CAMBRIA
Environmental Technology, Inc.

December 27, 1995

Jennifer Eberle
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502-6577

Re: **Piping Removal Sampling and Tankpit Re-Sampling**
Former Shell Service Station
1230 14th Street
Oakland, California

Dear Ms. Eberle:

This report presents the results of the soil sampling activities performed by Cambria Environmental Technology (Cambria) on November 27, 1995 at the site referenced above. Cambria collected soil samples from an open tankpit beneath the former tanks, which were removed in August 1993. In addition, Cambria witnessed the product and vent piping removal and collected soil samples from beneath the piping. The sampling was conducted in compliance with pertinent regulations including Title 23, Subchapter 16, Article 7 UST Closure Requirements. Presented below are the site conditions, soil sampling activities, and analytic results.

SITE CONDITIONS AND SAMPLING ACTIVITIES

Site Status: The site is currently occupied by a non-operating service station.

Tank History: On August 24, 1993, Tank Protect Engineering (TPE) removed three 7,500-gallon gasoline tanks, one 8,000-gallon gasoline tank, and one 550-gallon waste oil tank.

Ground Water: During the tankpit sampling, sediments were moist to wet at about 15 ft depth. Therefore, ground water probably exists at about 15-16 ft depth.

Attendees:	Dick Burge	Construction Foreman	K.E. Curtis Construction Co., Inc.
	David Elias	Project Geologist	Cambria
	Jennifer Eberle	Regulator	ACDEH

Soil Lithology: The site is underlain by silty sand and sandy silt of moderate estimated permeability to the total depth explored during recent and historical investigations of about 20 ft.

Gasoline Tank Excavation Sampling: On November 27, 1995, Cambria collected 8 samples from 15.0 ft depth beneath the ends of the former gasoline tanks using a remote controlled backhoe. Cambria collected the samples by driving a clean brass tube into soil collected from beneath each tank end by the backhoe. Sequoia Analytical, of Redwood City (Sequoia), analyzed all samples for total petroleum hydrocarbons as gasoline (TPHg) and benzene, ethylbenzene, toluene, and xylenes (BETX) by EPA methods 8015/8020, respectively. Sample locations are shown on Figure 1 and analytic results are summarized in Table 1. Cambria's standard operating procedures for tank and piping removals is included as Attachment A. Analytic reports are included as Attachment B.

Product Piping Sampling: On November 27, 1995, Cambria collected six soil samples beneath product piping removed by K.E. Curtis. Sequoia analyzed the product piping samples for TPHg and BETX by EPA methods 8015/8020. Sample and piping locations are shown on Figure 1 and analytic results are summarized in Table 1.

Piping Disposal: The removed piping was piled and stored onsite for future disposal.

Backfilling: The existing tankpit and newly excavated piping trenches will be backfilled after we have assessed whether hydrocarbon-impacted soil extends significantly beyond the tankpit perimeter and cannot by remediated by overexcavation.

ANALYTIC RESULTS

Tank Excavation: Hydrocarbons were detected in all eight tank excavation samples, at up to 5,600 ppm TPHg and 72 ppm benzene.

Product Piping: No TPHg were detected in four of the six product piping collected. However, 3,100 ppm TPHg and 30 ppm benzene were detected beneath the southern pump island in sample TS6-3.0 (Table 1). Since only 46 ppm TPHg and no benzene were detected in adjacent sample TS5-2.5, the horizontal extent of hydrocarbons originating from the southern pump island appears limited.

CLOSING

We appreciate this opportunity to provide environmental consulting services to Shell Oil Company. Please call if you have any questions or comments.

Sincerely,
Cambria Environmental Technology, Inc.

David C. Elias
Project Geologist

N. Scott MacLeod, R.G.
Principal Geologist

REGISTERED GEOLOGIST
N. SCOTT MacLEOD
No. 5747
STATE OF CALIFORNIA

cc: Jeff Granberry, Shell Oil Company

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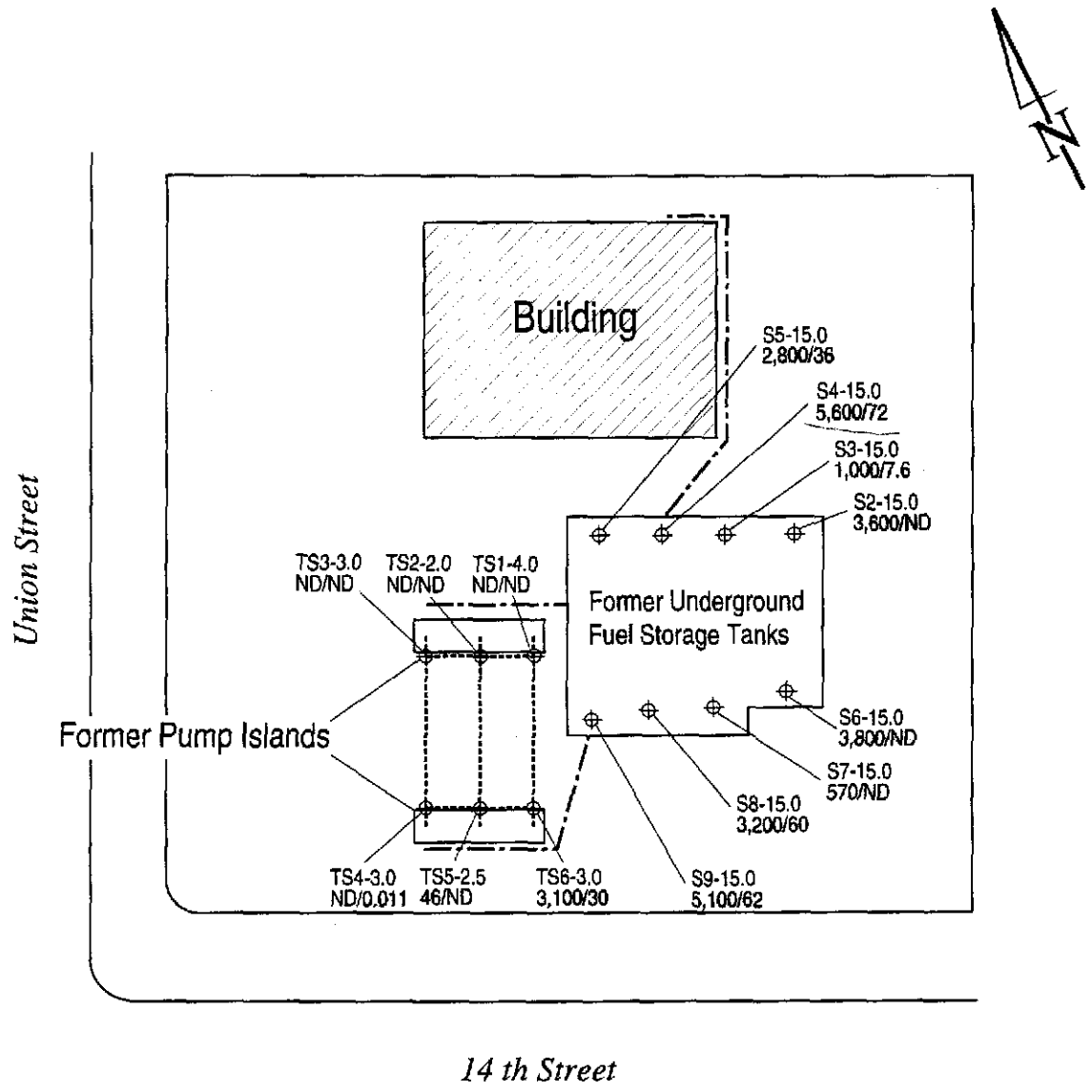
Attachments: A - Standard Tank Removal Procedures
B - Analytic Reports for Confirmation Samples



LEGEND

- ⌖ Sample ID-Depth (ft)
  TPHg/Benzene Concentration in ppm
- —·— Former Vent Piping
- ------- Former Product Piping
- ND = Not Detected

0 20
Scale (ft)

Base Map by Tank Protect Engineering

CAMBRIA
Environmental Technology, Inc.

1230 14th Street
Oakland, California

D:/PROJECT/SHELL/OAKLAND/SITE.DWG

Sample Locations
and Analytic Results

FIGURE
1

Table 1. Soil Analytic Data - Former Shell Service Station - 1230 14th Street, Oakland, California

Boring/ well ID	Date Sampled	Sample Depth (ft)	TPHg	Benzene	Toluene	Ethylbenzene	Xylenes
			All concentrations in parts per million (mg/kg)				
Product Piping Samples							
TS-1-4.0	11/27/95	4.0	<1.0	<0.0050	0.0050	<0.0050	<0.0050
TS-2-2.0	11/27/95	2.0	<1.0	<0.0050	0.0057	<0.0050	0.0075
TS-3-3.0	11/27/95	3.0	<1.0	<0.0050	<0.0050	<0.0050	0.0069
TS-4-3.0	11/27/95	3.0	<0.0	0.011	0.038	0.0073	0.043
TS-5-2.5	11/27/95	2.5	46	<0.10	<0.10	<0.10	2.0
TS-6-3.0	11/27/95	3.0	3,100	30	<6.0	33	230
Tankpit Excavation Samples							
S2-15.0	11/27/95	15.0	3,600	<6.0	140	78	430
S3-15.0	11/27/95	15.0	1,000	7.6	33	19	100
S4-15.0	11/27/95	15.0	5,600	72	280	110	580
S5-15.0	11/27/95	15.0	2,800	36	160	64	350
S6-15.0	11/27/95	15.0	3,800	<6.0	<6.0	76	350
S7-15.0	11/27/95	15.0	570	<0.50	<0.50	4.9	13
S8-15.0	11/27/95	15.0	3,200	60	200	69	350
S9-15.0	11/27/95	15.0	5,100	62	260	110	570

Abbreviations
TPHg = Total petroleum hydrocarbons as gasoline
<x.xx = not detected above x.xx ppm detection limit

Notes
TPHg analyzed by modified EPA Method 8015
Benzene, ethylbenzene, toluene and xylenes analyzed by EPA Method 8020

ATTACHMENT A

Standard Tank Removal and Excavation Sampling Procedures

STANDARD TANK REMOVAL PROCEDURES

Cambria Environmental Technology, Inc. (Cambria) has developed standard operating procedures for Collecting soil and ground water samples during underground storage tank removal. These procedures ensure that the samples are collected, handled, and documented in compliance with California Administration Code Title 23: Waters; Chapter 3: Water Resources Control Board; Subchapter 16: Underground Storage Tank Regulations (Title 23). Cambria's sampling procedures are based on guidelines contained in the California State Regional Water Quality Control Board Tri-Regional Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites dated August 10, 1990.

Tank Removal Sampling

The objective of sample collection during routine underground storage tank removals is to determine whether hydrocarbons or other stored chemicals have leaked to the subsurface. If no ground water is encountered within the tank excavation, Cambria will sample native soil 1 to 2 ft beneath the removed tank. Additional soil samples may also be collected at locations of obvious spillage to determine maximum concentrations in the surrounding soils. For underground storage tanks with a capacity of less than 1,000 gallons, one soil sample is collected beneath the fill end of the tank. For tanks with a capacity of between 1,000 and 10,000 gallons, one soil sample is collected beneath each end of the tank. For tanks larger than 10,000 gallons, 3 or more soil samples are collected beneath the removed tank. We also collect one soil sample for every 20 ft of product piping.

In cases where ground water is encountered within underground storage tank excavations, Cambria will collect confirmatory soil samples from the excavation sidewalls just above the soil/ground water interface and a representative ground water sample from the excavation. The excavation is typically purged and allowed to recover prior to collecting the water sample. For tanks with capacities of 10,000 gallon or less, one soil sample is collected from the wall at each end of the tank excavation. For tanks with capacities greater than 10,000 gallons, or tank clusters, at least four soil samples are collected from the excavation walls next to the tank ends. Piping samples are collected in native soil 1 to 2 ft beneath the removed piping. One sample is typically collected for every 20 lineal ft of piping unless regulatory agencies approve of different sampling requirements.

The soil samples are collected in steam cleaned brass or steel tubes from either a driven split-spoon type sampler or the bucket of a backhoe. When a backhoe is used, approximately three inches of soil are scraped from the surface and the tube is driven into the exposed soil.

Upon removal from the split-spoon sampler or the backhoe, the samples are trimmed flush, capped with Teflon sheets and plastic end caps, labelled, logged and refrigerated for delivery under chain of custody to a State certified analytic laboratory.

The ground water sample is collected using steam cleaned Teflon or PVC bailers, decanted into a volatile organic analysis (VOA) bottle or other appropriate clean sample container, refrigerated and transported under chain of custody to a State certified analytic laboratory.

EXCAVATION SAMPLING PROCEDURES

After confirming a release from underground gasoline storage tanks, product piping or pump islands, soil excavation is often done to remove hydrocarbon bearing soils that may pose a threat to ground water quality beneath a site. Soil samples are routinely collected to monitor the progress of the excavation and to confirm that soils containing hydrocarbons above regulatory limits have been completely removed. Cambria has developed standard operating procedures for collecting soil samples during routine excavation operations to ensure that the samples are collected, handled and documented in compliance with State and local regulatory agency regulations.

Excavation Sampling

Prior to collecting soil samples during excavation operations, Cambria field staff screen the removed soils with a portable photoionization detector (PID) to qualitatively assess the presence or absence of volatile hydrocarbons. The removed soil is typically segregated based on hydrocarbon concentration and stockpiled on site on plastic sheeting. When the PID measurements indicate that the hydrocarbon bearing soil has been completely removed, Cambria collects soil samples from the excavation sidewalls and bottom for confirmatory analysis at a State certified analytic laboratory.

The soil samples are collected in steam cleaned brass or steel tubes from either a driven split-spoon type sampler or the bucket of a backhoe or excavator. When a backhoe or excavator is used, approximately three inches of soil are scraped from the surface and the tube is driven into the exposed soil.

Upon removal from the sampler or the backhoe, the samples are trimmed flush, capped with Teflon tape and plastic end caps, labeled, logged and refrigerated for delivery under chain of custody to a State certified analytic laboratory.

ATTACHMENT B

Analytic Reports for Confirmation Samples

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Cambria
1144 65th St. Suite C
Oakland, CA 94608
Attention: David Elias

Project: Shell/1230 14th St/Oakland

Enclosed are the results from samples received at Sequoia Analytical on November 27, 1995. The requested analyses are listed below:

SAMPLE #	SAMPLE DESCRIPTION	DATE COLLECTED	TEST METHOD
9511H50 -01	SOLID, S2-15	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -02	SOLID, S3-15	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -03	SOLID, S4-15	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -04	SOLID, S5-15	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -05	SOLID, S6-15	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -06	SOLID, S7-15	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -07	SOLID, S8-15	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -08	SOLID, S9-15	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -09	SOLID, TS-1-4	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -10	SOLID, TS-2-2	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -11	SOLID, TS-3-3	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -12	SOLID, TS-4-3	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -13	SOLID, TS-5-2.5	11/27/95	TPHGBS Purgeable TPH/BTEX
9511H50 -14	SOLID, TS-6-3	11/27/95	TPHGBS Purgeable TPH/BTEX

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

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: S2-15	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/27/95
Attention: David Elias	Lab Number: 9511H50-01	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**1200**	**3600**
Benzene	6.0	N.D.
Toluene	**6.0**	**140**
Ethyl Benzene	**6.0**	**78**
Xylenes (Total)	**6.0**	**430**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	124

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: S3-15	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/27/95
Attention: David Elias	Lab Number: 9511H50-02	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**200**	**1000**
Benzene	**1.0**	**7.6**
Toluene	**1.0**	**33**
Ethyl Benzene	**1.0**	**19**
Xylenes (Total)	**1.0**	**100**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	127

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: S4-15	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/28/95
Attention: David Elias	Lab Number: 9511H50-03	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**1200**	**5600**
Benzene	**6.0**	**72**
Toluene	**6.0**	**280**
Ethyl Benzene	**6.0**	**110**
Xylenes (Total)	**6.0**	**580**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	122

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: S5-15	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/27/95
Attention: David Elias	Lab Number: 9511H50-04	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1200	2800
Benzene	6.0	36
Toluene	6.0	160
Ethyl Benzene	6.0	64
Xylenes (Total)	6.0	350
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	111

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: S6-15	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/27/95
Attention: David Elias	Lab Number: 9511H50-05	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**1200**	**3800**
Benzene	6.0	N.D.
Toluene	6.0	N.D.
Ethyl Benzene	**6.0**	**76**
Xylenes (Total)	**6.0**	**350**
Chromatogram Pattern:		**C6-C12**

Surrogates	**Control Limits %**		**% Recovery**
Trifluorotoluene	70	130	99

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: S7-15	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/27/95
Attention: David Elias	Lab Number: 9511H50-06	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**100**	**570**
Benzene	0.50	N.D.
Toluene	0.50	N.D.
Ethyl Benzene	**0.50**	**4.9**
Xylenes (Total)	**0.50**	**13**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	122

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

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Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: S8-15	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/27/95
Attention: David Elias	Lab Number: 9511H50-07	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1000	3200
Benzene	5.0	60
Toluene	5.0	200
Ethyl Benzene	5.0	69
Xylenes (Total)	5.0	350
Chromatogram Pattern:		C6-C12

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	106

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: S9-15	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/27/95
Attention: David Elias	Lab Number: 9511H50-08	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**2000**	**5100**
Benzene	**10**	**62**
Toluene	**10**	**260**
Ethyl Benzene	**10**	**110**
Xylenes (Total)	**10**	**570**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	104

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: TS-1-4	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/28/95
Attention: David Elias	Lab Number: 9511H50-09	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	**0.0050**	**0.0050**
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	89

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: TS-3-3	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/28/95
Attention: David Elias	Lab Number: 9511H50-11	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	**0.0050**	**0.0069**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	93

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: TS-4-3	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/28/95
Attention: David Elias	Lab Number: 9511H50-12	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	**0.0050**	**0.011**
Toluene	**0.0050**	**0.038**
Ethyl Benzene	**0.0050**	**0.0073**
Xylenes (Total)	**0.0050**	**0.043**
Chromatogram Pattern:		**C6-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	98

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: TS-5-2.5	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/28/95
Attention: David Elias	Lab Number: 9511H50-13	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**20**	**46**
Benzene	0.10	N.D.
Toluene	0.10	N.D.
Ethyl Benzene	0.10	N.D.
Xylenes (Total)	**0.10**	**2.0**
Chromatogram Pattern:		**C9-C12**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	113

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: TS-6-3	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/27/95
Attention: David Elias	Lab Number: 9511H50-14	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP22

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**1200**	**3100**
Benzene	**6.0**	**30**
Toluene	6.0	N.D.
Ethyl Benzene	**6.0**	**33**
Xylenes (Total)	**6.0**	**230**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	113

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

Sequoia Analytical

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Cambria Environmental Tech.
1144 65th St., Ste. C
Oakland, CA 94608
Attention: David Elias

Client Project ID: Shell/1230 14th St., Oakland
Matrix: Solid

Work Order #: 9511H50 -01-14

Reported: Nov 30, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	GC112795BTEXEXB	GC112795BTEXEXB	GC112795BTEXEXB	GC112795BTEXEXB
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	G. Garcia	G. Garcia	G. Garcia	G. Garcia
MS/MSD #:	9511E2610	9511E2610	9511E2610	9511E2610
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	11/27/95	11/27/95	11/27/95	11/27/95
Analyzed Date:	11/28/95	11/28/95	11/28/95	11/28/95
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
Result:	0.19	0.19	0.19	0.58
MS % Recovery:	95	95	95	97
Dup. Result:	0.19	0.19	0.19	0.58
MSD % Recov.:	95	95	95	97
RPD:	0.0	0.0	0.0	0.0
RPD Limit:	0-50	0-50	0-50	0-50
LCS #:	BLK112795	BLK112795	BLK112795	BLK112795
Prepared Date:	11/27/95	11/27/95	11/27/95	11/27/95
Analyzed Date:	11/28/95	11/28/95	11/28/95	11/28/95
Instrument I.D.#:	GCHP1	GCHP1	GCHP1	GCHP1
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg
LCS Result:	0.21	0.21	0.21	0.62
LCS % Recov.:	105	105	105	103
MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140

SEQUOIA ANALYTICAL

Peggy Penner
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

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Cambria	Client Proj. ID: Shell/1230 14th St/Oakland	Sampled: 11/27/95
1144 65th St. Suite C	Sample Descript: TS-2-2	Received: 11/27/95
Oakland, CA 94608	Matrix: SOLID	Extracted: 11/27/95
	Analysis Method: 8015Mod/8020	Analyzed: 11/28/95
Attention: David Elias	Lab Number: 9511H50-10	Reported: 11/28/95

QC Batch Number: GC112795BTEXEXB
Instrument ID: GCHP18

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	**0.0050**	**0.0057**
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	**0.0050**	**0.0075**
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	90

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

SEQUOIA ANALYTICAL - ELAP #1210

Peggy Penner
Project Manager

SHELL OIL COMPANY
RETAIL ENVIRONMENTAL ENGINEERING - WEST

CHAIN OF CUSTODY RECORD
Serial No: _____

Date: 11/27/95
Page 1 of 1

Site Address: 1230 14th St., OAKLAND

WIC#:

Shell Engineer: LYNN WALKER
Phone No.: 675-6169
Fax #:

Consultant Name & Address: CAMBRIA ENV. 1144 65th St., OAKLAND

Consultant Contact: DAVID ELIAS
Phone No: 654 420-9770
Fax #: 420-9770

Comments:

Sampled by: David Elias

Printed Name: DAVID ELIAS

LAB: SEQUOIA

95111450

Sample ID	Date	Sludge	Soil	Water	Air	No. of conts.
1 S2 - 15.0	11/27/95		X			1
2 S3 - 15.0						
3 S4 - 15.0						
4 S5 - 15.0						
5 S6 - 15.0						
6 S7 - 15.0						
7 S8 - 15.0						
8 S9 - 15.0						
9 TS-1-4.0						
10 TS-2-2.0						
11 TS-3-3.0						
12 TS-4-3.0						
13 TS-5-2.5						
14 TS-6-3.0						

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	Asbestos	Container Size	Preparation Used	Composite Y/N
					X				N

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 ☒ AT
- 48 hours ☐
- 15 days ☐ (Normal)
- Other ☐ _____

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

UST AGENCY: _____

MATERIAL DESCRIPTION	SAMPLE CONDITION/ COMMENTS
Soil Analysis	

Relinquished By (signature): David Elias	Printed Name: DAVID ELIAS	Date: 11/27/95 Time: 15:30	Received (signature): Tim Whalen	Printed Name: Tim Whalen	Date: 11/27/95 Time: 1558
Relinquished By (signature): Tim Whalen	Printed Name: Tim Whalen	Date: 11/27/95 Time: 16:45	Received (signature):	Printed Name:	Date: Time:
Relinquished By (signature):	Printed Name:	Date: Time:	Received (signature): Tony McMahon	Printed Name: Tony McMahon	Date: 11/27/95 Time: 16:30

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

Rev: 1/12/93

Shell Oil Chain of Custody

T9169-1/96