Attention: John Zwierzycki	First Sample #:	202-2160	Analyzed: Feb 14, 1992
			Reported: Feb 19, 1992

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
202-2160	SDW-1	830
202-2161	SL-3	15,000

Detection Limits:	30

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Feb 12, 1992
2150 W. Winton Avenue	Sample Descript.:	Soil, SOW-1	Received:	Feb 13, 1992
Hayward, CA 94545	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Feb 14, 1992
Attention: John Zwierzycki	Lab Number:	202-2160	Reported:	Feb 19, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS WITH BTEX DISTINCTION (EPA 8015/8020)

Analyte	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Low to Medium Boiling Point Hydrocarbons	100	1,900
Benzene	0.50	2.2
Toluene	0.50	2.6
Ethyl Benzene	0.50	25
Xylenes	0.50	82

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
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Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Feb 12, 1992
2150 W. Winton Avenue	Sample Descript:	Soil, SOW-1	Received:	Feb 13, 1992
Hayward, CA 94545				
Attention: John Zwierzycki	Lab Number:	202-2160	Analyzed:	Feb 18, 1992
			Reported	Feb 19, 1992

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	0.50	N.D.
Chromium	0.50	31
Lead	5.0	11
Nickel	2.5	38
Zinc	0.50	27

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Feb 12, 1992
2150 W. Winton Avenue	Sample Descript:	Soil, SOW-1	Received:	Feb 13, 1992
Hayward, CA 94545	Analysis Method:	EPA 8240	Analyzed:	Feb 15, 1992
Attention: John Zwierzycki	Lab Number:	201-2160	Reported:	Feb 19, 1992

VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Acetone	5.0	N.D.
Benzene	1.0	13
Bromodichloromethane	1.0	N.D.
Bromoform	1.0	N.D.
Bromomethane	1.0	N.D.
2-Butanone	5.0	N.D.
Carbon disulfide	1.0	N.D.
Carbon tetrachloride	1.0	N.D.
Chlorobenzene	1.0	N.D.
Chloroethane	1.0	N.D.
2-Chloroethyl vinyl ether	5.0	N.D.
Chloroform	1.0	N.D.
Chloromethane	1.0	N.D.
Dibromochloromethane	1.0	N.D.
1,1-Dichloroethane	1.0	N.D.
1,2-Dichloroethane	1.0	N.D.
1,1-Dichloroethene	1.0	N.D.
cis-1,2-Dichloroethene	1.0	N.D.
trans-1,2-Dichloroethene	1.0	N.D.
1,2-Dichloropropane	1.0	N.D.
cis-1,3-Dichloropropene	1.0	N.D.
trans-1,3-Dichloropropene	1.0	N.D.
Ethylbenzene	1.0	31
2-Hexanone	5.0	N.D.
Methylene chloride	2.5	N.D.
4-Methyl-2-pentanone	5.0	N.D.
Styrene	1.0	N.D.
1,1,2,2-Tetrachloroethane	1.0	N.D.
Tetrachloroethene	1.0	N.D.
Toluene	1.0	N.D.
1,1,1-Trichloroethane	1.0	N.D.
1,1,2-Trichloroethane	1.0	N.D.
Trichloroethene	1.0	N.D.
Trichlorofluoromethane	1.0	N.D.
Vinyl acetate	1.0	N.D.
Vinyl chloride	1.0	N.D.
Total Xylenes	1.0	16

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
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Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Zwierzycki

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 202-2160

Reported: Feb 19, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. Maralit	A. Maralit	A. Maralit	A. Maralit
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Feb 14, 1992	Feb 14, 1992	Feb 14, 1992	Feb 14, 1992
QC Sample #:	GBLK021492	GBLK021492	GBLK021492	GBLK021492
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.22	0.22	0.22	0.66
Matrix Spike % Recovery:	110	110	110	110
Conc. Matrix Spike Dup.:	0.20	0.20	0.21	0.60
Matrix Spike Duplicate % Recovery:	100	100	105	100
Relative % Difference:	9.5	9.5	4.7	9.5

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

$$\text{\% Recovery:} = \frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

$$\text{Relative \% Difference:} = \frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{(\text{Conc. of M.S. - Conc. of M.S.D.}) / 2} \times 100$$

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
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Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Zwierzycki

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 2022158-9

Reported: Feb 19, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	High Boiling Point Hydrocarbons	Total Recoverable Petroleum Oil
Method:	EPA 8015	SM 5520 B&F
Analyst:	R. Lee	A. Do
Reporting Units:	µg/L	mg/L
Date Analyzed:	Feb 18, 1992	Feb 11, 1992
QC Sample #:	DBLK021492	BLK021192
Sample Conc.:	N.D.	N.D.
Spike Conc. Added:	300	60
Conc. Matrix Spike:	250	55
Matrix Spike % Recovery:	83	92
Conc. Matrix Spike Dup.:	220	54
Matrix Spike Duplicate % Recovery:	73	90
Relative % Difference:	13	1.8

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Zwierzycki

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 2022160-61

Reported: Feb 19, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	High Boiling Point Hydrocarbons	Total Recoverable Petroleum Oil
Method:	EPA 8015	SM 5520 E&F
Analyst:	R. Lee	A. Do
Reporting Units:	mg/kg	mg/kg
Date Analyzed:	Feb 10, 1992	Feb 13, 1992
QC Sample #:	DBLKC21092	BLK021392
Sample Conc.:	N.D.	N.D.
Spike Conc. Added:	15	1000
Conc. Matrix Spike:	10	790
Matrix Spike % Recovery:	67	79
Conc. Matrix Spike Dup.:	12	800
Matrix Spike Duplicate % Recovery:	80	80
Relative % Difference:	18	1.3

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Zwierzycki

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 202-2160

Reported: Feb 19, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Cadmium	Nickel	Chromium	Lead	Zinc
Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Analyst:	R. Sharma	R. Sharma	R. Sharma	R. Sharma	R. Sharma
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Feb 18, 1992	Feb 18, 1992	Feb 18, 1992	Feb 18, 1992	Feb 18, 1992
QC Sample #:	202-2160	202-2160	202-2160	202-2160	202-2160
Sample Conc.:	N.D.	38	31	11	27
Spike Conc. Added:	50	50	50	50	50
Conc. Matrix Spike:	48	84	78	56	74
Matrix Spike % Recovery:	96	96	94	90	94
Conc. Matrix Spike Dup.:	49	85	80	59	76
Matrix Spike Duplicate % Recovery:	98	98	98	96	98
Relative % Difference:	2.1	1.2	2.5	5.2	2.7

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

$$\% \text{ Recovery:} \quad \frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$$

$$\text{Relative \% Difference:} \quad \frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{(\text{Conc. of M.S. + Conc. of M.S.D.}) / 2} \times 100$$

SEQUOIA ANALYTICAL

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Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Q.C. Sample Dates
2150 W. Winton Avenue	Method (units):	EPA 8240 (µg/L purged)	
Hayward, CA 94545	Analyst(s):	S. Scott	Analyzed: Feb 11, 1992
Attention: John Zwierzycki	QC Sample #:	BLK021192	

QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike Duplicate % Recovery	Relative % Difference
1,1-Dichloro-ethene	N.D.	50	54	108	55	110	1.8
Trichloroethene	N.D.	50	47	94	50	100	6.2
Benzene	N.D.	50	50	100	52	104	3.9
Toluene	N.D.	50	49	98	50	100	2.0
Chlorobenzene	N.D.	50	51	102	50	100	2.0

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery: $\frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$

Relative % Difference: $\frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{(\text{Conc. of M.S. - Conc. of M.S.D.}) / 2} \times 100$

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No.: ________

Date:
Page 1 of 1

Site Address: 285 Hegenberger Rd Oakland

WIC#: 204-5508-5504

Shell Engineer: Dan Kirk
Phone No. (510) 685-3850
Fax #: 685-3943

Consultant Name & Address: Gettler-Ryan / GeoStrategies 7682.01
2150 W. Winton Ave.
Hayward, California 94545

Consultant Contact: Tom Paulson / John Werfal
Phone No. 783-7500
Fax #: 783-1089

Comments: Lift samples & 1 Oil/Separator sample

Sampled By: Clyde Galantine
Printed Name: Clyde Galantine

LAB: Sequoia

CHECK ONE (1) BOX ONLY		CT/DT
Quarterly Monitoring	[ ]	5461
Site Investigation	[X]	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 [X]
- 15 days [ ] (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	Oil & Grease - 5520 E&F or C&F	ICAP 5 Metal		Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SLH-1	2-12-92		X		9		X				X					N	2022158	
SLH-2	2-12-92		X		9		X				X					N	2022159	
SL-3	2-12-92	X			1		X				X					N	2022161	
SOW-1	2-12-92	X			1	X	X	X	X		X	✓ ✓ per CG				N	2022160	

Relinquished By (signature):	Printed name:	Date/Time	Received (signature):	Printed name:	Date/Time
Clyde Galantine	Clyde Galantine	Date: 2/13/92 Time: 16:21	A. Nagel	A. NAGEL	Date: 2/13/92 Time: 1622
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:

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

SEQUOIA ANALYTICAL
680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal

Project: 7682.01, Shell, Oakland

Enclosed are the results from 1 soil sample received at Sequoia Analytical on February 13, 1992
The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2022202 A-D	Soil composite, SLS 1A-D	2/12/92	TCLP Volatiles TCLP Semi- Volatiles California LUFT Manual, 12/5 EPA 418.1 (I.R. with clean-up) EPA 5030/8020 TCLP Metals Ignitability Hexavalent Chromium TTLC Metals

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Feb 12, 1992
2150 W. Winton Avenue	Sample Descript:	Soil composite, SLS 1A-D	Received:	Feb 13, 1992
Hayward, CA 94545	Analysis Method:	EPA 5030/8020	Analyzed:	Feb 18, 1992
Attention: John Wertal	Lab Number:	202-2202 A-D	Reported:	Feb 28, 1992

BTEX DISTINCTION (EPA 8020)

Analyte	Detection Limit mg/kg (ppm)	Sample Results mg/kg (ppm)
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	0.50	1.1
Xylenes	0.50	1.8

Analytes reported as N.D. were not present above the stated limit of detection. Because matrix effects and/or other factors required additional sample dilution, detection limits for this sample have been raised.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

2022202.GET <2>

SEQUOIA ANALYTICAL

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Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Feb 12, 1992
2150 W. Winton Avenue	Matrix Descript:	Soil composite	Received:	Feb 13, 1992
Hayward, CA 94545	Analysis Method:	EPA 418.1 (I.R. with clean-up)		
Attention: John Wertal	First Sample #:	202-2202 A-D	Analyzed:	Feb 21, 1992
			Reported:	Feb 28, 1992

TOTAL RECOVERABLE PETROLEUM HYDROCARBONS

Sample Number	Sample Description	Petroleum Oil mg/kg (ppm)
2022202 A-D	SLS 1A-D	10,000

Detection Limits:	10.0

Analytes reported as N.D. were not present above the stated limit of detection.

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Vickie Tague
Project Manager

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Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Feb 12, 1992
2150 W. Winton Avenue	Sample Descript:	Soil composite, SLS 1A-D	Received:	Feb 13, 1992
Hayward, CA 94545			Analyzed:	Feb 21, 1992
Attention: John Werfal	Lab Number:	202-2202 A-D	Reported:	Feb 28, 1992

IGNITABILITY

Analyte	Detection Limit	Sample Results
Ignitability:		
Flashpoint (Bunsen burner).....	N.A.	Negative

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

2022202.GET <4>

SEQUOIA ANALYTICAL

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Gettler Ryan	Client Project ID:	7682.01, Snell, Oakland	Sampled:
2150 W. Winton Avenue	Sample Descript:		Received: Feb 13, 1992
Hayward, CA 94545			Analyzed:
Attention: John Werfal	Lab Number:		Reported:

CORROSIVITY, IGNITABILITY, AND REACTIVITY

Analyte	Detection Limit	Sample Results
Corrosivity:		
pH	N.A.	8.5
Ignitability:		
Flashpoint (Pensky-Martens), °C	N.A.	> 100 °C
Reactivity:		
Sulfide, mg/kg	10	N.D.
Cyanide, mg/kg	0.50	N.D.
Reaction with water	N.A.	Negative

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

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Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Feb 12, 1992
2150 W. Winton Avenue	Sample Descript:	Soil composite, SLS 1A-D	Received:	Feb 13, 1992
Hayward, CA 94545			Extracted:	Feb 18, 1992
Attention: John Werfal	Lab Number:	202-2202 A-D	Reported:	Feb 28, 1992

INORGANIC PERSISTENT AND BIOACCUMULATIVE TOXIC SUBSTANCES

	Soluble Threshold Limit Concentration Waste Extraction Test			Total Threshold Limit Concentration		
Analyte	STLC Max. Limit (mg/L)	Detection Limit (mg/L)	Analysis Result (mg/L)	TTLC Max. Limit (mg/kg)	Detection Limit (mg/kg)	Analysis Result (mg/kg)
Antimony	15	0.10	-	500	5.0	28
Arsenic	5.0	0.10	-	500	5.0	N.D.
Barium	100	0.10	-	10,000	5.0	82
Beryllium	0.75	0.010	-	75	0.50	N.D.
Cadmium	1.0	0.010	-	100	0.50	0.93
Chromium (VI)	5.0	0.0050	-	500	0.050	N.D.
Chromium (III)	560	0.010	-	2,500	0.50	21
Cobalt	80	0.050	-	8,000	2.5	14
Copper	25	0.010	-	2,500	0.50	26
Lead	5.0	0.10	-	1,000	5.0	28
Mercury	0.20	0.00020	-	20	0.010	0.070
Molybdenum	350	0.050	-	3,500	2.5	N.D.
Nickel	20	0.050	-	2,000	2.5	23
Selenium	1.0	0.10	-	100	5.0	N.D.
Silver	5.0	0.010	-	500	0.50	N.D.
Thallium	7.0	0.10	-	700	5.0	N.D.
Vanadium	24	0.050	-	2,400	2.5	59
Zinc	250	0.010	-	5,000	0.50	150
Asbestos	-	10	-	10,000	100	-
Fluoride	180	0.10	-	18,000	1.0	-

TTLC results are reported as mg/kg of wet weight. Asbestos results are reported as fibers/g.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Nickie Tague
Project Manager

SEQUOIA ANALYTICAL

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Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled: Feb 12, 1992
2150 W. Winton Avenue	Sample Descript:	Extract of Soil composite,	Received: Feb 13, 1992
Hayward, CA 94545		SLS 1A-D	Extracted: Feb 18, 1992
Attention: John Wertal	Lab Number:	202-2202 A-D	Analyzed: Feb 19-20, 1992
			Reported: Feb 28, 1992

TCLP METALS

Analyte	EPA HW No.	Detection Limit mg/L (ppm)	Chronic Toxicity Reference Level mg/L (ppm)	Regulatory Level mg/L (ppm)	Sample Results mg/L (ppm)
Arsenic	D004	0.0050	0.05	5.0	0.0056
Barium	D005	0.10	1	100	1.2
Cadmium	D006	0.010	0.01	1.0	N.D.
Chromium	D007	0.010	0.05	5.0	N.D.
Lead	D008	0.0050	0.05	5.0	0.26
Mercury	D009	0.00020	0.002	0.2	N.D.
Selenium	D010	0.0050	0.01	1.0	N.D.
Silver	D011	0.010	0.05	5.0	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

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Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Feb 12, 1992
2150 W. Winton Avenue	Sample Descript:	Soil composite	Received:	Feb 13, 1992
Hayward, CA 94545	Analysis Method:	California LUFT Manual, 12/87		
Attention: John Wertal	First Sample #:	202-2202 A-D	Analyzed:	Feb 21, 1992
			Reported:	Feb 28, 1992

ORGANIC LEAD

Sample Number	Sample Description	Sample Results mg/kg (ppm)
2022202 A-D	SLS 1A-D	0.19

Detection Limits:	0.050

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

2022202.GET <8>

SEQUOIA ANALYTICAL

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Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal

Client Project ID: 7682.01, Shell, Oakland
Method (units): EPA 8240 (µg/L purged)
Analyst(s): M. Williams
QC Sample #: BLK022092

Q.C. Sample Dates
Analyzed: Feb 20, 1992
Reported: Feb 28, 1992

QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike Duplicate % Recovery	Relative % Difference
1,1-Dichloro-ethene	N.D.	50	48	96	49	98	2.1
Trichloroethene	N.D.	50	40	80	42	84	4.9
Benzene	N.D.	50	49	88	46	92	4.4
Toluene	N.D.	50	45	90	45	90	0.0
Chlorobenzene	N.D.	50	45	90	46	92	2.2

SEQUOIA ANALYTICAL

Nickie Tague
Project Manager

% Recovery: $\frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$

Relative % Difference: $\frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{\text{(Conc. of M.S. + Conc. of M.S.D.) / 2}} \times 100$

SEQUOIA ANALYTICAL

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Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Wertal

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group:

Reported:

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	C. Donohue	C. Donohue	C. Donohue	C. Donohue
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Feb 18, 1992	Feb 18, 1992	Feb 18, 1992	Feb 18, 1992
QC Sample #:	GBLK021892	GBLK021892	GBLK021892	GBLK021892
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.19	0.19	0.19	0.55
Matrix Spike % Recovery:	95	95	95	92
Conc. Matrix Spike Dup.:	0.20	0.20	0.20	0.58
Matrix Spike Duplicate % Recovery:	100	100	100	97
Relative % Difference:	5.1	5.1	5.1	5.3

SEQUOIA ANALYTICAL

Tickie Tague
Project Manager

% Recovery: $\frac{\text{Conc. of M.S. - Conc. of Sample}}{\text{Spike Conc. Added}} \times 100$

Relative % Difference: $\frac{\text{Conc. of M.S. - Conc. of M.S.D.}}{(\text{Conc. of M.S. + Conc. of M.S.D.}) / 2} \times 100$

SEQUOIA ANALYTICAL

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Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 202-2202

Reported: Feb 28, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Total Recoverable Petroleum Hydrocarbons	Molybdenum	Nickel	Silver	Thallium	Vanadium	Zinc
Method:	EPA 418.1	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Analyst:	M. Fazzio	M. Mistry	M. Mistry	M. Mistry	M. Mistry	M. Mistry	M. Mistry
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Feb 21, 1992	Feb 21, 1992	Feb 21, 1992	Feb 21, 1992	Feb 21, 1992	Feb 21, 1992	Feb 21, 1992
QC Sample #:	202-3002	202-2295	202-2295	202-2295	202-2295	202-2295	202-2295
Sample Conc.:	5.5	N.D.	60	n.d.	n.d.	41	61
Spike Conc. Added:	130	50	50	50	100	50	50
Conc. Matrix Spike:	140	51	110	51	84	93	110
Matrix Spike % Recovery:	103	102	100	102	84	104	98
Conc. Matrix Spike Dup.:	140	53	120	52	86	95	120
Matrix Spike Duplicate % Recovery:	103	106	120	104	86	108	118
Relative % Difference:	0.0	3.8	8.7	1.9	2.4	2.1	8.7

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. - Conc. of M.S.D.) / 2	x 100

SEQUOIA ANALYTICAL

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Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 202-2202

Reported: Feb 26, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Arsenic	Antimony	Barium	Beryllium	Cadmium	Chromium	Cobalt
Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Analyst:	M. Mistry	M. Mistry	M. Mistry	M. Mistry	M. Mistry	M. Mistry	M. Mistry
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Feb 21, 1992	Feb 21, 1992	Feb 21, 1992	Feb 21, 1992	Feb 21, 1992	Feb 21, 1992	Feb 21, 1992
QC Sample #:	202-2295	202-2295	202-2295	202-2295	202-2295	202-2295	202-2295
Sample Conc.:	N.D.	23	130	N.D.	N.D.	48	11
Spike Conc. Added:	50	50	100	50	50	50	50
Conc. Matrix Spike:	53	77	250	51	54	100	65
Matrix Spike % Recovery:	106	108	120	102	108	104	108
Conc. Matrix Spike Dup.:	54	76	250	52	57	100	67
Matrix Spike Duplicate % Recovery:	108	106	120	104	114	104	112
Relative % Difference:	1.9	1.3	0.0	1.9	5.4	0.0	3.0

SEQUOIA ANALYTICAL

Mickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S - Conc. of M.S.D. / (Conc. of M.S - Conc. of M.S.D.) / 2	x 100

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 202-2202

Reported: Feb 28, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Copper	Selenium	Lead
Method:	EPA 6010	EPA 6010	EPA 6010
Analyst:	M. Mistry	M. Mistry	M. Mistry
Reporting Units:	mg/kg	mg/kg	mg/kg
Date Analyzed:	Feb 21, 1992	Feb 21, 1992	Feb 21, 1992
QC Sample #:	202-2295	202-2295	202-2295
Sample Conc.:	20	N.D.	9.8
Spike Conc. Added:	50	100	50
Conc. Matrix Spike:	70	87	64
Matrix Spike % Recovery:	100	87	108
Conc. Matrix Spike Dup.:	73	86	67
Matrix Spike Duplicate % Recovery:	106	86	114
Relative % Difference:	4.2	1.2	4.6

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

SEQUOIA ANALYTICAL

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Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 202-2202

Reported: Feb 28, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	TCLP Arsenic	TCLP Selenium	TTLC Mercury	TCLP Mercury	TCLP Lead	TCLP Barium	TCLP Silver
Method:	EPA 206.2	EPA 270.2	EPA 7471	EPA 245.1	EPA 239.2	EPA 200.7	EPA 200.7
Analyst:	F. Contreras	F. Contreras	J. Martinez	J. Martinez	S. Chin	M. Mistry	M. Mistry
Reporting Units:	mg/L	mg/L	mg/kg	mg/L	mg/L	mg/L	mg/L
Date Analyzed:	Feb 15, 1992	Feb 15, 1992	Feb 19, 1992	Feb 19, 1992	Feb 20, 1992	Feb 20, 1992	Feb 20, 1992
QC Sample #:	202-2151	202-2151	202-2202	202-2151	202-2151	202-2202	202-2202
Sample Conc.:	N.D.	0.0081	0.07	N.D.	0.38	1.2	N.D.
Spike Conc. Added:	2.0	2.0	0.10	0.0020	10	1.0	1.0
Conc. Matrix Spike:	1.7	2.0	0.19	0.0023	10	2.4	0.91
Matrix Spike % Recovery:	85	100	120	115	96	120	91
Conc. Matrix Spike Dup.:	1.7	2.1	0.19	0.0023	10	2.4	0.92
Matrix Spike Duplicate % Recovery:	85	105	120	115	96	120	92
Relative % Difference:	0.0	4.9	0.0	0.0	0.0	0.0	1.1

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 202-2202

Reported: Feb 28, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	TCLP Cadmium	TCLP Chromium	Organic Lead
Method:	EPA 200.7	EPA 200.7	LUFT
Analyst:	M. Mistry	M. Mistry	S. Chin
Reporting Units:	mg/L	mg/L	mg/kg
Date Analyzed:	Feb 20, 1992	Feb 20, 1992	Feb 21, 1992
QC Sample #:	202-2202	202-2202	202-2904
Sample Conc.:	N.D.	N.D.	N.D.
Spike Conc. Added:	1.0	2.0	0.10
Conc. Matrix Spike:	1.1	2.2	0.095
Matrix Spike % Recovery:	110	110	95
Conc. Matrix Spike Dup.:	1.1	2.2	0.080
Matrix Spike Duplicate % Recovery:	110	110	80
Relative % Difference:	0.0	0.0	17

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No.: _____

Date: Page 1 of 1

Site Address: 285 Hegenberger Rd Oakland

WIC#: 204-5508-5504

Shell Engineer: Dan Kirk — Phone No. (510) 685-3850 — Fax #: 685-3943

Consultant Name & Address: Gettler-Ryan / GeoStrategies — 2150 W. Winton Ave. Hayward, California 94545

7632.01

Consultant Contact: Tom Paulson / John Werfal — Phone No. 783-7500 — Fax #: 783-1089

Comments: 6-8 yd³ Stockpile from removing 3 hydraulic lifts

Sampled By: Clyde Galantine

Printed Name: Clyde Galantine

LAB: Sequoia

Analysis Required

CHECK ONE (1) BOX ONLY		CT/DT
Quarterly Monitoring	[ ]	5461
Site Investigation	[ ]	5441
Soil for disposal	[X]	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 Waste Oil Soil	Oil & Grease - 5520 E&F	Container Size	Preservation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SLS-1A-D	2-12-92	X			4					X		2x4l		Y	2022202	

Relinquished By (signature): Clyde Galantine	Printed name: Clyde Galantine	Date:	Received (signature): R-Nagra	Printed name: R - NAGRA	Date: 2/13/ Time: 1622
Relinquished By (signature):	Printed name:	Time:	Received (signature):	Printed name:	Date: Time:
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

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Wertal

Project: 7682.01, Shell, Oakland

Enclosed are the results from 1 water sample received at Sequoia Analytical on February 13, 1992. The requested analysis is listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
A2022202	Water, SLS-1A-0	2/12/92	Hazardous Waste Bioassay

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal

Client Project ID: 7682.01, Shell Oakland
Sample Descript: SLS-1A-0
Analysis Method: See below
Lab Number: A2022202

Sampled: 2/12/92
Received: 2/13/92

Reported: 3/5/92

STATIC ACUTE HAZARDOUS WASTE BIOASSAY

Static [X]
Cont. Flow [ ]

Screening [ ]
Definitive [X]

Species: Pimephales promelas
Common Name: Fathead Minnow
Mean length: 39 mm
Mean weight: 0.84 g
Supplier: Stickiebacks Unlimited
Acclimation Temp.: 19 degrees C

Organisms/Tank: 10
Replicates: 2
Organisms/Conc.: 20
Tank Depth: 13 cm
Tank Volume: 10 L

Dilution Water: Synthetic Softwater

	Alkalinity, mg/L		Hardness, mg/L	
	Initial	Final	Initial	Final
Control	44	46	61	62
100 ppm	41	42	60	59
320 ppm	40	41	60	60
1000 ppm	40	40	60	59

	Initial	24 Hr	48 Hr	72 Hr	96 Hr
DATE	3/1/92	3/2/92	3/3/92	3/4/92	3/5/92

	DO mg/L	C Temp	pH Units	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	Total Dead
Control	6.4	19	7.1	6.2	19	7.1	0	5.8	18	7.0	0	7.4	18	7.1	0	7.1	18	7.2	0	0
100 ppm	7.0	19	7.1	6.8	19	7.1	0	5.6	18	7.0	0	7.6	18	7.2	0	7.1	18	7.4	0	0
180 ppm	6.9	19	7.1	6.7	19	7.1	0	6.1	18	7.1	0	8.9	18	7.4	0	8.6	18	7.5	0	0
320 ppm	7.3	19	7.1	7.0	19	7.1	0	6.5	18	7.1	0	6.9	18	7.1	0	7.1	18	7.3	0	0
560 ppm	7.2	19	7.2	6.9	19	7.2	0	6.4	18	7.1	0	6.3	18	7.1	0	6.2	18	7.2	0	0
1000 ppm	7.4	19	7.2	7.0	19	7.2	0	6.4	18	7.1	0	6.9	18	7.2	0	6.9	18	7.2	0	0

LC-50: >1000 ppm

LC-50 Calculation Method: Moving average angle

Remarks:

Analyst: R. Geckler

Method Reference: Static Acute Bioassay Procedures for Hazardous Waste Samples, September 1987. California Department of Fish and Game WPCL.

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal

Client Project ID: 7682.01, Shell Oakland
Sample Descript: SLS-1A-0
Analysis Method: See below
Lab Number: 2022202 (duplicate)

Sampled: 2/12/92
Received: 2/13/92

Reported: 3/5/92

STATIC ACUTE HAZARDOUS WASTE BIOASSAY

Static [X]
Cont. Flow [ ]

Screening [ ]
Definitive [X]

Species: Pimephales promelas
Common Name: Fathead Minnow
Mean length: 39 mm
Mean weight: 0.84 g
Supplier: Sticklebacks Unlimited
Acclimation Temp.: 19 degrees C

Organisms/Tank: 10
Replicates: 2
Organisms/Conc.: 20
Tank Depth: 13 cm
Tank Volume: 10 L

Dilution Water: Synthetic Softwater

	Alkalinity, mg/L		Hardness, mg/L	
	Initial	Final	Initial	Final
Control	44	46	61	62
100 ppm	41	42	60	59
320 ppm	41	41	59	59
1000 ppm	40	40	59	59

	Initial	24 Hr	48 Hr	72 Hr	96 Hr
DATE	3/1/92	3/2/92	3/3/92	3/4/92	3/5/92

	DO mg/L	C Temp	pH Units	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	DO mg/L	C Temp	pH Units	# M Dead	Total Dead
Control	6.4	19	7.1	6.2	19	7.1	0	5.8	18	7.0	0	7.4	18	7.1	0	7.1	18	7.2	0	0
100 ppm	7.3	19	7.1	6.9	19	7.1	0	6.8	18	7.1	0	7.3	18	7.2	0	7.0	18	7.3	0	0
180 ppm	6.9	19	7.1	6.6	19	7.0	0	8.4	18	7.4	0	8.5	18	7.3	0	8.0	18	7.3	0	0
320 ppm	8.1	19	7.1	7.8	19	7.2	0	5.7	18	7.0	0	5.8	18	7.0	0	6.2	18	7.1	0	0
560 ppm	7.4	19	7.2	7.1	19	7.2	0	7.1	18	7.2	0	8.5	18	7.3	0	8.5	18	7.4	0	0
1000 ppm	7.5	19	7.2	7.3	19	7.3	0	6.5	18	7.1	0	7.4	18	7.2	0	7.4	18	7.3	0	0

LC-50: >1000 ppm

LC-50 Calculation Method: Moving average angle

Remarks:

Analyst: R. Geckler

Method Reference: Static Acute Bioassay Procedures for Hazardous Waste Samples. September 1987. California Department of Fish and Game WPCL

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No.:

Date:

Page 1 of 1

COPY

Site Address: 285 Hegenberger Rd Oakland

WIC#: 204-5508-5504

Shell Engineer: Dan Kirk

Phone No. (510) 685-3850

Fax #: 685-3943

Consultant Name & Address: Gettler-Ryan / GeoStrategies
2150 W. Winton Ave.
Hayward, California 94545

7682.01

Consultant Contact: Tom Paulson / John Werfal

Phone No. 783-7500

Fax #: 783-1089

Comments: 6-8 yd³ Stockpile from removing 3 hydraulic lifts

Sampled By: Clyde Galantine

Printed Name: Clyde Galantine

LAB: Sequoia

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.

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 Waste Oil Soil	Oil & Grease - 5520 E&F	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SLS-1A-D	2-12-92	X			4					X		2x4'		Y	2022202	

Relinquished By (signature): Clyde Galantine

Printed name: Clyde Galantine

Date:

Time:

Received (signature): A-Nagra

Printed name: A - NAGRA

Date: 2/13/92

Time: 1622

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:

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

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SEQUOIA ANALYTICAL

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(415) 364-9600 • FAX (415) 364-9233

GETTLER-RYAN INC.

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal/ C. Galantine

Project: 7682.01 Shell, Oakland

Enclosed are the results from 1 soil sample received at Sequoia Analytical on April 1,1992. The requested analysis is listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2040088	Soil	3/30/92	EPA 8080

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01 Shell, Oakland	Sampled:	Mar 30, 1992
2150 W. Winton Avenue	Sample Descript:	Soil	Received:	Apr 1, 1992
Hayward, CA 94545	Analysis Method:	EPA 8080	Extracted:	Apr 2, 1992
Attention: John Werfal/ C. Galantin	Lab Number:	204-0088	Analyzed:	Apr 8, 1992
			Reported:	Apr 8, 1992

POLYCHLORINATED BIPHENYLS (EPA 8080)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
PCB 1016	20	N.D.
PCB 1221	80	N.D.
PCB 1232	20	N.D.
PCB 1242	20	N.D.
PCB 1248	20	N.D.
PCB 1254	20	N.D.
PCB 1260	20	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: John Werfal / C. Galantin

Client Project ID: 7682.01 Snell, Oakland
QC Sample Group: 204-0088

Reported: Apr 8, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	PCB 1242

Method:	EPA 8080
Analyst:	D. Dreblow
Reporting Units:	µg/kg
Date Analyzed:	Mar 17, 1992
QC Sample #:	PBLK031292

Sample Conc.:	N.D.
Spike Conc. Added:	5000
Conc. Matrix Spike:	5500
Matrix Spike % Recovery:	110
Conc. Matrix Spike Dup.:	4700
Matrix Spike Duplicate % Recovery:	94
Relative % Difference:	16

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No.: COPY

Date: 3/30/92

Page 1 of 1

Site Address: 285 Hegenberger Oakland

WIC#: 204 5508 5504

Shell Engineer: Dan Kirk

Phone No. 685-3850

Fax #: (510) 685-3943

Consultant Name & Address: Gettler-Ryan / GeoStrategies
2150 W. Winton Ave.
Hayward, California 94545

763101

Consultant Contact: [redacted] / John Werfal

Phone No. 783-7500

Fax #: 783-1089

Comments:

Sampled By: Robert C. Mallory

Printed Name: ROBERT C. MALLORY

LAB: Sequoia

Analysis Required

Sample ID	Date	Soil	Water	Air	No. of conts.
SLS-1	3-30-92	X			1

TPH (EPA 8015 Mod. Gas)

TPH (EPA 8015 Mod. Diesel)

BTEX (EPA 8020/602)

Volatile Organics (EPA 8240)

Test for Disposal

Oil & Grease - 5520 E&F

PCB's 8080

CHECK ONE (1) BOX ONLY		STAT
Quarterly Monitoring	[ ]	5461
Site Investigation	[ ]	5441
Soil for disposal	[X]	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.

Container Size	Preservation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
1/2#		N	Soil	OK
			204-0088	

Relinquished By (signature): Robert C. Mallory	Printed name: ROBERT C. MALLORY	Date: 3/30/92	Received (signature): REFRIG. #1	Printed name:	Date: 3/31/92
Relinquished By (signature): REFRIG #1	Printed name:	Time: 14:40	Received (signature):	Printed name: Tony Bettencourt	Time: 17:40
Relinquished By (signature):	Printed name: Tony Bettencourt	Date: 4-1-92	Received (signature): Tim Costello	Printed name: Tim Costello	Date: 4/1/92
		Time: 8:48			Time: 7:05
					Date: 4-1
					Time: 8:48

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

Last Revision Date: 10/15/91

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: Clyde Galantine

Project: 7682.01, Shell, Oakland

Enclosed are the results from 2 soil samples received at Sequoia Analytical on March 20,1992. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2033608	Soil, SW-1	3/20/92	Miscellaneous Metals EPA 3550/8015 EPA 5030/8015/8020 EPA 8240 SM 5520 E&F (Gravimetric)
2033609	Soil, SWS-1 A-D	3/20/92	EPA 3550/8015 EPA 5030/8015/8020

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Mar 20, 1992
2150 W. Winton Avenue	Sample Descript:	Soil, SW-1	Received:	Mar 20, 1992
Hayward, CA 94545	Analysis Method:	EPA 8240	Analyzed:	Mar 25, 1992
Attention: Clyde Galantine	Lab Number:	203-3608	Reported:	Mar 27, 1992

VOLATILE ORGANICS by GC/MS (EPA 8240)

Analyte	Detection Limit µg/kg	Sample Results µg/kg
Acetone	500	N.D.
Benzene	100	N.D.
Bromodichloromethane	100	N.D.
Bromoform	100	N.D.
Bromomethane	100	N.D.
2-Butanone	500	N.D.
Carbon disulfide	100	N.D.
Carbon tetrachloride	100	N.D.
Chlorobenzene	100	N.D.
Chloroethane	100	N.D.
2-Chloroethyl vinyl ether	500	N.D.
Chloroform	100	N.D.
Chloromethane	100	N.D.
Dibromochloromethane	100	N.D.
1,1-Dichloroethane	100	N.D.
1,2-Dichloroethane	100	N.D.
1,1-Dichloroethene	100	N.D.
cis-1,2-Dichloroethene	100	N.D.
trans-1,2-Dichloroethene	100	N.D.
1,2-Dichloropropane	100	N.D.
cis-1,3-Dichloropropene	100	N.D.
trans-1,3-Dichloropropene	100	N.D.
Ethylbenzene	100	N.D.
2-Hexanone	500	N.D.
Methylene chloride	250	N.D.
4-Methyl-2-pentanone	500	N.D.
Styrene	100	N.D.
1,1,2,2-Tetrachloroethane	100	N.D.
Tetrachloroethene	100	N.D.
Toluene	100	N.D.
1,1,1-Trichloroethane	100	N.D.
1,1,2-Trichloroethane	100	N.D.
Trichloroethene	100	N.D.
Trichlorofluoromethane	100	N.D.
Vinyl acetate	100	N.D.
Vinyl chloride	100	N.D.
Total Xylenes	100	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Mar 20, 1992
2150 W. Winton Avenue	Matrix Descript:	Soil	Received:	Mar 20, 1992
Hayward, CA 94545	Analysis Method:	EPA 3550/8015	Extracted:	Mar 23, 1992
Attention: Clyde Galantine	First Sample #:	203-3608	Analyzed:	Mar 24, 1992
			Reported:	Mar 27, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS (EPA 8015)

Sample Number	Sample Description	High B.P. Hydrocarbons mg/kg (ppm)
203-3608	SW-1	N.D.
203-3609	SWS-1 A-D	N.D.

Detection Limits:	1.0

High Boiling Point Hydrocarbons are quantitated against a diesel fuel standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Mar 20, 1992
2150 W. Winton Avenue	Matrix Descript:	Soil	Received:	Mar 20, 1992
Hayward, CA 94545	Analysis Method:	EPA 5030/8015/8020	Analyzed:	Mar 24, 1992
Attention: Clyde Galantine	First Sample #:	203-3608	Reported:	Mar 27, 1992

TOTAL PETROLEUM FUEL HYDROCARBONS with BTEX DISTINCTION (EPA 8015/8020)

Sample Number	Sample Description	Low/Medium B.P. Hydrocarbons mg/kg (ppm)	Benzene mg/kg (ppm)	Toluene mg/kg (ppm)	Ethyl Benzene mg/kg (ppm)	Xylenes mg/kg (ppm)
203-3608	SW-1	N.D.	N.D.	N.D.	N.D.	N.D.
203-3609	SWS-1 A-D	N.D.	N.D.	N.D.	N.D.	N.D.
Detection Limits:		1.0	0.0050	0.0050	0.0050	0.0050

Low to Medium Boiling Point Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Mar 20, 1992
2150 W. Winton Avenue	Matrix Descript:	Soil	Received:	Mar 20, 1992
Hayward, CA 94545	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Mar 24, 1992
Attention: Clyde Galantine	First Sample #:	203-3608	Analyzed:	Mar 24, 1992
			Reported:	Mar 27, 1992

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
203-3608	SW-1	N.D.

Detection Limits:	30

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Mar 20, 1992
2150 W. Winton Avenue	Sample Descript:	Soil, SW-1	Received:	Mar 20, 1992
Hayward, CA 94545			Extracted:	Mar 24, 1992
Attention: Clyde Galantine	Lab Number:	203-3608	Analyzed:	Mar 24, 1992
			Reported:	Mar 27, 1992

LABORATORY ANALYSIS

Analyte	Detection Limit mg/kg	Sample Results mg/kg
Cadmium	0.50	N.D.
Chromium	0.50	23
Lead	0.25	1.4
Nickel	2.5	29
Zinc	0.50	30

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	
2150 W. Winton Avenue	Method (units):	EPA 8240 (µg/L purged)	Q.C. Sample Dates
Hayward, CA 94545	Analyst(s):	M. Williams	
Attention: Clyde Galantine	QC Sample #:	BLK031892	Analyzed: Mar 18, 1992
			Reported: Mar 27, 1992

QUALITY CONTROL DATA REPORT

Analyte	Sample Conc.	Spike Conc. Added	Conc. Matrix Spike	Matrix Spike % Recovery	Conc. Matrix Spike Duplicate	Matrix Spike Duplicate % Recovery	Relative % Difference
1,1-Dichloro-ethene	N.D.	50	39	78	40	80	2.5
Trichloroethene	N.D.	50	43	86	45	90	4.5
Benzene	N.D.	50	44	88	47	94	6.6
Toluene	N.D.	50	45	90	47	94	4.3
Chlorobenzene	N.D.	50	45	90	48	96	6.5

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

SEQUOIA ANALYTICAL

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Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: Clyde Galantine

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 2033608-09

Reported: Mar 27, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl-Benzene	Xylenes
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Analyst:	A. Maralit	A. Maralit	A. Maralit	A. Maralit
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Mar 24, 1992	Mar 24, 1992	Mar 24, 1992	Mar 24, 1992
QC Sample #:	GBLK032492	GBLK032492	GBLK032492	GBLK032492
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Spike Conc. Added:	0.20	0.20	0.20	0.60
Conc. Matrix Spike:	0.24	0.23	0.24	0.67
Matrix Spike % Recovery:	120	115	120	112
Conc. Matrix Spike Dup.:	0.24	0.23	0.24	0.69
Matrix Spike Duplicate % Recovery:	120	115	120	115
Relative % Difference:	0.0	0.0	0.0	2.9

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

SEQUOIA ANALYTICAL

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(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: Clyde Galantine

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 2033608-09

Reported: Mar 27, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	High Boiling Point Hydrocarbons
Method:	EPA 8015
Analyst:	R. Lee
Reporting Units:	mg/kg
Date Analyzed:	Mar 20, 1992
QC Sample #:	DBLK032092
Sample Conc.:	N.D.
Spike Conc. Added:	15
Conc. Matrix Spike:	13
Matrix Spike % Recovery:	87
Conc. Matrix Spike Dup.:	13
Matrix Spike Duplicate % Recovery:	87
Relative % Difference:	0.0

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
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Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: Clyde Galantine

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 203-3608

Reported: Mar 27, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Total Recoverable Petroleum Oil	Lead	Nickel	Zinc	Cadmium	Chromium
Method:	SM 5520 E&F	EPA 7421	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Analyst:	A. Do	S. Chin	M. Mistry	M. Mistry	M. Mistry	M. Mistry
Reporting Units:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Date Analyzed:	Mar 20, 1992	Mar 24, 1992	Mar 24, 1992	Mar 24, 1992	Mar 24, 1992	Mar 24, 1992
QC Sample #:	BLK032092	203-3337	203-3417	203-3417	203-3417	203-3417
Sample Conc.:	N.D.	5.8	45	96	0.58	45
Spike Conc. Added:	1000	50	500	500	500	500
Conc. Matrix Spike:	810	57	500	550	450	500
Matrix Spike % Recovery:	81	100	91	91	90	91
Conc. Matrix Spike Dup.:	850	58	550	590	500	550
Matrix Spike Duplicate % Recovery:	86	100	101	99	100	101
Relative % Difference:	6.0	1.7	9.5	7.0	11	9.5

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No.: _____

Date:
Page 1 of 1

Site Address: 235 Hegenberger Rd Oakland

WIC#: 204-5508-5504

Shell Engineer: Dan Kirk
Phone No. 685-3850
Fax #: (510) 685-3943

Consultant Name & Address: Gettler-Ryan / GeoStrategies
2150 W. Winton Ave.
Hayward, California 94545
768201

Consultant Contact: John Werfal
Phone No. 783-7500
Fax #: 783-1089

Comments: 5 Day TAT for O&G on SWS-1A-D

Sampled By: Clyde Galantine

Printed Name: Clyde Galantine

LAB: Sequoia

CHECK ONE (1) BOX ONLY		CTADT
Quarterly Monitoring	[ ]	5461
Site Investigation SW-1	[X]	5441
Soil for disposal SWS-1	[X]	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 ([X] Lab 5 day)

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	Oil & Grease - 5520 E&F	Title 22 Metals	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SW-1	3-20-92	X			1	X	+	+	+		X	X	VOA		N		203364
SWS-1A-D	3-20-92	X			4	X	X	X			X		2x4		Y	Check Comp	203365

Relinquished By (signature)	Printed name	Date	Time	Received (signature)	Printed name	Date	Time
Clyde Galantine	Clyde Galantine	3-20	14:00	Keri Follett	Keria Follett	3-20-92	1400
Dan Kirk	Dan Follett	3-20	1515	Received (signature):	Printed name:	Date:	Time:
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

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: Clyde Galantine

Project: 7682.01, Shell, Oakland

Enclosed are the results from 1 soil sample received at Sequoia Analytical on March 20,1992. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE OF COLLECTION	TEST METHOD
2033609	Soil, SWS-1 A-D	3/20/92	SM 5520 E&F (Gravimetric)

Please contact me if you have any questions. In the meantime, thank you for the opportunity to work with you on this project.

Very truly yours,

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

680 Chesapeake Drive • Redwood City, CA 94063
(415) 364-9600 • FAX (415) 364-9233

Gettler Ryan	Client Project ID:	7682.01, Shell, Oakland	Sampled:	Mar 20, 1992
2150 W. Winton Avenue	Matrix Descript:	Soil	Received:	Mar 20, 1992
Hayward, CA 94545	Analysis Method:	SM 5520 E&F (Gravimetric)	Extracted:	Mar 24, 1992
Attention: Clyde Galantine	First Sample #:	203-3609	Analyzed:	Mar 24, 1992
			Reported:	Mar 26, 1992

TOTAL RECOVERABLE PETROLEUM OIL

Sample Number	Sample Description	Oil & Grease mg/kg (ppm)
203-3609	SWS-1 A-D	N.D.

Detection Limits:	30

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

SEQUOIA ANALYTICAL

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Gettler Ryan
2150 W. Winton Avenue
Hayward, CA 94545
Attention: Clyde Galantine

Client Project ID: 7682.01, Shell, Oakland

QC Sample Group: 203-3609

Reported: Mar 26, 1992

QUALITY CONTROL DATA REPORT

ANALYTE	Total Recoverable Petroleum Oil
Method:	SM 5520 E&F
Analyst:	A. Do
Reporting Units:	mg/kg
Date Analyzed:	Mar 20, 1992
QC Sample #:	BLK032092
Sample Conc.:	N.D.
Spike Conc. Added:	1000
Conc. Matrix Spike:	810
Matrix Spike % Recovery:	81
Conc. Matrix Spike Dup.:	860
Matrix Spike Duplicate % Recovery:	86
Relative % Difference:	6.0

SEQUOIA ANALYTICAL

Vickie Tague
Project Manager

% Recovery:	Conc. of M.S. - Conc. of Sample / Spike Conc. Added	x 100
Relative % Difference:	Conc. of M.S. - Conc. of M.S.D. / (Conc. of M.S. + Conc. of M.S.D.) / 2	x 100

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No.: ________

Date:
Page 1 of 1

Site Address: 235 Hegenberger Rd Oakland

WIC#: 204-5308-5504

Shell Engineer: Dan Kirk
Phone No. (510) 685-3850
Fax #: 685-3943

Consultant Name & Address: Gettler-Ryan / GeoStrategies
2150 W. Winton Ave.
Hayward, California 94545
7683.01

Consultant Contact: [redacted] / John Werfal
Phone No. 783-7500
Fax #: 783-1089

Comments: 5 Day TAT for O&G on SWS-1A-D

Sampled By: Clyde Galantine
Printed Name: Clyde Galantine

COPY

Analysis Required — Lab: Sequoia

CHECK ONE (1) BOX ONLY		CT/DT
Quarterly Monitoring	[ ]	5461
Site Investigation SW-1	[X]	5441
Soil for disposal SWS-1	[X]	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 [X] Lea 5 Day
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	Oil & Grease - 5520 E&F	ICAP 5 Metal	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
SW-1	3-20-92	X			1	X	X	X	X		X	X	2x6		N		
SWS-1A-D	3-20-92	X			4	X	X	X			X		2x6		Y	Check Comments	2032091 A-D

Relinquished By (signature):	Printed name:	Date/Time	Received (signature):	Printed name:	Date/Time
Clyde Galantine	Clyde Galantine	Date: 3-20 Time: 14:00	Kevin Follett	Kevin Follett	Date: 3-20-92 Time: 1400
Kevin Follett	Kevin Follett	Date: 3-20-92 Time: 1535			Date: Time:
		Date: Time:			Date: Time:

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

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LARGE MAP REMOVED