Weiss Associates
Environmental and Geologic Services
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June 18, 1993

Susan Hugo
Hazardous Materials Division
Alameda County Department of
Environmental Health
80 Swan Way, Room 200
Oakland, CA 94621-1426

LOP 3618

Re: Soil Sampling and
Sanitary Sewer Upgrade
Shell Service Station
WIC #204-5510-0303
5755 Broadway
Oakland, California
WA Job #81-619-08

Dear Ms. Hugo:

This report presents the results of Weiss Associates' (WA) soil sampling activities performed in conjunction with the recent sanitary sewer upgrade at the Shell service station referenced above (Figure 1). Our objective was to assess whether floating hydrocarbons detected in the underground storage tank (UST) backfill between September and December 1992 impacted soil downgradient of the tanks. Presented below are our scope of work as outlined in our March 16, 1993 workplan[1], a brief response summary and the soil sampling results.

SCOPE OF WORK

WA's scope of work was to:

- Assist Shell's contractor, Gettler-Ryan Inc. (G-R) of Hayward, California with the excavation of hydrocarbon-bearing soil encountered during trenching for the sanitary sewer upgrade,

1 WA, March 16, 1993, Consultants Letter/Workplan regarding proposed soil sampling and horizontal well installation at the Shell service station at 5755 Broadway, Oakland, California, 5 pages and 1 attachment.

- Collect soil samples from the excavation trenches and analyze the samples at a California certified analytical laboratory for total petroleum hydrocarbons as gasoline (TPH-G), benzene, ethylbenzene, toluene and xylenes (BETX),
- Assist with the installation of a horizontal well in the trench for the sanitary sewer main downgradient of the site,
- Assist with the installation of a grout barrier and a backfill monitoring well in the trench for the sanitary sewer lateral downgradient of the USTs,
- Stockpile, characterize and coordinate disposal of excavated hydrocarbon-bearing soil at the Class III Browning Ferris Inc. landfill in Livermore, California, and
- Report the results.

RESPONSE SUMMARY

Piping Repair: On December 20, 1992, Shell Oil company responded to a report that gasoline vapors were detected in the storm and sanitary sewers south of the Shell site. Although all tanks passed a precision tightness test, the regular unleaded piping failed. G-R replaced a pipe fitting and the piping passed a subsequent test.

Tank Backfill Purging: Shell immediately arranged for a vacuum truck to purge ground water and floating hydrocarbons from the tank backfill. About 40,000 gallons of mixed water and gasoline were purged from the backfill.

Trench Excavation: Concurrent with purging the floating hydrocarbons from the tank backfill, G-R excavated three trenches at the southeast corner of the site to identify where the hydrocarbons may have entered the sewer piping (Figure 3). Although G-R encountered floating hydrocarbons in the excavations at about 4 ft depth, the exact location where the floating hydrocarbons entered the sewers was not located. During these exploratory excavations G-R encountered a gravel filled trench and piping at the northwest corner of the excavation that may have been an old tank backfill dewatering system that was connected to the storm drain. Since the piping may have acted as a conduit from the tank backfill to the storm drain, G-R removed the piping (Figure 2).

G-R also placed hydrocarbon absorbent pads in the excavations to remove any floating hydrocarbons that accumulated in the excavations.

Sanitary Sewer Piping Replacement: To ensure that no floating hydrocarbons can enter the sanitary sewer lateral or main in the future, Shell directed G-R to remove the existing sanitary sewer piping and replace it with piping that is resistant to hydrocarbon penetration. The sections of replaced sanitary sewer piping are shown on Figure 2.

INVESTIGATION RESULTS

Excavation Sampling

Personnel: WA Geologist David Elias observed and recorded the excavation activities and supervised the installation of a horizontal well, a backfill well and a grout barrier. Phil Wright and David Rothig of G-R supervised the trenching and sanitary sewer upgrade.

Excavation Dates: The sanitary sewer upgrade trenching occurred between February 2 and February 23, 1993.

Maximum Excavation Depth: The maximum excavation depth was 12 to 14 ft beneath the replaced sanitary sewer main (Figure 2 and Attachments B and C).

Sediments Encountered: Clayey silt, sandy silt and silty sand.

Excavation Observations: Although no hydrocarbon-stained soil was observed in the excavation sidewalls to depths of five to eight ft, hydrocarbon-stained soil was observed below five to eight ft depth in soil surrounding the sewer main and lateral (Figures 2 and 3). A hydrocarbon sheen was also observed on groundwater that accumulated in the excavations.

Ground Water Depth: Although ground water in nearby monitoring well S-2 was four to five ft deep during the excavation activities, ground water in the sewer main/horizontal well trench never rose above about eight ft depth. It is likely that the low permeability sediments encountered in the excavation prevented ground water from stabilizing in the trench in the short period it was open. Ground water did rise to about four ft depth in the sewer lateral trench, which was open for several weeks (Figures 2 and 3).

Soil Sampling: Soil samples were collected at two to five ft depth intervals and at 15 ft lineal intervals in the sanitary sewer main and lateral excavations (Figure 2). Samples were collected by driving 2-inch diameter stainless steel sampling tubes into native soil removed by the backhoe. The tubes were immediately sealed with Teflon sheeting, plastic caps and Teflon tape and refrigerated for transport under chain-of-custody to National Environmental Testing, Inc., (NET) in Santa Rosa, California, a state-certified laboratory.

Analytical Methods for Soil: All soil samples were analyzed for TPH-G by Modified EPA Method 8015 and for BETX by EPA Method 8020 (Attachment A).

Soil Analytic Results: Only five soil samples contained over 100 ppm TPH-G (Table 1). The highest hydrocarbon concentrations were detected near the water table adjacent to the sanitary sewer lateral (Figure 4).

Excavation of Trench Sidewalls: The trench sidewalls for the sanitary sewer main and lateral were excavated up to an additional 2 ft wider to remove as much hydrocarbon-bearing soil from the excavation sidewalls as was feasible.

Waste Disposal: U.S. Services of Oakland, California transported 126 cubic yards of excavated soil to the Browning Ferris Inc. landfill in Livermore, California. Soil disposal analytic results are included in Attachment A.

Horizontal Well Installation

To facilitate possible future site remediation, WA installed a horizontal ground water extraction well in the sanitary sewer main trench below the sewer piping The well is constructed of 4-inch diameter schedule 40 PVC well casing with 0.010-inch slotted screen surrounded by Monterey #1/20 sand. The horizontal well is connected to a vertical riser to facilitate ground water extraction from this system in the future (Attachment B, Sheets 1 and 2, and Attachment C).

Grout Barrier Installation

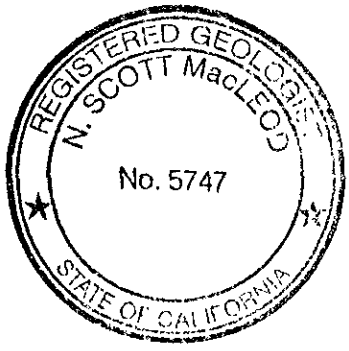
Since the high permeability gravel-filled trench encountered during the initial exploratory excavations may have been a conduit for floating hydrocarbons from the tank backfill to the sewer main, G-R installed a grout barrier immediately downgradient of this

trench to impede hydrocarbon migration (Figures 2 and Attachment B, Sheets 1 and 2). To monitor ground water depth in the trench, G-R also installed a 4-inch diameter pre-packed well with 0.010-inch screen from 2 to 9 ft depth in the trench upgradient of this grout barrier (Attachment B, Sheets 1 and 2).

SUMMARY/CONCLUSIONS

Based on the soil sampling results for the sanitary sewer upgrade, over 100 ppm TPH-G were detected in soil near the water table adjacent to the former sanitary sewer main and lateral (Figure 4). These former sewer lines were installed near the water table at four to seven ft depth and backfilled with a higher permeability backfill. Since the higher permeability backfill surrounding these sewer lines may have provided a preferential flow pathway for hydrocarbon migration, the hydrocarbon concentrations detected in the trench walls may be higher than hydrocarbon concentrations in native soil away from the trench walls. To remove hydrocarbon bearing soil, the trenches were excavated up to 2 ft laterally.

WA is pleased to provide environmental consulting services on behalf of Shell Oil Company. Please call if you have any questions or comments.



Sincerely,
Weiss Associates

David Elias
Staff Geologist

N. Scott MacLeod, R.G.
Project Geologist

DCE/NSM:de

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Attachments: A - Analytic Results for Soil and Ground Water
B - Ground Water Extraction Trench Schematics
C - Geostrategies' Schematics

cc: Dan Kirk, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998
Lester Feldman, California Regional Water Quality Control Board, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, California 94612
Jeff Granberry, Shell Oil Company, P.O. Box 5278, Concord, California 94520-9998

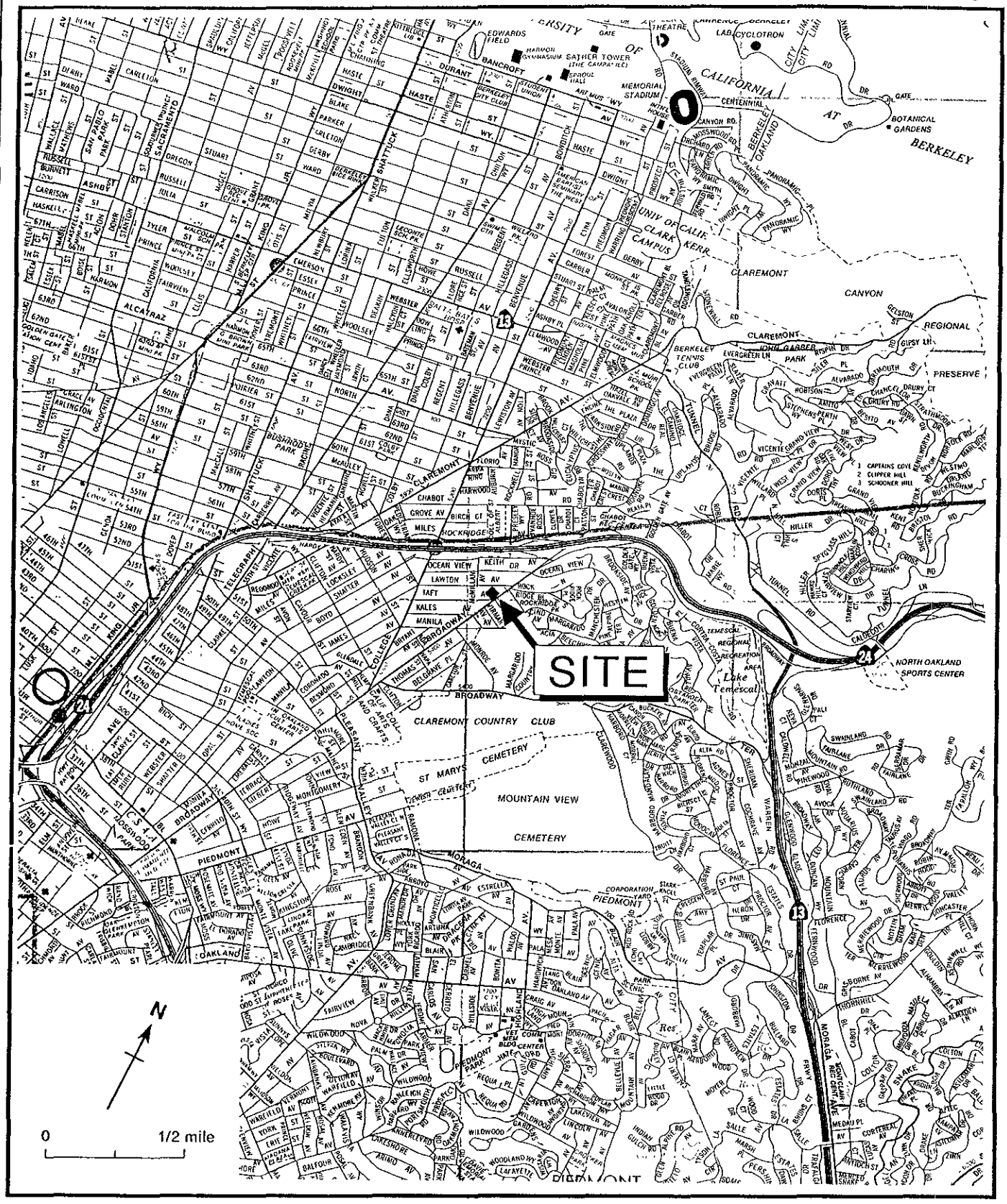

Figure 1. Site Location Map - Shell Service Station WIC #204-5510-0303, 5755 Broadway, Oakland, California

2/28/92

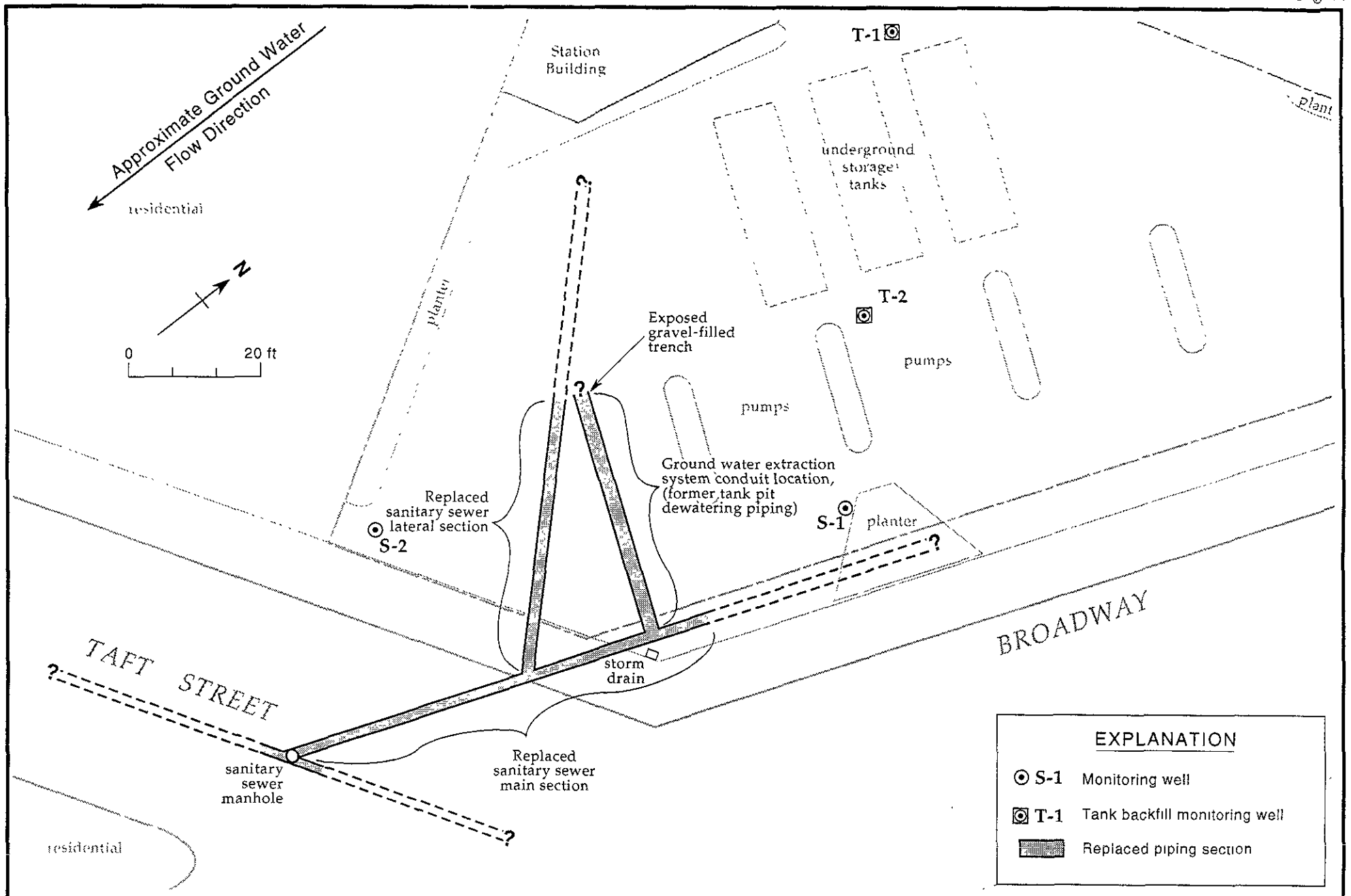

Figure 2. Sanitary Sewer Excavation and Piping Locations - Shell Service Station WIC #204-2004-0204, 5755 Broadway, Oakland, California

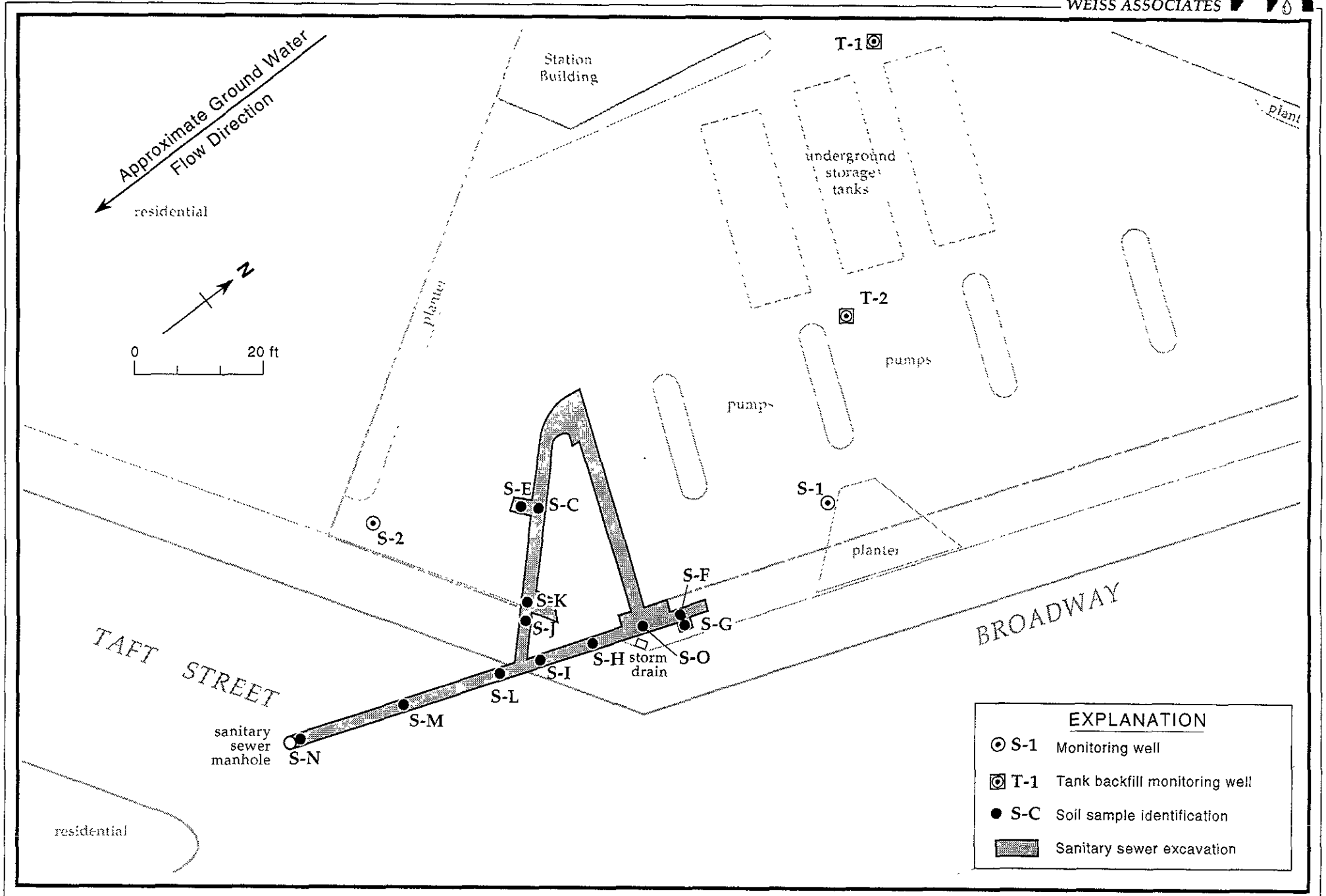

Figure 3. Sanitary Sewer Excavation and Soil Sample Locations - Shell Service Station WIC #204-2004-0204, 5755 Broadway, Oakland, California

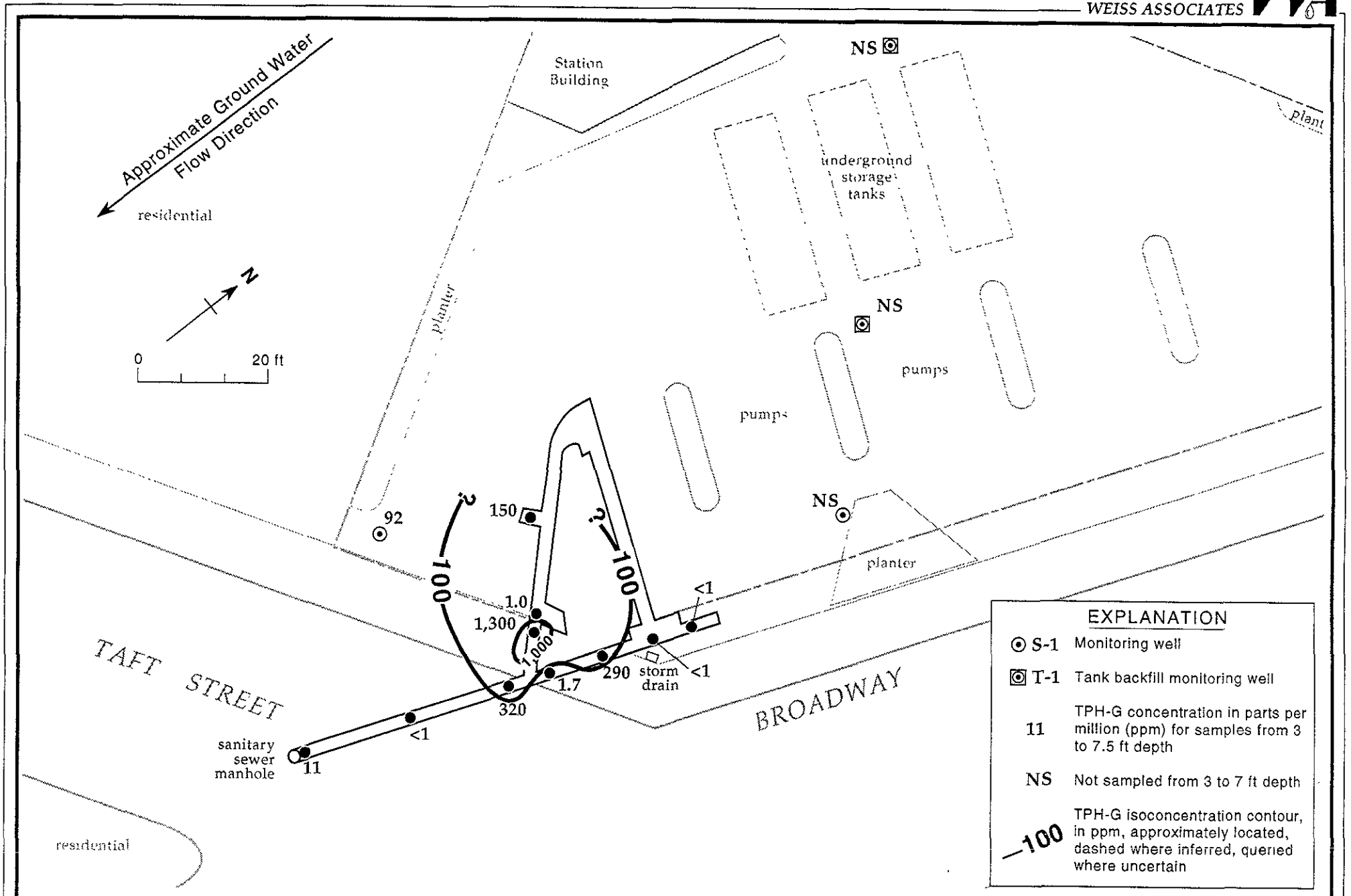

Figure 4. TPH-G Concentrations in Soil, 3 to 7.5 ft Depth - Shell Service Station WIC #204-2004-0204, 5755 Broadway, Oakland, California

6/4/93

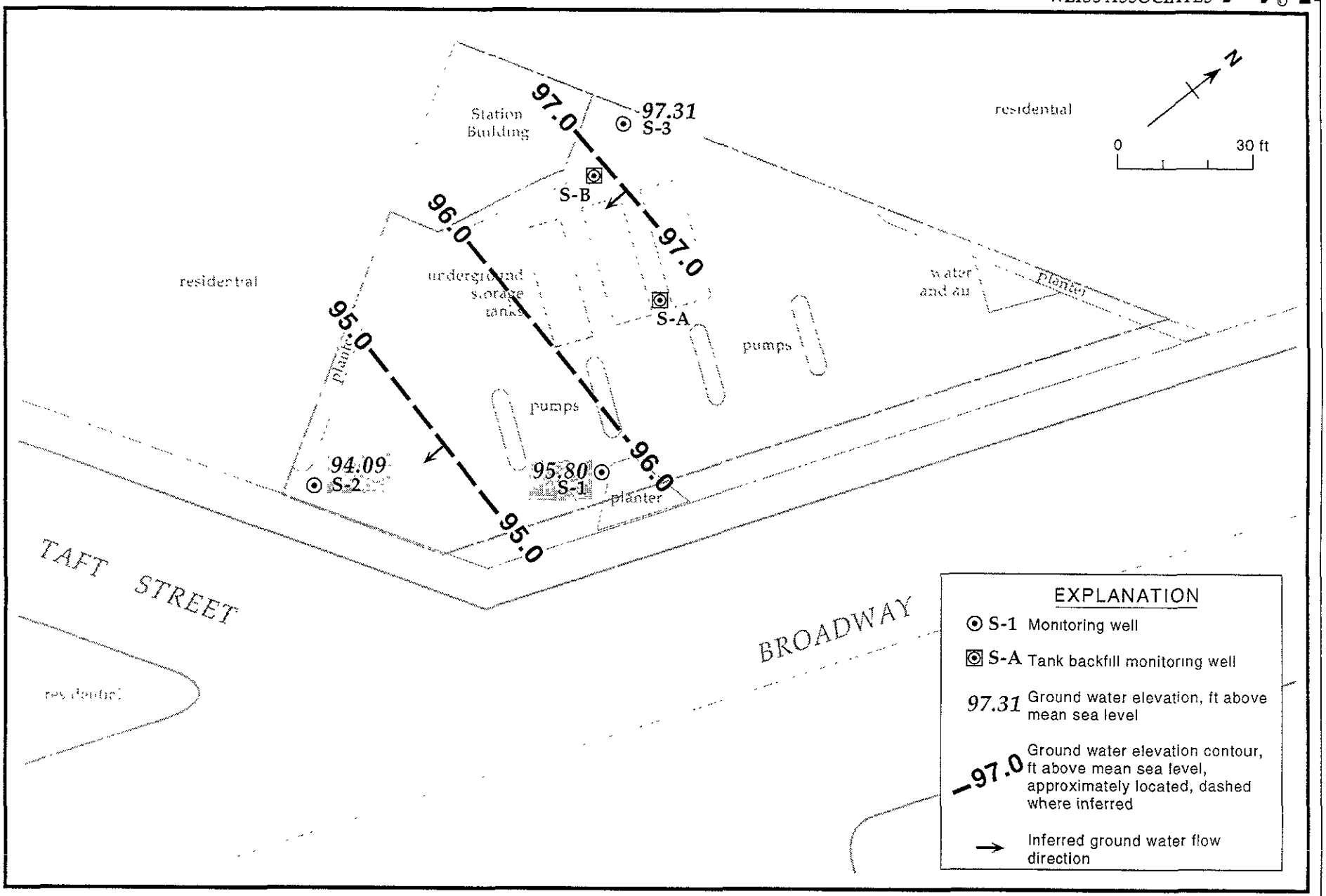

Figure 5. Monitoring Well Locations and Ground Water Elevation Contours - February 10, 1993 - Shell Service Station WIC#204-2004-0204, 5755 Broadway, Oakland, California

4/29/93

TABLE

Table 1. Analytic Results for Soil, Shell Service Station, WIC #204-2004-0204, 5755 Broadway, Oakland, California

Excavation/ Sample ID	Sample Depth	Date Sample	TPH-G	B	E	T	X
			<----------parts per million (mg/kg)---------->				
S-A[a]	5.5	06/12/85	3	---	---	---	---
	10.0	06/12/95	2	---	---	---	---
	11.5	06/12/85	ND	---	---	---	---
S-2-1[b]	3.0	09/18/89	92	0.12	0.58	0.80	4.2
S-3-1[b]	3.0	09/18/89	<10	<0.025	<0.025	0.062	0.120
S-C	1.5	02/02/93	7.9	0.094	0.12	0.0098	1.1
S-E	3.5	02/04/93	150	0.90	1.5	2.3	7.7
S-F	5.0	02/04/93	<1	0.021	<0.0025	<0.0025	<0.0025
S-G	2.5	02/04/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
S-H	3.5	02/04/93	<1	0.024	<0.0025	<0.0025	<0.0025
	5.0	02/04/93	290	0.55	1.8	1.8	6.5
	8.0	02/12/93	2.1	0.074	0.0097	0.064	0.075
	10.0	02/12/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
	11.5	02/12/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
S-I	5.0	02/04/93	1.7	0.074	0.0038	0.095	0.10
	8.0	02/11/93	<1	0.011	<0.0025	0.0079	0.013
	10.0	02/11/93	<1	0.021	<0.0025	0.011	0.021
	12.0	02/11/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
S-J	2.0	02/09/93	140	0.40	0.71	1.1	4.1
	4.0	02/09/93	1,300	1.1	8.1	9.5	44
S-K	6.5	02/09/93	1.0	0.35	0.31	0.23	0.64
S-L	2.0	02/10/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
	4.0	02/10/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
	6.0	02/10/93	320	0.99	1.5	2.0	5.2
	7.5	02/11/93	<1	0.039	0.0074	0.042	0.045
	10.0	02/11/93	<1	<0.0025	<0.0025	<0.0025	<0.0025

-- Table 1 continues on next page --

Excavation/ Sample ID	Sample Depth	Date Sample	TPH-G	B	E	T	X
			<----------parts per million (mg/kg)---------->				
	12.0	02/11/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
S-M	2.0	02/10/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
	4.0	02/10/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
	7.5	02/10/93	<1	0.020	0.0072	0.028	0.053
	10.0	02/11/93	5.9	0.020	0.023	0.038	0.17
	12.0	02/11/93	<1	0.0026	0.0028	0.0069	0.027
S-N	2.0	02/10/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
	4.0	02/10/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
	7.5	02/10/93	11	0.067	0.18	0.51	1.1
	10.0	02/10/93	<1	0.0035	0.0033	0.0061	0.019
	12.0	02/10/93	1.2	<0.0025	<0.0025	<0.0025	0.025
S-O	7.5	02/12/93	<1	0.021	<0.0025	<0.0025	0.0043
	10.0	02/12/93	<1	<0.0025	<0.0025	<0.0025	<0.0025
	11.5	02/12/93	1.3	0.013	<0.0025	0.0046	0.032
	14.0	02/12/93	<1	<0.0025	<0.0025	<0.0025	<0.0025

Abbreviations:

TPH-G = Total petroleum hydrocarbons as gasoline by Modified EPA Method 8015
B = Benzene by EPA Method 8020
E = Ethylbenzene by EPA Method 8020
T = Toluene by EPA Method 8020
X = Xylenes by EPA Method 8020
--- = Not analyzed
ND = Not detected, detection limit not known

Analytical Laboratory:

National Environmental Testing, Inc., (NET), of Santa Rosa, California

Notes:

a = From August 1, 1985 Emcon Associates Report
b = From Harding Lawson Associates Report

ATTACHMENT A

ANALYTIC RESULTS FOR SOIL

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-M-2.0
Date Taken: 02/10/1993
Time Taken:
LAB Job No: (-151049)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	91		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-M-4.0
Date Taken: 02/10/1993
Time Taken:
LAB Job No: (-151050)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	84		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-M-7.5
Date Taken: 02/10/1993
Time Taken:
LAB Job No: (-151051)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-18-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-18-93			
DILUTION FACTOR*	1			
Benzene	0.020	0.0025	mg/Kg	8020
Ethylbenzene	0.0072	0.0025	mg/Kg	8020
Toluene	0.028	0.0025	mg/Kg	8020
Xylenes (Total)	0.053	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	81		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-N-2.0
Date Taken: 02/10/1993
Time Taken:
LAB Job No: (-151052)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	92		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-N-4.0
Date Taken: 02/10/1993
Time Taken:
LAB Job No: (-151053)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	88		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-N-7.5
Date Taken: 02/10/1993
Time Taken:
LAB Job No: (-151054)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	11	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	0.067	0.0025	mg/Kg	8020
Ethylbenzene	0.18	0.0025	mg/Kg	8020
Toluene	0.51	0.0025	mg/Kg	8020
Xylenes (Total)	1.1	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	85		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-N-10.0
Date Taken: 02/10/1993
Time Taken:
LAB Job No: (-151055)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	0.0035	0.0025	mg/Kg	8020
Ethylbenzene	0.0033	0.0025	mg/Kg	8020
Toluene	0.0061	0.0025	mg/Kg	8020
Xylenes (Total)	0.019	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	84		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-N-12.0
Date Taken: 02/10/1993
Time Taken:
LAB Job No: (-151056)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	1.2	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	0.025	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	71		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Gasoline	1.0	mg/Kg	109	ND	113	113	<1
Benzene	0.0025	mg/Kg	93	ND	100	100	<1
Toluene	0.0025	mg/Kg	92	ND	93	93	<1
Gasoline	1.0	mg/Kg	109	ND	106	103	2.3
Benzene	0.0025	mg/Kg	98	ND	92	88	4.0
Toluene	0.0025	mg/Kg	101	ND	91	87	3.8
Gasoline	1.0	mg/Kg	112	ND	97	101	11
Benzene	0.0025	mg/Kg	92	ND	83	92	9.3
Toluene	0.0025	mg/Kg	92	ND	84	92	10

COMMENT: Blank Results were ND on other analytes tested.

NET®

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 2128

Date: 2-10-93
Page 1 of 2

Site Address: 5755 BROADWAY, OAKLAND

WIC#: 204-2004-0204

Shell Engineer: DAN KIRK — Phone No.: 675-6168 Fax #: 675-6172

Consultant Name & Address: WEISS ASSOCIATES 5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: DAVID ELIAS — Phone No.: (510) 547-5420 Fax #: 547-5043
WA JOB # 81-619-08

Comments:

Sampled by: David Elias

Printed Name: DAVID ELIAS

LAB: NET

UST AGENCY: ACDEH

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
G.W. Monitoring ☐	4461	24 hours ☐
Site Investigation ☒	4441	48 hours ☐
Soil Classify/Disposal ☐	4442	15 days ☒ (Normal)
Water Classify/Disposal ☐	4443	Other ☐ ____
Soil/Air Rem. or Sys. O & M ☐	4452	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M ☐	4453	
Other ☐		

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020			Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
S-L-2.0	2/10/93		X			1						X				2x4		N	SOIL & GAS	
S-L-4.0																				
S-L-6.0																				
S-M-2.0																				
S-M-4.0																				
S-M-7.5																				
S-N-2.0																				
S-N-4.0																				

STORED IN SECURE PLACE

Relinquished By (signature)	Printed Name	Date/Time	Received (signature)	Printed Name	Date/Time
David Elias	DAVID ELIAS	Date: 2-10-93 Time: 17:00	Ronald C Jensen	R. JENSEN	Date: 2/11/93 Time: 12:00
Ronald C Jensen	R. JENSEN	Date: 2/11/93 Time: 13:40	Andy Mackay	ANDY MACKAY	Date: 2-11-93 Time: 1340
Andy Mackay	Andy Mackay	Date: 2-11-93 Time: 1706	IC Temp 6	IC Temp 6	Date: 2-12-93 Time: 0800

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

Rev 1/12/93

Shell Oil Chn of Custody

CUSTODY SEALED
@ 1700 2-11-93

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 2128

Date: 2-10-93
Page 2 of 2

Site Address: 5755 BROADWAY, OAKLAND

WIC#: 204-2004-0204

Shell Engineer: DAN KIRK — Phone No.: 675-6168 Fax #: 675-6172

Consultant Name & Address: WEISS ASSOCIATES 5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: DAVID ELIAS — Phone No.: (510) 547-5420 Fax #: 547-5043

WA JOB # 81-619-08

Comments:

Sampled by: David Elias

Printed Name: DAVID ELIAS

LAB: NET

UST AGENCY: ACDEH

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
G.W. Monitoring ☐	4461	24 hours ☐
Site Investigation ☒	4441	48 hours ☐
Soil Classify/Disposal ☐	4442	15 days ☒ (Normal)
Water Classify/Disposal ☐	4443	Other ☐ ____
Soil/Air Rem. or Sys. O & M ☐	4452	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M ☐	4453	
Other ☐		

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020			Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
S-N-7.5	2/10/93		X			1						X				2X4		N	SOIL/GAS	
S-N-10.0	↓		↓			↓						↓				↓		↓	↓	
S-N-12.0	↓		↓			↓						↓				↓		↓	↓	

STORED IN SECURE PLACE

	Printed Name	Date/Time		Printed Name	Date/Time
Relinquished By (signature): David Elias	DAVID ELIAS	Date: 2-10-93 Time: 17:00	Received (signature): Ronald C. Jensen	R. JENSEN	Date: 2/11/93 Time: 12:00
Relinquished By (signature): Ronald C. Jensen	R. JENSEN	Date: 2/11/9 Time: 13:40	Received (signature): Andy MacKay	ANDY MACKAY	Date: 2-11-93 Time: 1341
Relinquished By (signature): Andy MacKay	ANDY MACKAY	Date: 2-11-93 Time: 1700	Received (signature): K. Temple	K. Temple	Date: 2-12-93 Time: 0800

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

Rev 1/12/93

Shell Oil Chn. of Custody

CUSTODY SEALED @ 1700 2-11-93 Seal intact

NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

David Elias
Weiss Associates
5500 Shellmound St.
Emeryville, CA 94608

Date: 02/23/1993
NET Client Acct. No: 1809
NET Pacific Job No: 93.00547
Received: 02/13/1993

Client Reference Information

Shell, 5755 Broadway, Oakland, Job No. 81-619-08

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

Enclosure(s)

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-L-7.5
Date Taken: 02/11/1993
Time Taken:
LAB Job No: (-151152)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	0.039	0.0025	mg/Kg	8020
Ethylbenzene	0.0074	0.0025	mg/Kg	8020
Toluene	0.042	0.0025	mg/Kg	8020
Xylenes (Total)	0.045	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	90		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-M-10.0
Date Taken: 02/11/1993
Time Taken:
LAB Job No: (-151153)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	5.9	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	0.020	0.0025	mg/Kg	8020
Ethylbenzene	0.023	0.0025	mg/Kg	8020
Toluene	0.038	0.0025	mg/Kg	8020
Xylenes (Total)	0.17	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	103		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-L-10.0
Date Taken: 02/11/1993
Time Taken:
LAB Job No: (-151154)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	81		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-L-12.0
Date Taken: 02/11/1993
Time Taken:
LAB Job No: (-151156)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	91		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-M-12.0
Date Taken: 02/11/1993
Time Taken:
LAB Job No: (-151157)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	0.0026	0.0025	mg/Kg	8020
Ethylbenzene	0.0028	0.0025	mg/Kg	8020
Toluene	0.0069	0.0025	mg/Kg	8020
Xylenes (Total)	0.027	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	88		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-I-8.0
Date Taken: 02/11/1993
Time Taken:
LAB Job No: (-151158)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	0.011	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	0.0079	0.0025	mg/Kg	8020
Xylenes (Total)	0.013	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	72		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-I-10.0
Date Taken: 02/11/1993
Time Taken:
LAB Job No: (-151159)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	0.021	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	0.011	0.0025	mg/Kg	8020
Xylenes (Total)	0.021	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	82		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-I-12.0
Date Taken: 02/11/1993
Time Taken:
LAB Job No: (-151160)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	74		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Gasoline	1.0	mg/Kg	109	ND	106	103	2.3
Benzene	0.0025	mg/Kg	98	ND	97	97	<1
Toluene	0.0025	mg/Kg	101	ND	98	98	<1

COMMENT: Blank Results were ND on other analytes tested.

NET®

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 2146

Date: 2-11-93
Page 1 of 1

Site Address: 5755 BROADWAY, OAKLAND

WIC#: 204-2004-0204

Shell Engineer: DAN KIRK — Phone No.: 675-6168 Fax #: 675-6172

Consultant Name & Address: WEISS ASSOCIATES 5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: DAVID ELIAS — Phone No.: (510) 547-5420 Fax #: 547-5043

WA JOB # 81-619-08

Comments:

Sampled by: David Elias

Printed Name: DAVID ELIAS

LAB: NET

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
G.W. Monitoring	4461	24 hours
Site Investigation	X 4441	48 hours
Soil Classify/Disposal	4442	15 days X (Normal)
Water Classify/Disposal	4443	Other
Soil/Air Rem. or Sys. O & M	4452	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M	4453	
Other		

UST AGENCY: ACDEH

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	HOLD		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
S-L-7.5	2-11-93		X			1						X				1L 8oz 4		N	SOIL/GAS	
S-M-10.0												X								
S-L-10.0												X								
S-M-11.0													X							
S-L-12.0												X								
S-M-12.0												X				2.5 x 6				
S-I-8.0												X				2x4				
S-I-10.0												X								
S-I-12.0												X								

STORED IN SECURE PLACE

	Printed Name	Date / Time		Printed Name	Date / Time
Relinquished By (signature): David Elias	DAVID ELIAS	Date: 2-11-93 Time: 17:19	Received (signature): David Elias	DAVID ELIAS	Date: 2-12-93 Time: 15:55
Relinquished By (signature):	DAVID ELIAS	Date: 2-12-93 Time: 15:55	Received (signature): Andy Mackay	ANDY MACKAY	Date: 2-12-93 Time: 1600
Relinquished By (signature): Andy Mackay	Andy Mackay	Date: 2-12-93 Time: 1700	Received (signature): K. Temple	K. Temple	Date: 2-13-93 Time: 1000

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

Rev 1/12/93

CUSTODY SEALED 1700 2-12-93 seal intact

Shell Oil Chain of Custody

NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

David Elias
Weiss Associates
5500 Shellmound St.
Emeryville, CA 94608

Date: 02/23/1993
NET Client Acct. No: 1809
NET Pacific Job No: 93.00548
Received: 02/13/1993

Client Reference Information

Shell, 5755 Broadway, Oakland, Job No. 81-619-08

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

Enclosure(s)

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

David Elias
Weiss Associates
5500 Shellmound St.
Emeryville, CA 94608

Date: 02/12/1993
NET Client Acct. No: 1809
NET Pacific Job No: 93.00386
Received: 02/04/1993

Client Reference Information

Shell, 5755 Broadway, Oakland, Job No. 81-619-08

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack for:
Laboratory Manager

Enclosure(s)

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-C-1.5
Date Taken: 02/02/1993
Time Taken:
LAB Job No: (-150434)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-08-93			
DILUTION FACTOR*	1			
as Gasoline	7.9	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-08-93			
DILUTION FACTOR*	1			
Benzene	0.094	0.0025	mg/Kg	8020
Ethylbenzene	0.12	0.0025	mg/Kg	8020
Toluene	0.0098	0.0025	mg/Kg	8020
Xylenes (Total)	1.1	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	113		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Gasoline	1.0	mg/Kg	105	ND	80	86	7.4
Benzene	0.0025	mg/Kg	98	ND	89	94	5.4
Toluene	0.0025	mg/Kg	98	ND	88	93	5.2

COMMENT: Blank Results were ND on other analytes tested.

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 1974

Date: 2-2-93
Page 1 of 1

Site Address: 5755 BROADWAY, OAKLAND

WIC#: 204-2004-0204

Shell Engineer: DAN KIRK — Phone No.: 675-6168 Fax #: 675-6172

Consultant Name & Address: WEISS ASSOCIATES 5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: DAVID ELIAS — Phone No.: (510) 547-5420 Fax #: 547-5043

WA JOB # 81-619-08

Comments:

Sampled by: David Elias

Printed Name: DAVID ELIAS

LAB: NET

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	HOLD	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
S-A-1.6	2/2/93		X			1						X					N	SOIL/GAS	Samples kept on hold till 2/5/93
S-A-3.2	"		"			"													S-C-1.5 taken off hold 2/5/93 per Dave Elias fax S. Long
S-B-1.6	"		"			"													
S-B-3.2	"		"			"													
S-C-.5	"		"			"													
S-C-1.5	"		"			"					*	X							
S-C-3.2	"		"			"													
S-D-2.5																		This sample was rec. but not written on COC	

Relinquished By (signature)	Printed Name	Date / Time	Received (signature)	Printed Name	Date / Time
David Elias	DAVID ELIAS	2/2/93 13:27	Ronald C. Jensen	R. JENSEN	2/3/93 14:45
Ronald C. Jensen	R. JENSEN	2/3/93 14:50	Cindy Mecby	ANDY MACKAY	2/3/93 14:50
Andy Mackay	ANDY MACKAY	2-3-93 1900	A. Lopez	Anny Lopez	2/4/93 0900

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

CUSTODY RELEASED TO A SECURED PLACE

RECEIVED FROM SECURE AREA

FILED 2/3 @ 1900

Rev. 1/12/93

Shell Oil Chain of Custody

NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

David Elias
Weiss Associates
5500 Shellmound St.
Emeryville, CA 94608

Date: 02/16/1993
NET Client Acct. No: 1809
NET Pacific Job No: 93.00420
Received: 02/06/1993

Client Reference Information

SHELL, 5755 Broadway, Oakland, WA Job: 81-619-08

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack FOR
Laboratory Manager

Enclosure(s)

Ref: SHELL, 5755 Broadway, Oakland, WA Job: 81-619-08

SAMPLE DESCRIPTION: S-E-3.5
Date Taken: 02/04/1993
Time Taken:
LAB Job No: (-150548)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	10			
as Gasoline	150	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	10			
Benzene	0.90	0.0025	mg/Kg	8020
Ethylbenzene	1.5	0.0025	mg/Kg	8020
Toluene	2.3	0.0025	mg/Kg	8020
Xylenes (Total)	7.7	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	97		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, WA Job: 81-619-08

SAMPLE DESCRIPTION: S-F-5.0
Date Taken: 02/04/1993
Time Taken:
LAB Job No: (-150549)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-08-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-08-93			
DILUTION FACTOR*	1			
Benzene	0.021	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	81		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, WA Job: 81-619-08

SAMPLE DESCRIPTION: S-G-2.5
Date Taken: 02/04/1993
Time Taken:
LAB Job No: (-150550)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	81		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, WA Job: 81-619-08

SAMPLE DESCRIPTION: S-H-3.5
Date Taken: 02/04/1993
Time Taken:
LAB Job No: (-150551)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	1			
Benzene	0.024	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	83		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, WA Job: 81-619-08

SAMPLE DESCRIPTION: S-H-5.0
Date Taken: 02/04/1993
Time Taken:
LAB Job No: (-150552)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	100			
as Gasoline	290	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	100			
Benzene	0.55	0.0025	mg/Kg	8020
Ethylbenzene	1.8	0.0025	mg/Kg	8020
Toluene	1.8	0.0025	mg/Kg	8020
Xylenes (Total)	6.5	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	90		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, WA Job: 81-619-08

SAMPLE DESCRIPTION: S-I-5.0
Date Taken: 02/04/1993
Time Taken:
LAB Job No: (-150553)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	1			
as Gasoline	1.7	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	1			
Benzene	0.074	0.0025	mg/Kg	8020
Ethylbenzene	0.0038	0.0025	mg/Kg	8020
Toluene	0.095	0.0025	mg/Kg	8020
Xylenes (Total)	0.10	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	79		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, WA Job: 81-619-08

SAMPLE DESCRIPTION: Comp
Date Taken: 02/04/1993
Time Taken:
LAB Job No: (-150554)

Parameter	Results	Reporting Limit	Units	Method
Soil pH measured in water	8.6	N/A	pH units	9040
Flashpoint/Ignitability	>140	N/A	Degree F	1010
Sulfide	19	10	mg/Kg	376.1
Cyanide (Total)	ND	0.2	mg/Kg	335.2
CAM METALS (Solid,TTLC)				
Antimony (ICP)	ND	10	mg/Kg	EPA 6010
Arsenic (GFAA)	3.9	0.5	mg/Kg	EPA 7060
Barium (ICP)	95	2.0	mg/Kg	EPA 6010
Beryllium (ICP)	ND	2.0	mg/Kg	EPA 6010
Cadmium (ICP)	ND	2.0	mg/Kg	EPA 6010
Chromium (ICP)	90	2.0	mg/Kg	EPA 6010
Chromium+6 (FLAA)	NA	2.0	mg/Kg	EPA 7197
Cobalt (ICP)	16	5.0	mg/Kg	EPA 6010
Copper (ICP)	13	2.0	mg/Kg	EPA 6010
Lead (GFAA)	8.4	0.2	mg/Kg	EPA 7421
Mercury (CVAA)	ND	0.1	mg/Kg	EPA 7471
Molybdenum (ICP)	ND	5.0	mg/Kg	EPA 6010
Nickel (ICP)	110	5.0	mg/Kg	EPA 6010
Selenium (GFAA)	ND	0.5	mg/Kg	EPA 7740
Silver (ICP)	ND	2.0	mg/Kg	EPA 6010
Thallium (ICP)	ND	20	mg/Kg	EPA 6010
Vanadium (ICP)	35	5.0	mg/Kg	EPA 6010
Zinc (ICP)	38	2.0	mg/Kg	EPA 6010
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	10			
as Gasoline	51	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-06-93			
DILUTION FACTOR*	10			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	0.15	0.0025	mg/Kg	8020
Toluene	0.076	0.0025	mg/Kg	8020
Xylenes (Total)	0.83	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	89		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, WA Job: 81-619-08

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Gasoline	1	mg/Kg	105	ND	80	86	7.4
Benzene	0.0025	mg/Kg	98	ND	89	94	5.4
Toluene	0.0025	mg/Kg	98	ND	88	93	5.2
Gasoline	1	mg/Kg	96	ND	84	85	<1
Benzene	0.0025	mg/Kg	93	ND	100	96	4.0
Toluene	0.0025	mg/Kg	90	ND	95	93	2.0
pH	N/A	pH units	100	N/A	N/A	N/A	<1
Flashpoint	N/A	Degree F	101	N/A	N/A	N/A	N/A
Sulfide	10	mg/Kg	N/A	ND	98	98	<1
Cyanide	0.20	mg/Kg	91	ND	94	88	6.6
Antimony	10	mg/Kg	95	ND	92	90	1.5
Arsenic	0.5	mg/Kg	98	ND	88	90	1.8
Barium	2	mg/Kg	96	ND	92	98	4.5
Beryllium	2	mg/Kg	97	ND	85	86	<1
Cadmium	2	mg/Kg	107	ND	92	94	1.4
Chromium	2	mg/Kg	101	ND	94	95	1.0
Cobalt	5	mg/Kg	108	ND	94	95	<1
Copper	2	mg/Kg	108	ND	82	86	3.8
Lead	20	mg/Kg	105	ND	90	90	<1
Mercury	0.1	mg/Kg	92	ND	108	111	2.7
Molybdenum	5	mg/Kg	102	ND	98	96	2.1
Nickel	5	mg/Kg	109	ND	81	84	3.0
Selenium	0.5	mg/Kg	99	ND	88	89	<1
Silver	2	mg/Kg	97	ND	90	91	<1
Thallium	20	mg/Kg	99	ND	92	92	<1
Vanadium	5	mg/Kg	106	ND	99	105	5.2
Zinc	2	mg/Kg	107	ND	96	90	4.5

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 2020

Date: 2-4-93
Page 1 of 2

Site Address: 5755 BROADWAY, OAKLAND

WIC#: 204-2004-0204

Shell Engineer: DAN KIRK — Phone No.: 675-6168, Fax #: 675-6172

Consultant Name & Address: WEISS ASSOCIATES 5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: DAVID ELIAS — Phone No.: (510) 547-5420, Fax #: 547-5043

WA JOB # 81-619-08

Comments:

Sampled by: David Elias

Printed Name: DAVID ELIAS

LAB: NET

CHECK ONE (1) BOX ONLY | CT/DT
- G.W. Monitoring ☐ 4461
- Site Investigation ☒ 4441
- Soil Classify/Disposal ☒ 4442
- Water Classify/Disposal ☐ 4443
- Soil/Air Rem. or Sys. O & M ☐ 4452
- Water Rem. or Sys. O & M ☐ 4453
- Other ☐

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

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

UST AGENCY: ____

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	HOLD		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
S-E-2.5	2-4-93		X			1							X							
S-E-3.5							X					X								
S-F-2.5													X							
S-F-5.0												X								
S-G-2.5												X								
S-G-3.5													X							
S-H-3.5												X								
S-H-5.0												X								

STORED IN SAMPLE FRIDGE

Relinquished By (signature)	Printed Name	Date / Time	Received (signature)	Printed Name	Date / Time
David Elias	DAVID ELIAS	Date: 2-4-93 Time: 15:30	David Elias	DAVID ELIAS	Date: 2-5-93 Time: 10:09
[illegible]	DAVID ELIA	Date: 2-5-93 Time: 14:43	Andy Mackay	ANDY MACKAY	Date: 2-5-93 Time: 1443
Andy Mackay		Date: Time:	[illegible]	Anny Lope	Date: 2/6/93 Time: 10:00

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

CUSTODY SEALED 2-5-93 @ 1800 hrs

Rev 1/12/93

Shell Oil Chn of Custody

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 2020

Date: 2-4-93
Page 2 of 2

Site Address: 5755 BROADWAY, OAKLAND

WIC#: 204-2004-0204

Shell Engineer: DAN KIRK
Phone No.: 675-6168
Fax #: 675-6172

Consultant Name & Address: WEISS ASSOCIATES 5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: DAVID ELIAS
WA JOB # 81-619-08
Phone No.: (510) 547-5420
Fax #: 547-5043

Comments:

Sampled by: David Elias
Printed Name: DAVID ELIAS

LAB: NET

CHECK ONE (1) BOX ONLY		CT/DT
G.W. Monitoring	☐	4461
Site Investigation	☒	4441
Soil Classify/Disposal	☒	4442
Water Classify/Disposal	☐	4443
Soil/Air Rem. or Sys. O & M	☐	4452
Water Rem. or Sys. O & M	☐	4453
Other	☐	

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

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

UST AGENCY:

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	HOLD		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
S-I-4.0	2-4-93		X			1							X						SOIL & GAS	
S-I-5.0	↓		↓			1						X							↓	
COMP	↓		↓			4					X		gftpe, tlc carnets add RCI per DE to LD on 2/10/93						↓	RUSH

PLEASE REPORT TPH-G/BTEX AND TOTAL LEAD ON SEPARATE REPORT 2-5-93

STORED IN SECURE PLACE

Relinquished By (signature):	Printed Name:	Date/Time	Received (signature):	Printed Name:	Date/Time
David Elias	DAVID ELIAS	Date: 2-4-93 Time: 17:30	David Elias	DAVID ELIAS	Date: ~~2-5-93~~ Time: 10:08
David Elias	DAVID ELIAS	Date: 2-5-93 Time: 14:42	Andy Mackey	ANDY MACKAY	Date: 2-5-93 Time: 1447
Andy Mackey		Date: Time:	A Lope	ANDY LOPE	Date: ~~10~~ 2/6/93 Time: 10:00

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

Rev. 1/12/93
Shell Oil Chn of Custody

Seals intact AL
CUSTODY SEALED 2-5-93
@ 1800

NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Dave Elias
Weiss Associates
5500 Shellmound St.
Emeryville, CA 94608

Date: 02/18/1993
NET Client Acct. No: 1809
NET Pacific Job No: 93.00478
Received: 02/10/1993

Client Reference Information

SHELL, 5755 Broadway, Oakland, WA Job No: 81-619-08

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

Enclosure(s)

Ref: SHELL, 5755 Broadway, Oakland, WA Job No: 81-619-08

SAMPLE DESCRIPTION: S-J-2.0
Date Taken: 02/09/1993
Time Taken:
LAB Job No: (-150794)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-10-93			
DILUTION FACTOR*	1			
as Gasoline	140	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-10-93			
DILUTION FACTOR*	1			
Benzene	0.40	0.0025	mg/Kg	8020
Ethylbenzene	0.71	0.0025	mg/Kg	8020
Toluene	1.1	0.0025	mg/Kg	8020
Xylenes (Total)	4.1	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	98		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, WA Job No: 81-619-08

SAMPLE DESCRIPTION: S-J-4.0
Date Taken: 02/09/1993
Time Taken:
LAB Job No: (-150795)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-10-93			
DILUTION FACTOR*	100			
as Gasoline	1,300	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-10-93			
DILUTION FACTOR*	100			
Benzene	1.1	0.0025	mg/Kg	8020
Ethylbenzene	8.1	0.0025	mg/Kg	8020
Toluene	9.5	0.0025	mg/Kg	8020
Xylenes (Total)	44	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	115		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, WA Job No: 81-619-08

SAMPLE DESCRIPTION: S-K-6.5
Date Taken: 02/09/1993
Time Taken:
LAB Job No: (-150796)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
as Gasoline	1.0	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-11-93			
DILUTION FACTOR*	10			
Benzene	0.35	0.0025	mg/Kg	8020
Ethylbenzene	0.31	0.0025	mg/Kg	8020
Toluene	0.23	0.0025	mg/Kg	8020
Xylenes (Total)	0.64	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	96		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, WA Job No: 81-619-08

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Gasoline	1.0	mg/Kg	87	ND	80	71	11
Benzene	0.0025	mg/Kg	104	ND	98	92	6.0
Toluene	0.0025	mg/Kg	106	ND	94	89	5.5
Gasoline	1.0	mg/Kg	109	ND	113	131	<1
Benzene	0.0025	mg/Kg	93	ND	100	100	<1
Toluene	0.0025	mg/Kg	92	ND	93	93	<1
Gasoline	1.0	mg/Kg	89	ND	82	91	11
Benzene	0.0025	mg/Kg	99	ND	107	108	1.0
Toluene	0.0025	mg/Kg	104	ND	99	100	<1

COMMENT: Blank Results were ND on other analytes tested.

NET®

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 2075

Date: 2-9-93
Page 1 of 1

Site Address: 5755 BROADWAY, OAKLAND

WIC#: 204-2004-0204

Shell Engineer: DAN KIRK — Phone No.: 675-6168 Fax #: 675-6172

Consultant Name & Address: WEISS ASSOCIATES 5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: DAVID ELIAS — Phone No.: (510) 547-5420 Fax #: 547-5043

WA JOB # 81-619-08

Comments:

Sampled by: David Elias

Printed Name: DAVID ELIAS

LAB: NET

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020			Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
S-J-2.0	2/9/93		X			1						X						N	SOIL/GAS	
S-J-4.0	↓		↓			↓						↓						↓	↓	
S-K-6.5	↓		↓			↓						↓						↓	↓	

CHECK ONE (1) BOX ONLY — CT/DT — TURN AROUND TIME

- G.W. Monitoring ☐ 4461
- Site Investigation ☒ 4441
- Soil Classify/Disposal ☐ 4442
- Water Classify/Disposal ☐ 4443
- Soil/Air Rem. or Sys. O & M ☐ 4452
- Water Rem. or Sys. O & M ☐ 4453
- Other ☐

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

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

UST AGENCY: ____

Relinquished By (signature)	Printed Name	Date / Time	Received (signature)	Printed Name	Date / Time
David Elias	DAVID ELIAS	Date: 2/9/93 Time: 13:49	Andy Mackay	ANDY MACKAY	Date: 2-9-93 Time: 13:50
Andy Mackay	ANDY MACKAY	Date: 2-9-93 Time: 1600			Date: Time:
		Date: Time:	Anny Lope	Anny Lope	Date: 2/10/93 Time: 0800

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

Rev 1/12/93

Shell Oil Chn of Custody

CUSTODY SEALED 2/9/93 @ 1600

NATIONAL
ENVIRONMENTAL
TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

David Elias
Weiss Associates
5500 Shellmound St.
Emeryville, CA 94608

Date: 02/22/1993
NET Client Acct. No: 1809
NET Pacific Job No: 93.00531
Received: 02/12/1993

Client Reference Information

Shell, 5755 Broadway, Oakland, Job No. 81-619-08

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

Enclosure(s)

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-L-2.0
Date Taken: 02/10/1993
Time Taken:
LAB Job No: (-151046)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	86		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-L-4.0
Date Taken: 02/10/1993
Time Taken:
LAB Job No: (-151047)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	83		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-L-6.0
Date Taken: 02/10/1993
Time Taken:
LAB Job No: (-151048)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	100			
as Gasoline	320	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-15-93			
DILUTION FACTOR*	100			
Benzene	0.99	0.0025	mg/Kg	8020
Ethylbenzene	1.5	0.0025	mg/Kg	8020
Toluene	2.0	0.0025	mg/Kg	8020
Xylenes (Total)	5.2	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	105		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-H-8.0
Date Taken: 02/12/1993
Time Taken:
LAB Job No: (-151161)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	2.1	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	0.074	0.0025	mg/Kg	8020
Ethylbenzene	0.0097	0.0025	mg/Kg	8020
Toluene	0.064	0.0025	mg/Kg	8020
Xylenes (Total)	0.075	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	83		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-H-10.0
Date Taken: 02/12/1993
Time Taken:
LAB Job No: (-151162)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	87		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-H-11.5
Date Taken: 02/12/1993
Time Taken:
LAB Job No: (-151163)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	92		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-O-7.5
Date Taken: 02/12/1993
Time Taken:
LAB Job No: (-151164)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	0.021	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	0.0043	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	102		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-O-10.0
Date Taken: 02/12/1993
Time Taken:
LAB Job No: (-151165)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	89		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-O-11.5
Date Taken: 02/12/1993
Time Taken:
LAB Job No: (-151166)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	1.3	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	0.013	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	0.0046	0.0025	mg/Kg	8020
Xylenes (Total)	0.032	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	82		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

SAMPLE DESCRIPTION: S-O-14.0
Date Taken: 02/12/1993
Time Taken:
LAB Job No: (-151167)

Parameter	Results	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)				
METHOD 5030 (GC,FID)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
as Gasoline	ND	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--			
DATE ANALYZED	02-16-93			
DILUTION FACTOR*	1			
Benzene	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0025	mg/Kg	8020
Toluene	ND	0.0025	mg/Kg	8020
Xylenes (Total)	ND	0.0025	mg/Kg	8020
SURROGATE RESULTS	--			
Bromofluorobenzene	84		% Rec.	5030

Ref: Shell, 5755 Broadway, Oakland, Job No. 81-619-08

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Gasoline	1.0	mg/Kg	109	ND	92	98	6.1
Benzene	0.0025	mg/Kg	108	ND	87	96	9.0
Toluene	0.0025	mg/Kg	107	ND	90	98	7.5

COMMENT: Blank Results were ND on other analytes tested.

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: 7145

Date: 2-12-93
Page 1 of 1

Site Address: 5755 BROADWAY, OAKLAND

WIC#: 204-2004-0204

Shell Engineer: DAN KIRK — Phone No.: 675-6168 Fax #: 675-6172

Consultant Name & Address: WEISS ASSOCIATES 5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: DAVID ELIAS — Phone No.: (510) 547-5420 Fax #: 547-5043

WA JOB # 81-619-08

Comments:

Sampled by: David Elias

Printed Name: DAVID ELIAS

LAB: NET

UST AGENCY: ACDEH

CHECK ONE (1) BOX ONLY	CT/DT	TURN AROUND TIME
G.W. Monitoring	☐ 4461	24 hours ☐
Site Investigation	☒ 4441	48 hours ☐
Soil Classify/Disposal	☐ 4442	15 days ☒ (Normal)
Water Classify/Disposal	☐ 4443	Other ☐
Soil/Air Rem. or Sys. O & M	☐ 4452	NOTE: Notify Lab as soon as Possible of 24/48 hrs. TAT.
Water Rem. or Sys. O & M	☐ 4453	
Other	☐	

Analysis Required

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH (EPA 8015 Mod. Gas)	TPH (EPA 8015 Mod. Diesel)	BTEX (EPA 8020/602)	Volatile Organics (EPA 8240)	Test for Disposal	Combination TPH 8015 & BTEX 8020	Hold		Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
S-H-8.0	2-12-93		X			1						X				2x4		N	SOIL & GAS	
S-H-10.0																				
S-H-11.5																				
S-O-7.5																				
S-O-10.0																				
S-O-11.5																				
S-O-14.0																				

STORED IN A SEWER PLACE

Relinquished By (signature)	Printed Name	Date/Time	Received (signature)	Printed Name	Date/Time
David Elias	DAVID ELIAS	Date: 2-12-93 Time: 13:12		DAVID ELIAS	Date: 2-12-93 Time: 15:58
	DAVID ELIAS	Date: 2-12-93 Time: 15:57		ANDY MACKAY	Date: 2-12-93 Time: 1600
Andy Mackay		Date: 2-12-93 Time: 1700	K. Temple	K. Temple	Date: 2-13-93 Time: 1000

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

Rev 1/12/93

CUSTODY SEALED @ 1700 2-12-93 Seal intact

Yellow Copy of Custody

NATIONAL ENVIRONMENTAL TESTING, INC.

NET Pacific, Inc.
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

David Elias
Weiss Associates
5500 Shellmound St.
Emeryville, CA 94608

Date: 02/19/1993
NET Client Acct No: 1809
NET Pacific Job No: 93.00595
Received: 02/06/1993

Client Reference Information

SHELL, 5755 Broadway, Oakland, Job No:81-619-08 (93.00420)

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Jules Skamarack
Laboratory Manager

JS:rct
Enclosure(s)

Ref: SHELL, 5755 Broadway, Oakland, Job No:81-619-08 (93.00420)

Descriptor, Lab No. and Results

Parameter	A 02/04/1993 151346	B 02/04/1993 151347	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)					
METHOD 5030 (GC,FID)	--	--			
DATE ANALYZED	02-18-93	02-18-93			
DILUTION FACTOR*	1	1			
as Gasoline	ND	2.8	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--	--			
DATE ANALYZED	02-18-93	02-18-93			
DILUTION FACTOR*	1	1			
Benzene	ND	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	0.0064	0.0025	mg/Kg	8020
Toluene	ND	ND	0.0025	mg/Kg	8020
Xylenes (Total)	0.0067	0.066	0.0025	mg/Kg	8020
SURROGATE RESULTS	--	--			
Bromofluorobenzene	70	93		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, Job No:81-619-08 (93.00420)

Descriptor, Lab No. and Results

Parameter	C 02/04/1993 151348	D 02/04/1993 151349	Reporting Limit	Units	Method
TPH (Gas/BTXE,Solid)					
METHOD 5030 (GC,FID)	--	--			
DATE ANALYZED	02-18-93	02-18-93			
DILUTION FACTOR*	1	1			
as Gasoline	7.1	8.3	1	mg/Kg	5030
METHOD 8020 (GC,Solid)	--	--			
DATE ANALYZED	02-18-93	02-18-93			
DILUTION FACTOR*	1	1			
Benzene	ND	ND	0.0025	mg/Kg	8020
Ethylbenzene	ND	ND	0.0025	mg/Kg	8020
Toluene	0.0026	ND	0.0025	mg/Kg	8020
Xylenes (Total)	0.051	0.10	0.0025	mg/Kg	8020
SURROGATE RESULTS	--	--			
Bromofluorobenzene	95	94		% Rec.	5030

Ref: SHELL, 5755 Broadway, Oakland, Job No:81-619-08 (93.00420)

QUALITY CONTROL DATA

Parameter	Reporting Limits	Units	Cal Verf Stand % Recovery	Blank Data	Spike % Recovery	Duplicate Spike % Recovery	RPD
Gasoline	1	mg/Kg	111	ND	120	120	< 1
Benzene	0.0025	mg/Kg	90	ND	99	99	1.3
Toluene	0.0025	mg/Kg	92	ND	98	99	< 1

COMMENT: Blank Results were ND on other analytes tested.

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD

Serial No: ~~2020~~ 2199

Date: 2-4-93
Page 2 of 2

Site Address: 5755 BROADWAY, OAKLAND

WIC#: 204-2004-0204

Shell Engineer: DAN KIRK — Phone No.: 675-6168 Fax #: 675-6172

Consultant Name & Address: WEISS ASSOCIATES 5500 SHELLMOUND ST EMERYVILLE CA 94608

Consultant Contact: DAVID ELIAS — Phone No.: (510) 547-5420 Fax #: 547-5043

WA JOB # 81-619-08

Comments:

Sampled by: David Elias

Printed Name: DAVID ELIAS

LAB: NET

CHECK ONE (1) BOX ONLY / CT/DT:
- G.W. Monitoring ☐ 4461
- Site Investigation ☒ 4441
- Soil Classify/Disposal ☒ 4442
- Water Classify/Disposal ☐ 4443
- Soil/Air Rem. or Sys. O & M ☐ 4452
- Water Rem. or Sys. O & M ☐ 4453
- Other ☐

TURN AROUND TIME:
- 24 hours ☐
- 48 hours ☐
- ~~15 days~~ ☒ (Normal)
- Other ☐ — SEE COM

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

UST AGENCY:

Analysis Required: 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; HOLD; Asbestos; Container Size; Preparation Used; Composite Y/N

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.	TPH Gas	TPH Diesel	BTEX	Volatile Organics	Test for Disposal	Combination TPH/BTEX	HOLD	Asbestos	Container Size	Preparation Used	Composite Y/N	MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
~~S-I-4.0~~	~~2-4-93~~		X			1							X					SOIL & GAS	
~~S-I-5.0~~	↓		↓			1						X						↓	
COMP	↓		↓			4					X		gbtxe, tlc aromatics add RCI per DE to LD on 2/10/93					↓	RUSH

↳ recheck in 4 samples for comp as individual samples for gbtxe, run asap at N/C - lab oversite OK per DE to SL 2/18/93

To be faxed 2/19/93 - SR deliver to client on 2/22/93 OK per DE to SR

all other analyses previously reported. The rest of this job is reported on Net log # 93.00420

PLEASE REPORT TPH-G/BETX AND TOTAL LEAD ON SEP. REPORT 2-5-93

STORED IN SECURE PLACE

Relinquished By (signature):	Printed Name:	Date/Time:	Received (signature):	Printed Name:	Date/Time:
David Elias	DAVID ELIAS	Date: 2-4-93 Time: 17:30	David Elias	DAVID ELIAS	Date: ~~2-5-93~~ Time: 10:08
David Elias	DAVID ELIAS	Date: 2-5-93 Time: 14:44	Andy Mackay	ANDY MACKAY	Date: 2-5-93 Time: 1447
Andy Mackay		Date: Time:	A. Lope	ANDY LOPE	Date: ~~10~~ 2/6/93 Time: 10:00

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

Rev 1/12/93 — Shell Oil Chn. of Custody

Seals intact A.L.
CUSTODY SEALED 2-5-93
@ 1800