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TRANSMITTAL

DATE: June 22, 2009 REFERENCE NO.: 240897

PROJECT NAME: 4411 Foothill Boulevard, Oakland

TO: Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

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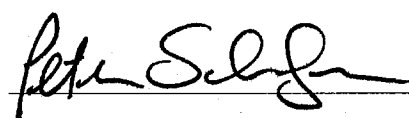
QUANTITY	DESCRIPTION
1	Sub-slab Soil Vapor Probe Installation and Soil Vapor Sampling Report

As Requested For Review and Comment
 For Your Use

COMMENTS:

If you have any questions regarding the contents of this document, please call Peter Schaefer at (510) 420-3319.

Copy to: Denis Brown, Shell Oil Products US, 20945 S. Wilmington Avenue, Carson, CA 90810
Bill Phua, Foothill Blvd. LLC, P.O. Box 10664, Oakland, CA 94610

Completed by: Peter Schaefer Signed: 

Filing: Correspondence File



Jerry Wickham
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Denis L. Brown
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20945 S. Wilmington Ave.
Carson, CA 90810-1039
Tel (707) 865 0251
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Email denis.l.brown@shell.com

Re: Former Shell Service Station
4411 Foothill Boulevard
Oakland, California
SAP Code 135686
Incident No. 98995746
Agency Site No. RO0415

Dear Mr. Wickham:

The attached document is provided for your review and comment. Upon information and belief, I declare, under penalty of perjury, that the information contained in the attached document is true and correct.

If you have any questions or concerns, please call me at (707) 865-0251.

Sincerely,

A handwritten signature in black ink, appearing to read "Denis L. Brown", is located below the "Sincerely," text.

Denis L. Brown
Project Manager



SUB-SLAB SOIL VAPOR PROBE INSTALLATION AND SOIL VAPOR SAMPLING REPORT

**FORMER SHELL SERVICE STATION
4411 FOOTHILL BOULEVARD
OAKLAND, CALIFORNIA**

**SAP CODE 135686
INCIDENT NO. 98995746
AGENCY NO. RO0000415**

JUNE 22, 2009
REF. NO. 240897 (7)
This report is printed on recycled paper.

**Prepared by:
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1.0 INTRODUCTION

Conestoga-Rovers & Associates (CRA) prepared this report on behalf of Equilon Enterprises LLC dba Shell Oil Products US (Shell) to present the recent sub-slab soil vapor probe installation details and soil vapor sampling results. CRA followed the scope of work presented in CRA's February 29, 2009 *Sub-slab Soil Vapor Probe Installation and Soil Vapor Sampling Report* which was approved by Alameda County Health Care Services Agency's (ACHCSA's) March 10, 2009 letter.

The site is a former Shell service station located on the southern corner of the intersection of Foothill Boulevard and High Street in Oakland, California (Figure 1). The former station layout included three first-generation underground storage tanks (USTs) (1958 to 1971), three second-generation USTs (1971 to 1984), three third-generation gasoline USTs (1984 to 2002), a waste oil UST (removed 1992), and four product dispensers (Figure 2). Land use in the vicinity of the site is a mix of commercial and residential, with gasoline service stations occupying the northern and western corners of the intersection. The subject property is currently developed as a strip mall with a variety of commercial and retail uses.

A summary of previous work performed at the site and additional background information is contained in Appendix A.

2.0 SUB-SLAB SOIL VAPOR PROBE INSTALLATION AND SAMPLING

2.1 PERMIT

CRA obtained a drilling permit from Alameda County Public Works Agency (ACPWA), and a copy is provided in Appendix B.

2.2 DRILLING DATE

May 14, 2009.

2.3 PERSONNEL PRESENT

CRA Staff Scientist Lauren Goldfinch working under the supervision of California Professional Geologist Peter Schaefer.

2.4 NUMBER OF PROBES

CRA installed sub-slab soil vapor probes SSV-1 and SSV-2 at the locations shown in Figure 2.

2.5 PROBE INSTALLATION

To further assess soil vapor concentrations beneath the site, CRA installed two soil vapor probes (SSV-1 and SSV-2) into the subsurface beneath the laundromat's building footprint (Figure 2). SSV-1 was installed above the former third-generation USTs, and SSV-2 was installed in the vicinity of the former dispenser islands.

For each probe, a rotary hammer drill was used to drill a "shallow" (approximately 1-inch deep) outer borehole (approximately 7/8-inch diameter) that partially penetrated the floor slab. Cuttings were removed using a towel moistened with distilled water.

The rotary hammer drill was then used to drill a smaller diameter inner borehole, within the center of the outer borehole, approximately 3/8-inch diameter through the floor material and approximately 3 inches into the sub-slab bedding material to create an open cavity. The outer borehole was cleaned a second time with a moistened towel.

Stainless steel tubing was cut to a length that allowed the probe to float within the slab thickness to avoid obstruction of the probe with sub-slab bedding material. The tubing is approximately 1/4-inch diameter. The compression fittings are stainless steel Swagelok® female thread connectors. The probes were constructed prior to drilling to minimize exposure time, or venting, of the sub-slab bedding material through the open borehole.

The sub-slab soil gas probe was then placed in the borehole so that the top of the probe is flush with the top of the floor. The top of the probe has a flush-mounted stainless steel plug. A quick-drying, portland cement slurry was pushed into the annular space between the probe and the outer borehole. The cement was allowed to dry for at least 24 hours prior to sampling.

2.6 PROBE DEPTHS

Sub-slab soil vapor probe SSV-1 was completed at approximately 7 inches below the floor level (a 4-inch-thick concrete slab was encountered at this location) and sub-slab soil vapor probe SSV-2 was completed at approximately 12 inches below the floor level (an 8-inch thick concrete slab was encountered at this location).

2.7 SUB-SLAB SOIL VAPOR SAMPLING

During sampling, the Teflon tubing for each sub-slab vapor probe was connected to a control valve, and then to a flow regulator attached to a lab-supplied sampling manifold connecting two 1-liter summa canisters (one purge canister and one sampling canister) with flow regulators and pressure gauges. Prior to sampling, a vacuum test was conducted between the summa canisters, the sampling manifold, and the valves by closing the valves and opening the purge summa canister for approximately 10 minutes. At least three tubing volumes of air were purged into the purge canister prior to sampling. Immediately after purging, soil vapor samples were collected using the second 1-liter Summa canister. Each sample was labeled, documented on a chain-of-custody, and submitted to Calscience Environmental Laboratories, Inc. in Garden Grove, California for analysis.

To check the system for leaks, a containment unit (or shroud) was placed to cover the sub-slab soil gas probe and sampling manifold. Prior to sub-slab soil gas probe sampling, helium was introduced into the containment unit to obtain a minimum

50 percent helium content level. The helium content within the containment unit was confirmed using a helium meter. The helium meter readings were recorded in CRA's field notes (Appendix C). All samples were analyzed by the laboratory for helium, and the results are presented in Table 1.

CRA staff sampled the sub-slab soil vapor probe SSV-1 on May 19, 2009 and sampled SSV-2 on May 15, 2009.

2.8 SOIL VAPOR PROBE SAMPLING

CRA sampled soil vapor probes V-1 through V-6 using a vacuum pump and Tedlar bags. Prior to sampling, the probes were purged of at least three tubing volumes of air using a vacuum pump. A sealed "lung sampler" containing a 1-liter Tedlar bag was attached to the probe and the vacuum pump was attached to the box. The vacuum pump lowered the pressure in the "lung sampler" and drew air from the probe into the Tedlar bag. Each sample was labeled, documented on a chain-of-custody, placed in a protective box at room temperature, and submitted to Calscience Environmental Laboratories, Inc. in Garden Grove, California for analysis within 72 hours.

To check the system for leaks, a containment unit (or shroud) was placed to cover the soil gas probe surface casing and sampling manifold. Prior to soil gas probe purging, helium was introduced into the containment unit to obtain a minimum 50 percent helium content level. The helium content within the containment unit was confirmed using a helium meter. The helium meter readings were recorded in CRA's field notes (Appendix C). All samples were analyzed by the laboratory for helium, and CRA presents the results on Table 1.

CRA staff sampled soil vapor probes V-1 through V-6 on April 21, 2009.

2.9 SOIL VAPOR SAMPLING ANALYSIS

All vapor samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method TO-15 and for helium by ASTM D Method 1946 (M).

3.0 SOIL VAPOR PROBE SAMPLING RESULTS

Soil vapor probe samples collected on April 21, 2009 contained up to 25,000 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) benzene (V-3), 3,100 $\mu\text{g}/\text{m}^3$ ethylbenzene (V-2), 17,000 $\mu\text{g}/\text{m}^3$ toluene (V-3), and 520 $\mu\text{g}/\text{m}^3$ xylenes (V-4).

The sub-slab soil vapor probe sample collected from SSV-2 on May 15, 2009 did not contain BTEX. The sub-slab soil vapor probe sample collected from SSV-1 on May 19, 2009 contained 8.8 $\mu\text{g}/\text{m}^3$ benzene, 4.4 $\mu\text{g}/\text{m}^3$ ethylbenzene, and 11 $\mu\text{g}/\text{m}^3$ toluene.

Table 1 summarizes the soil vapor analytical data. BTEX results are shown on Figure 2, and the laboratory analytical reports are presented in Appendix D.

3.1 LEAK TESTING

Leak testing was performed, and helium was detected in five of the samples. As seen in the following table, the concentration of helium (0.0171 to 1.24 percent by volume [%v]) detected in the samples is below 10 percent of the concentration detected in the shroud. A concentration of greater than 10 percent of the concentration in the shroud would invalidate a sample.

<i>Probe ID</i>	<i>Helium detected in sample (%v)</i>	<i>Helium detected in shroud (%v)</i>	<i>Maximum acceptable helium concentration in sample (%v)</i>
V-1	<0.0100	88	8.8
V-2	<0.0100	83	8.3
V-3	0.0205	76	7.6
V-4	0.0171	72	7.2
V-5	1.24	67	6.7
V-6	<0.0100	82	8.2
SSV-1	0.251	74	7.4
SSV-2	0.261	85	8.5

The laboratory analytical reports for helium are presented in Appendix D.

4.0 STATUS OF PROPOSED OFF-SITE WELL INSTALLATION

Off-site wells S-10, S-11, and S-12 and soil vapor probe V-12 are proposed on the adjacent property (4340 Bond Street). Parking lot construction on the site is complete. CRA has contacted the owner (Mi Puebla Food Center), but we have not yet received a signed access agreement. CRA will schedule the installation of the wells and vapor probe following receipt of a completed access agreement form the property owner and appropriate drilling permits from ACPWA.

5.0 CONCLUSIONS AND RECOMMENDATIONS

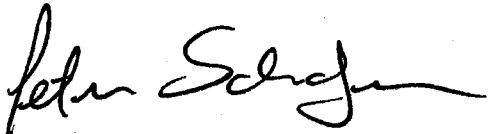
Benzene concentrations in soil vapor samples from probes V-2 and V-3 collected during this sampling event exceeded San Francisco Bay Regional Water Quality Control Board (RWQCB) Environmental Screening Levels (ESLs) for residential and commercial land use. Ethylbenzene detected in probe V-2 also exceeded the RWQCB ESLs for residential land use.

All soil vapor sample concentrations for toluene and xylenes are below the residential land use RWQCB ESLs. All sub-slab soil vapor concentrations were below RWQCB ESLs.

Based on these results, CRA proposes to properly destroy sub-slab soil vapor probes SSV-1 and SSV-2. CRA will proceed with the probe destruction following approval by ACHCSA and receipt of appropriate permits from ACPWA. The probes will be destroyed by removing the stainless steel insert and backfilling the hole with cement.

As discussed above, CRA will proceed with the installation of off-site wells S-10 through S-12 and off-site soil vapor probe V-12 following receipt of a signed access agreement and appropriate drilling permits from ACPWA.

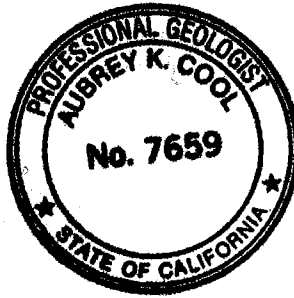
All of Which is Respectfully Submitted,
CONESTOGA-ROVERS & ASSOCIATES



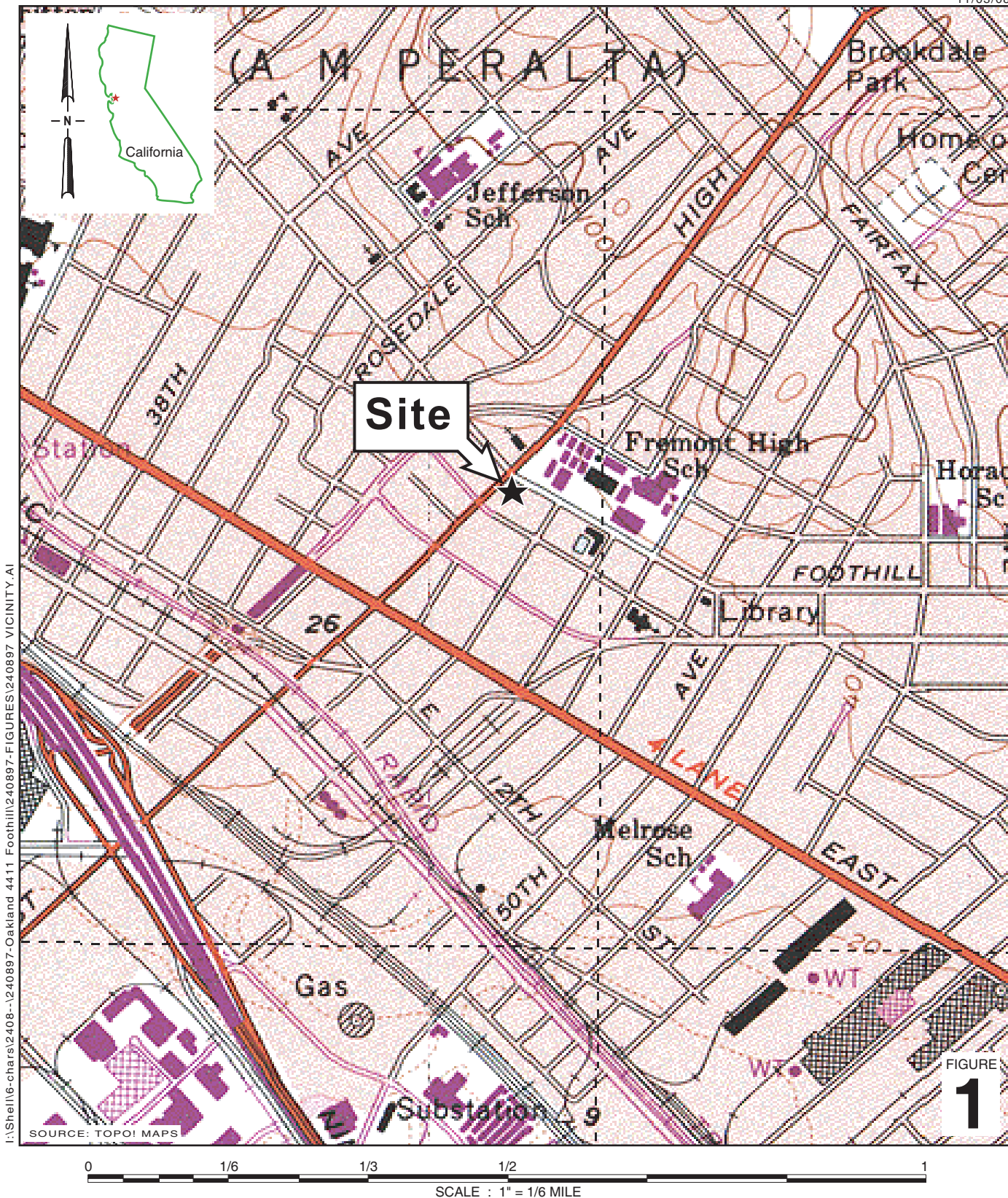
Peter Schaefer, CEG, CHG



Aubrey K. Cool, PG



FIGURES



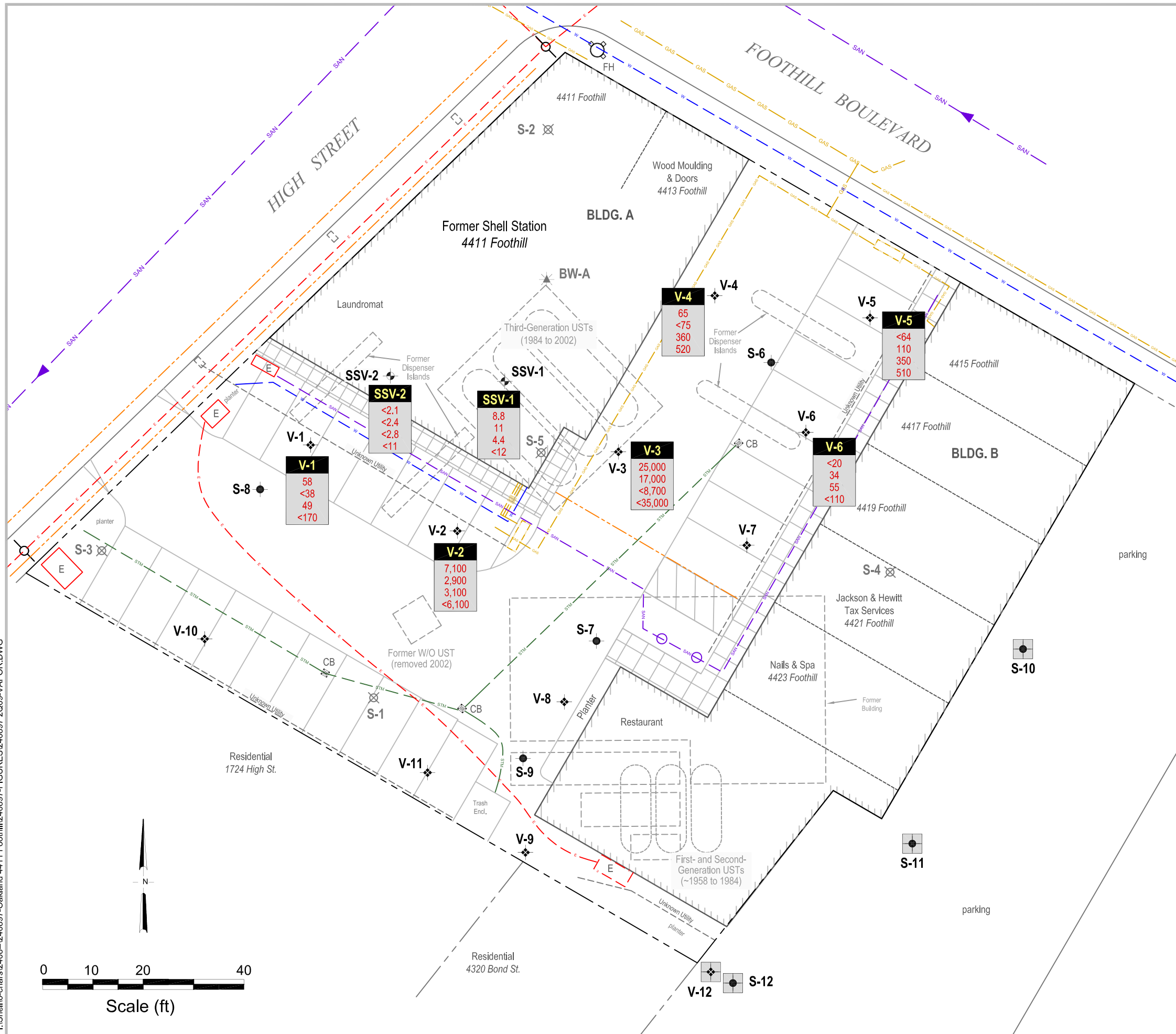
Former Shell Service Station
 4411 Foothill Boulevard
 Oakland, California



**CONESTOGA-ROVERS
 & ASSOCIATES**

Vicinity Map

I:\Shell\6-chars\2409-1240897-Oakland 4411 Foothill\240897-FIGURES\240897 2Q09-VAPOR.DWG



EXPLANATION

- V-12 Proposed soil vapor probe
- S-10 Proposed monitoring well location
- S-6 Monitoring well location
- V-1 Soil vapor probe location
- SSV-1 Sub-slab soil vapor probe location
- S-1 Destroyed monitoring well location
- BW-A Destroyed tank backfill well location

- Electrical line (E)
- Telecommunications line (T)
- Gas line (GAS)
- Water line (W)
- Sanitary Sewer line (SAN)
- Storm drain line (STM)

- FH Fire hydrant
- CB Catch basin
- Manhole
- Power pole
- Flow direction

ID — Sample ID

Legend: Benzene, Toluene, Ethylbenz., Xylenes — Benzene, toluene, ethylbenzene, and total xylenes concentrations are in micrograms per cubic meter

Notes:
 <x = Not detected at reporting limit x

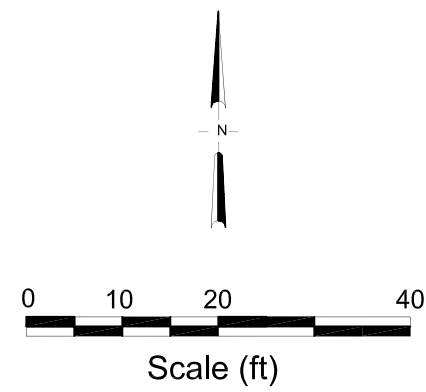


FIGURE 2

Soil Vapor Chemical Concentration Map



Former Shell Service Station
 4411 Foothill Boulevard
 Oakland, California

April 21 and May 15 and 19, 2009

TABLES

TABLE 1

**SOIL VAPOR ANALYTICAL DATA
FORMER SHELL SERVICE STATION
4411 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA**

<i>Sample ID</i>	<i>Depth (fbg)</i>	<i>Date</i>	<i>TPHg</i>	<i>Benzene</i>	<i>Toluene</i>	<i>Ethylbenzene</i>	<i>Total Xylenes</i>	<i>MTBE</i>	<i>TBA</i>	<i>Helium (%v)</i>
V-1	4.5-4.8	1/14/2008	16,000,000	<1,200	<1,400	<1,700	<5,000	<5,500	<4,600	---
V-1	4.5-4.8	6/26/2008	1,000,000	<160	<190	<220	<220	<180	<610	---
V-1	4.5-4.8	10/22/2008	340,000	<45	<53	<61	<120	<51	<170	---
V-1	4.5-4.8	4/21/2009c	---	58	<38	49	<170	---	---	<0.0100
V-2	4.5-4.8	1/14/2008	15,000,000	9,000	<1,100	20,000	7,700	<4,100	<3,500	---
V-2	4.5-4.8	5/22/2008	8,300,000	7,000	2,400	5,600	<1,400	<1,200	<4,000	---
V-2	4.5-4.8	10/22/2008	5,000,000b	8,300	<380	9,800	7,700	<360	<1,200	---
V-2	4.5-4.8	4/21/2009c	---	7,100	2,900	3,100	<6,100	---	---	<0.0100
V-3	4.5-4.8	1/14/2008	20,000,000	3,800	<2,800	<3,300	<9,800	<11,000	<9,100	---
V-3	4.5-4.8	5/22/2008	22,000,000	1,600	1,700	<1,300	<1,300	<1,100	<3,700	---
V-3	4.5-4.8	10/22/2008	51,000,000b	4,200	<4,600	<5,200	<10,000	<4,400	<15,000	---
V-3	4.5-4.8	4/21/2009c	---	25,000	17,000	<8,700	<35,000	---	---	0.0205
V-4	4.5-4.8	1/14/2008	1,300,000	<150	<180	<210	<620	<680	<570	---
V-4	4.5-4.8	6/26/2008	980,000	<160	<190	<220	<220	<180	<620	---
V-4	4.5-4.8	10/22/2008	4,300,000	270	<240	<280	<560	<230	<780	---
V-4	4.5-4.8	4/21/2009c	---	65	<75	360	520	---	---	0.0171
V-5	4.5-4.8	1/14/2008	2,500,000	<290	<340	<400	<1,190	<1,300	<1,100	---
V-5	4.5-4.8	5/22/2008	3,300,000	<1,600	3,100	<2,200	<2,200	<1,800	<6,100	---
V-5	4.5-4.8	10/22/2008	2,400,000	<340	<400	<460	<920	<380	<1,300	---
V-5	4.5-4.8	4/21/2009c	---	<64	110	350	510	---	---	1.24
V-6	4.5-4.8	1/14/2008	15,000,000	9,100	<270	<310	<930	<1,000	<860	---
V-6	4.5-4.8	5/22/2008	2,300,000	<130	<150	<180	<180	<140	<490	---
V-6	4.5-4.8	10/22/2008	5,400,000	<970	<1,100	<1,300	<2,600	<1,100	<3,700	---
V-6	4.5-4.8	4/21/2009c	---	<20	34	55	<110	---	---	<0.0100
V-7	4.5-4.8	1/14/2008	170,000	<19	<22	<25	<76	<84	<71	---
V-7	4.5-4.8	5/22/2008	790	<4.2	<5.0	<5.7	<5.7	<4.8	<16	---
V-7	4.5-4.8	10/22/2008	3,700	<2.6	<3.0	26	120	<2.9	<9.8	---
V-8	5.0-5.2	10/23/2008	7,000	<3.8	<4.5	<5.2	<10	<4.3	<14	---
V-9	5.0-5.2	10/23/2008	870	<3.7	<4.4	<5.0	<10	<4.2	>14	---
V-10	4.5-4.8	1/14/2008	Unable to sample due to water in sample tube							
V-10	4.5-4.8	5/22/2008	750	<4.1	<4.9	<5.6	<5.6	<4.6	<16	---
V-10	4.5-4.8	10/23/2008	280	<4.2	<5.0	<5.7	<11	<4.8	<16	---
V-11	4.5-4.8	1/14/2008	18,000	<2.2	5	<3.0	<8.9	<9.8	<8.2	---
V-11	4.5-4.8	6/26/2008	<260	<4.0	<4.8	<5.5	<5.5	<4.6	<15	---
V-11	4.5-4.8	10/23/2008	<220	<3.5	<4.1	<4.8	<9.6	<4.0	<13	---

TABLE 1

SOIL VAPOR ANALYTICAL DATA
FORMER SHELL SERVICE STATION
4411 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA

Sample ID	Depth (fbg)	Date	TPHg	Benzene	Toluene	Ethylbenzene	Total Xylenes	MTBE	TBA	Helium (%v)
Ambient Air	NA	1/14/2008	<17,000	<2.4	4	<3.2	<9.7	<11	<9.0	---
SFBRWQCB ESLs for	Commercial Land Use		29,000	280	180,000	3,300	58,000	31,000	NA	NA
Shallow Soil Gas ^a	Residential Land Use		10,000	84	63,000	980	21,000	9,400	NA	NA

Notes:

All results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) unless otherwise indicated.

All samples were collected in Summa canisters unless otherwise noted.

TPHg = Total petroleum hydrocarbons as gasoline by modified EPA Method TO-3 GC/FID

Benzene, toluene, ethylbenzene and total xylenes (BTEX) by modified EPA Method TO-15

MTBE = Methyl-tertiary butyl ether by modified EPA Method TO-15

TBA = Tertiary-butyl alcohol (TBA) by Modified EPA Method TO-15

Helium analyzed by ASTM D-1946 (M)

fbg = Feet below grade

%v = Percentage by volume

<x = Not detected at reporting limit x

--- = Not analyzed

ESL = Environmental screening level

SFBRWQCB = San Francisco Bay Regional Water Quality Control Board

NA = Not applicable or not available

Results in **bold** exceed Environmental Screening Level for commercial land use

a = From Table E of SFBRWQCB ESLs. Ref: Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater - Interim Final - November 2007 (Revised May 2008).

b = Exceeds quality control limits, possibly due to matrix effects.

c = Samples collected in Tedlar bags and analyzed for BTEX by EPA Method 8260B and helium by ASTM D-1946 (M)

TABLE 2

**SUB-SLAB SOIL VAPOR ANALYTICAL DATA
FORMER SHELL SERVICE STATION
4411 FOOTHILL BOULEVARD, OAKLAND, CALIFORNIA**

<i>Sample ID</i>	<i>Depth (inches)</i>	<i>Date</i>	<i>Benzene</i>	<i>Toluene</i>	<i>Ethylbenzene</i>	<i>Total Xylenes</i>	<i>Helium (%v)</i>
SSV-1	7	5/19/2009	8.8	11	4.4	<12	0.251
SSV-2	12	5/15/2009	<2.1	<2.4	<2.8	<11	0.261
SFBRWQCB ESLs for	Commercial Land Use	280	180,000	3,300	58,000	NA	
Shallow Soil Gas ^a	Residential Land Use	84	63,000	980	21,000	NA	

Notes:

All results in micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) unless otherwise indicated.

Benzene, toluene, ethylbenzene and total xylenes analyzed by modified EPA Method TO-15

Helium analyzed by ASTM D-1946(M)

fbg = Feet below grade

%v = Percentage by volume

<x = Not detected at reporting limit x

ESL = Environmental screening level

SFBRWQCB = San Francisco Bay Regional Water Quality Control Board

NA = Not applicable or not available

Results in **bold** exceed Environmental Screening Level for commercial land use

a = From Table E of SFBRWQCB ESLs. Ref: Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater - Interim Final - November 2007 (Revised May 2008).

APPENDIX A

SITE HISTORY

SITE HISTORY

1958 UST Piping Leak: On April 19, 1958, a gasoline shortage was discovered at the operating Shell station. It was determined that there was a piping leak into a concrete pump pit and then into the soil in the vicinity of the storage tanks. Separate phase hydrocarbons (SPHs) were found in an irrigation well located at 4320 Bond Street, adjacent to the Shell site. Shell installed 22 8-inch wells to depths of 15 feet below grade (fbg) along the property boundary and one well within the tank complex. Groundwater was pumped from the wells, and the extracted water was transported to a separator. Though the volume of the release is not known, Shell reported in a June 2, 1958 letter to Traveler's Insurance Company that they recovered 650 gallons of gasoline from the wells.

1971 UST Removal and Replacement: A Shell document dated July 15, 1971 notes plans to remove the existing 6,000-gallon underground storage tanks (USTs). An invoice dated September 17, 1971 indicates the delivery of one 10,000-gallon UST, one 8,000-gallon UST, and one 550-gallon underground waste oil tank.

1977 Dispenser Piping Leak: A Shell Oil Company Spill Report dated October 19, 1977 documents the release of 2,000 gallons of gasoline from a leaking pipe that ran from the USTs to the dispenser located closest to High Street. The report noted that the damaged section of pipe was replaced and that leak detectors were installed on all systems.

1984 UST Removal and Replacement: A Shell purchase order dated October 1, 1984 indicates the removal of the then-existing USTs and installation of three 10,000-gallon fiberglass USTs.

1991 Waste Oil Tank Leak: On June 5, 1991, Shell submitted to Alameda County Health Care Services Agency (ACHCSA) an Underground Storage Tank Unauthorized Release Report detailing a release from the 550-gallon waste oil tank at the site. The report stated that the release was caused by tank failure, that the volume of release was unknown, and that the contents of the tank had been removed.

1992 Waste Oil Tank Removal: A 550-gallon waste oil tank was removed on February 5, 1992. A soil sample was collected at the bottom of the excavation at a depth of approximately 11 fbg. No total petroleum hydrocarbons as gasoline (TPHg), total petroleum hydrocarbons as diesel (TPHd), benzene, toluene, ethylbenzene and xylenes (BTEX), oil and grease, halogenated volatile organic compounds, or metals were detected in the sample. Total lead was detected at 6.7 milligrams per kilogram (mg/kg).

Details of the waste oil tank removal and sampling activities are presented in a March 26, 1992 GeoStrategies Inc. (GeoStrategies) report.

1992 Monitoring Well Installation: A single monitoring well (S-1) was installed in the vicinity of the waste oil tank location. Details of this well installation are presented in the GeoStrategies' January 19, 1993 *Monitoring Well Installation Report*.

1993 Monitoring Well Installation: Hydro Environmental Technologies, Inc. (HETI) installed monitoring wells S-2 and S-3 on May 21, 1993. Well installation details are presented in HETI's July 22, 1993 report.

1995 Soil and Groundwater Investigation: Pacific Environmental Group (PEG) of San Jose, California conducted a Geoprobe® investigation in June 1995. The investigation consisted of advancing eight on-site soil borings and two off-site borings to collect soil and groundwater samples. PEG's September 12, 1995 *Site Investigation* report presents investigation details.

1998 Product Equipment Upgrades: In November 1998, Paradiso Mechanical (Paradiso) of San Leandro, California upgraded the service station by adding secondary containment to the gasoline turbines and dispensers. Details of dispenser upgrade and sampling activities are presented in Cambria Environmental Technology Inc.'s (Cambria's) November 30, 1998 *Dispenser Soil Sampling Report*.

September 1999 Oxygen Releasing Compound (ORC) remediation: ORC socks were installed in wells S-1, S-2, and BW-A.

December 1999 Site Conceptual Model (SCM) and Conduit Study: A subsurface conduit study identified several conduits, which may provide limited preferential groundwater flow at times of shallow groundwater depth.

January 2000 Monitoring Well Installation: Cambria installed one well (S-4) adjacent to the southeast corner of the station building. The maximum TPHd and TPHg concentrations were 27.2 mg/kg and 28.2 mg/kg, respectively. Investigation details are contained in Cambria's November 17, 2000 *Site Investigation Report*.

February 2000 Sensitive Receptor Survey (SRS): A SRS conducted by Cambria identified 58 monitoring, test, or industrial wells located within a ½-mile radius of the site. No municipal, domestic, or irrigation wells were identified.

November 2001 Corrective Action Plan (CAP): On November 12, 2001, Cambria submitted a CAP in preparation for impending site demolition and fueling facility removal. In the CAP, Cambria discussed remedial alternatives and made remedial action recommendations. Cambria recommended additional on-site over-excavation, following removal of the underground facilities, to substantially remove residual impacted soils from within the property boundaries. Cambria also recommended removing groundwater from the excavation, and placing ORC at the base of the excavation to enhance biological degradation of residual-impacted soil and groundwater. Continued quarterly groundwater monitoring was recommended to track the subsequent natural attenuation process.

February 2002 UST Removal: Paradiso removed the gasoline USTs and hydraulic hoists, and over-excavated approximately 1,250 cubic yards of impacted soil around and beneath the USTs, product dispenser islands, and hydraulic hoists. Phillips Services Corporation extracted approximately 16,000 gallons of groundwater from the excavation pits. Following over-excavation, Paradiso placed 810 pounds of ORC powder on the bottom of the excavation. Details of the fuel facilities removal and corrective action are presented in Cambria's February 25, 2002 Underground Storage Tank Closure Report.

May 2002 Well Installation: In May 2002, Cambria installed one groundwater monitoring well (S-5). The well installation is described in Cambria's July 2, 2002 Monitoring Well Installation Report.

2005 Subsurface Investigation Work Plan and SCM: In response to a request in a June 10, 2005 letter from ACHCSA, Cambria submitted a Subsurface Investigation Work Plan and Site Conceptual Model on August 16, 2005. In anticipation of site redevelopment, Cambria recommended destroying all on-site wells, and replacing them after site development was completed.

2005 Well Destructions: In anticipation of redevelopment of the site, Cambria destroyed wells S-1 through S-5 on July 14, 2005. The well destructions were completed in accordance with Alameda County Public Works Agency and San Francisco Regional Water Quality Control Board guidelines. The well destructions are described in Cambria's August 19, 2005 Well Destruction Report.

2005 Subsurface Investigation and Over-Excavation: In August 2005, Cambria advanced two soil borings to investigate the extent of petroleum-hydrocarbon-impacted soil and groundwater from the 1958 piping leak. Borings TB-1 and TB-3 contained concentrations of up to 1,600 mg/kg TPHg in soil and 180,000 micrograms per

liter ($\mu\text{g}/\text{l}$) TPHg, 22,000 $\mu\text{g}/\text{l}$ benzene, 9,700 $\mu\text{g}/\text{l}$ toluene, 5,200 $\mu\text{g}/\text{l}$ ethylbenzene, 25,000 $\mu\text{g}/\text{l}$ total xylenes, and 13.4 $\mu\text{g}/\text{l}$ lead in groundwater. Because the former UST area was located within the proposed footprint of a new building to be constructed at the site, Cambria excavated soil to the extent feasible in order to remove hydrocarbon-impacted soil beneath the building prior to site redevelopment. The excavation was completed to dimensions of 20 feet long by 25 feet wide by 20 feet deep. Following excavation, Cambria collected one confirmation soil sample from each sidewall and two soil samples from the excavation base. The maximum concentrations in the excavation samples were 0.050 mg/kg benzene, 0.0083 mg/kg ethylbenzene, 0.040 mg/kg xylenes, and 0.023 mg/kg di-isopropyl ether. TPHg, toluene, methyl tertiary-butyl ether (MTBE) and tertiary-butyl alcohol (TBA) were not detected in the excavation samples. No water was observed in the bottom of the excavation. The activities are described in their entirety in Cambria's November 16, 2005 *Subsurface Investigation and Over-Excavation Report*.

2006 Subsurface Investigation for Replacement Wells: In May 2006, Cambria advanced five soil borings (SB-5 through SB-8, and SB-12) at the site to assess the vertical profile of subsurface contamination. Petroleum hydrocarbons were found in soils in the vicinity of the former USTs, dispensers, and product piping, to depths above approximately 15 fbg. Historical maximum concentrations of petroleum constituents in soils are 3,100 mg/kg TPHg, 244 mg/kg TPHd, 9.6 mg/kg benzene, and 2.5 mg/kg MTBE. The vertical extent of petroleum constituents in groundwater at the site was defined by the groundwater results from boring SB-12, located just down gradient of the first- and second-generation USTs. The results from the groundwater sample from 31 to 35 fbg in this boring indicated that the petroleum constituent concentrations attenuate by one to two orders of magnitude with depth. The activities are described in Cambria's July 25, 2005 *Subsurface Investigation Report and Monitoring Well Installation Work Plan*.

2007 Subsurface Investigation to Install Replacement Wells: Conestoga-Rovers & Associates (CRA) installed four replacement wells (S-6 through S-9) at locations determined by the findings of Cambria's July 25, 2005 Subsurface Investigation Report and Monitoring Well Installation Work Plan. Low concentrations of TPHd, TPHg, benzene, MTBE, and TBA were found in soils extending into the groundwater interface. Concentrations of TPHd, TPHg, BTEX, and MTBE were reported in the groundwater samples from all four wells. Additionally, concentrations of TBA and 1,2-dichloroethane (1,2-DCA) were reported in all wells except S-9. The maximum concentrations of TPHg and benzene were detected in the sample from well S-7 (March 2007) at 100,000 and 32,000 $\mu\text{g}/\text{l}$, respectively. The activities are described in CRA's April 19, 2007 *Site Investigation and First Quarter 2007 Groundwater Monitoring Report*.

2007 Soil Vapor Investigation: CRA installed nine on-site soil vapor probes (V-1 through V-7, V-10, and V-11) at depths of approximately 5 fbg. The probe installation details are presented in CRA's March 13, 2008 *Soil Vapor Probe Installation and Sampling Report*.

2008 Soil Vapor Monitoring: CRA conducted three rounds of soil vapor monitoring utilizing the on-site soil vapor probes. TPHg, benzene, and ethylbenzene were detected at concentrations exceeding San Francisco Bay Regional Water Quality Control Board Environmental Screening Levels for shallow soil gas with commercial land use. The monitoring results are presented in CRA's November 10, 2008 *Soil Vapor Probe Installation and Sampling Report*.

Groundwater Monitoring Program: Groundwater has been monitored at the site since December 1992. Groundwater depths have ranged from approximately 6 to 12 fbg. The calculated groundwater gradient typically trends southwesterly. During the first quarter 2009 sample event, maximum concentrations were 99,000 µg/l TPHg (S-7), 5,200 µg/l TPHd (S-6), 25,000 µg/l benzene (S-7), and 370 µg/l MTBE (S-7).

APPENDIX B

PERMIT

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street
Hayward, CA 94544-1395
Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 04/22/2009 By jamesy

Permit Numbers: W2009-0296
Permits Valid from 05/14/2009 to 05/14/2009

Application Id: 1239033528718
Site Location: 4411 Foothill Blvd.
Project Start Date: 04/23/2009
Assigned Inspector: Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org
Extension Start Date: 05/14/2009
Extension Count: 2

City of Project Site:Oakland
Completion Date:04/30/2009
Extension End Date: 05/14/2009
Extended By: vickyh1

Applicant: Conestoga-Rovers & Associates - Lauren Goldfinch
5900 Hollis St., Suite A, Emeryville, CA 94608
Property Owner: Bill Phua
4411 Foothill Blvd, Oakland, CA 94601
Client: Shell Oil Products US
20945 S. Wilmington Ave., Carson, CA 90810
Contact: Lauren Goldfinch

Phone: 510-420-3339
Phone: --
Phone: --
Phone: --
Cell: 510-385-2638

Total Due: \$230.00
Receipt Number: WR2009-0145 Total Amount Paid: \$230.00
Payer Name : Conestoga-Rovers & Associates Paid By: CHECK **PAID IN FULL**

Works Requesting Permits:

Remediation Well Construction-Vapor Remediation Well - 2 Wells
Driller: Conestoga-Rovers & Associates - Lic #: 00000 - Method: other

Work Total: \$230.00

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2009-0296	04/22/2009	07/22/2009	SSV-1	0.75 in.	0.25 in.	0.50 ft	1.00 ft
W2009-0296	04/22/2009	07/22/2009	SSV-2	0.75 in.	0.25 in.	0.50 ft	1.00 ft

Specific Work Permit Conditions

1. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
2. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
3. Compliance with the well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well construction or destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including permit

Alameda County Public Works Agency - Water Resources Well Permit

number and site map.

4. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.
 5. Applicant shall contact Vicky Hamlin for an inspection time at 510-670-5443 or email to vickyh@acpwa.org at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.
 6. Minimum seal depth (Neat Cement Seal) is 2 feet below ground surface (BGS).
 7. Minimum surface seal thickness is two inches of cement grout placed by tremie
 8. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
 9. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.
-

APPENDIX C

FIELD DATA

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: V-2

Project Name: Former Shell

Date: 4/2/09

Project No: 240897-2009-12

Sampler: LG

Site Address: 4411 Foothill, Oakland

PM: PS

Purge Volume

Calculated Purge Volume: ~1L

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: N/A

Summa Canister ID: _____

Summa Canister Size: 1L Tedlar

Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
13:15	N/A	13:17	N/A	2min

Notes: 83% He

Soil Vapor Sampling Point ID: V-1

Project Name: _____

Date: _____

Project No: _____

Sampler: _____

Site Address: _____

PM: _____

Purge Volume

Calculated Purge Volume: ~1L

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: N/A

Summa Canister ID: _____

Summa Canister Size: 1L Tedlar

Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
13:50	N/A	13:52	N/A	2min

Notes: Probe had water in it - pumped out
88% He

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: V-5

Project Name: Former Shell

Date: 4/2/09

Project No: 240897-2009-12

Sampler: LG

Site Address: 4411 Foothill, Oakland

PM: PS

Purge Volume

Calculated Purge Volume: ~1L

Time	Flow Rate	Volume	Comments
<u>—</u>	<u>—</u>	<u>1L</u>	

Sample Collection

Flow Control Setting: N/A

Summa Canister ID: N/A

Summa Canister Size: 1L Tedlar

Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
<u>9:50</u>	<u>N/A</u>	<u>9:50</u>	<u>N/A</u>	<u>3-5s</u>

Notes:

67% He

Soil Vapor Sampling Point ID: V-4

Project Name: _____

Date: _____

Project No: _____

Sampler: _____

Site Address: _____

PM: _____

Purge Volume

Calculated Purge Volume: ~1L

Time	Flow Rate	Volume	Comments
<u>—</u>	<u>—</u>	<u>1L</u>	

Sample Collection

Flow Control Setting: N/A

Summa Canister ID: N/A

Summa Canister Size: 1L Tedlar

Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
<u>10:45</u>				<u>3-5s</u>

Notes:

72% He

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: V-6

Project Name: Former Shell

Date: 4/2/09

Project No: 240897-2009-12

Sampler: LG

Site Address: 4411 Foothill, Oakland

PM: PS

Purge Volume

Calculated Purge Volume: ~1L

Time	Flow Rate	Volume	Comments
—	—	1L	

Sample Collection

Flow Control Setting: N/A

Summa Canister ID: N/A

Summa Canister Size: 1L Tedlar

Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
11:30	N/A	11:30		30s

Notes: 82% He

Soil Vapor Sampling Point ID: V-3

Project Name: _____

Date: _____

Project No: _____

Sampler: _____

Site Address: _____

PM: _____

Purge Volume

Calculated Purge Volume: ~1L

Time	Flow Rate	Volume	Comments
—	—	1L	

Sample Collection

Flow Control Setting: N/A

Summa Canister ID: N/A

Summa Canister Size: 1L Tedlar

Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
12:00	N/A	12:02		2min

Notes: 76% He

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: SSV-2

Project Name: Former Shell

Date: Wed 5/15/09

Project No: 240897-2009-12

Sampler: LG

Site Address: 4411 Foothill, Oakland

PM: PS

Purge Volume

Calculated Purge Volume: N/A

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: 200 mL/min

Summa Canister ID: LC 411

Summa Canister Size: 1L

Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
<u>10:06</u>	<u>-30 in Hg</u>	<u>10:12</u>	<u>-2 in Hg</u>	<u>6 min</u>

Notes: 85% He

Soil Vapor Sampling Point ID: _____

Project Name: _____

Date: _____

Project No: _____

Sampler: _____

Site Address: _____

PM: _____

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: _____

Summa Canister ID: _____

Summa Canister Size: _____

Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time

Notes: _____

Conestoga-Rovers & Associates

SOIL VAPOR SAMPLING DATA SHEET

Soil Vapor Sampling Point ID: SSV-1

Project Name: Former Shell

Date: ~~5/19/09~~ 5/19/09

Project No: 240897-2009-12

Sampler: LG

Site Address: 4411 Foothill, Oakland

PM: PS

Purge Volume

Calculated Purge Volume: N/A

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: 200 mL/min

Summa Canister ID: LL 259

Summa Canister Size: 1L

Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time
<u>10:05</u>	<u>-30 in Hg</u>	<u>10:10</u>	<u>-3 in Hg</u>	<u>5 min</u>

Notes: 74% He

Soil Vapor Sampling Point ID: _____

Project Name: _____

Date: _____

Project No: _____

Sampler: _____

Site Address: _____

PM: _____

Purge Volume

Calculated Purge Volume: _____

Time	Flow Rate	Volume	Comments

Sample Collection

Flow Control Setting: _____

Summa Canister ID: _____

Summa Canister Size: _____

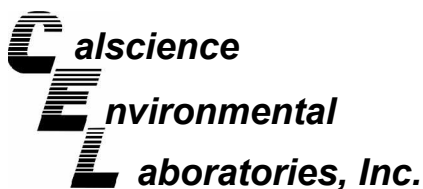
Analysis: _____

Time - Begin Sampling	Canister Vacuum	Time - End Sampling	Canister Vacuum	Sampling Time

Notes: _____

APPENDIX D

LABORATORY ANALYTICAL REPORTS



April 27, 2009

Peter Schaefer
Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Subject: **CalScience Work Order No.: 09-04-1897**
Client Reference: 4411 Foothill Blvd, Oakland CA

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 4/22/2009 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard CalScience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in cursive script that reads "Jessie Lee".

CalScience Environmental
Laboratories, Inc.
Jessie Lee
Project Manager

Analytical Report



Conestoga-Rovers & Associates
 5900 Hollis Street, Suite A
 Emeryville, CA 94608-2008

Date Received: 04/22/09
 Work Order No: 09-04-1897
 Preparation: N/A
 Method: EPA TO-15
 Units: ug/m3

Project: 4411 Foothills Blvd, Oakland CA

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
V-5	09-04-1897-1-A	04/21/09 09:50	Air	GC/MS V	N/A	04/23/09 11:20	090423L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	64	40		Ethylbenzene	350	87	40	
Toluene	110	75	40		Xylenes (total)	510	350	40	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	122	57-129			1,2-Dichloroethane-d4	104	47-137		
Toluene-d8	71	78-156		2					

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
V-4	09-04-1897-2-A	04/21/09 10:45	Air	GC/MS V	N/A	04/23/09 03:53	090422L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	65	64	40		Ethylbenzene	360	87	40	
Toluene	ND	75	40		Xylenes (total)	520	350	40	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	112	57-129			1,2-Dichloroethane-d4	96	47-137		
Toluene-d8	57	78-156		2					

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
V-6	09-04-1897-3-A	04/21/09 11:30	Air	GC/MS V	N/A	04/23/09 12:56	090423L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	20	12.5		Ethylbenzene	55	27	12.5	
Toluene	34	24	12.5		Xylenes (total)	ND	110	12.5	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	110	57-129			1,2-Dichloroethane-d4	92	47-137		
Toluene-d8	80	78-156							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
V-3	09-04-1897-4-A	04/21/09 12:00	Air	GC/MS V	N/A	04/22/09 21:27	090422L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	25000	6400	4000		Ethylbenzene	ND	8700	4000	
Toluene	17000	7500	4000		Xylenes (total)	ND	35000	4000	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	94	57-129			1,2-Dichloroethane-d4	92	47-137		
Toluene-d8	97	78-156							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Date Received: 04/22/09
Work Order No: 09-04-1897
Preparation: N/A
Method: EPA TO-15
Units: ug/m3

Project: 4411 Foothills Blvd, Oakland CA

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
V-2	09-04-1897-5-A	04/21/09 13:15	Air	GC/MS V	N/A	04/22/09 22:14	090422L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	7100	1100	700		Ethylbenzene	3100	1500	700	
Toluene	2900	1300	700		Xylenes (total)	ND	6100	700	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	94	57-129			1,2-Dichloroethane-d4	94	47-137		
Toluene-d8	96	78-156							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
V-1	09-04-1897-6-A	04/21/09 13:50	Air	GC/MS V	N/A	04/22/09 18:14	090422L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	58	32	20		Ethylbenzene	49	43	20	
Toluene	ND	38	20		Xylenes (total)	ND	170	20	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	94	57-129			1,2-Dichloroethane-d4	96	47-137		
Toluene-d8	96	78-156							

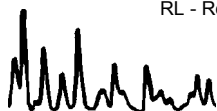
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-09-002-8,467	N/A	Air	GC/MS V	N/A	04/22/09 14:19	090422L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Ethylbenzene	ND	2.2	1	
Toluene	ND	1.9	1		Xylenes (total)	ND	8.7	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	102	57-129			1,2-Dichloroethane-d4	111	47-137		
Toluene-d8	97	78-156							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-09-002-8,469	N/A	Air	GC/MS V	N/A	04/23/09 10:22	090423L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Ethylbenzene	ND	2.2	1	
Toluene	ND	1.9	1		Xylenes (total)	ND	8.7	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	98	57-129			1,2-Dichloroethane-d4	96	47-137		
Toluene-d8	99	78-156							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Date Received: 04/22/09
Work Order No: 09-04-1897
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 4411 Foothills Blvd, Oakland CA

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
V-5	09-04-1897-1-A	04/21/09 09:50	Air	GC 55	N/A	04/22/09 00:00	090422L01

Parameter	Result	RL	DF	Qual	Units
Helium	1.24	0.0100	1		%v

V-4	09-04-1897-2-A	04/21/09 10:45	Air	GC 55	N/A	04/22/09 00:00	090422L01
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Parameter	Result	RL	DF	Qual	Units
Helium	0.0171	0.0100	1		%v

V-6	09-04-1897-3-A	04/21/09 11:30	Air	GC 55	N/A	04/22/09 00:00	090422L01
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Parameter	Result	RL	DF	Qual	Units
Helium	ND	0.0100	1		%v

V-3	09-04-1897-4-A	04/21/09 12:00	Air	GC 55	N/A	04/22/09 00:00	090422L01
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Parameter	Result	RL	DF	Qual	Units
Helium	0.0205	0.0100	1		%v

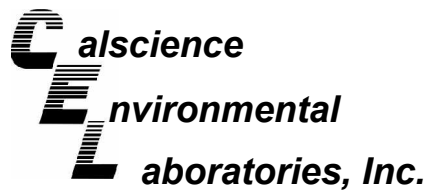
V-2	09-04-1897-5-A	04/21/09 13:15	Air	GC 55	N/A	04/22/09 00:00	090422L01
-----	----------------	-------------------	-----	-------	-----	-------------------	-----------

Parameter	Result	RL	DF	Qual	Units
Helium	ND	0.0100	1		%v

V-1	09-04-1897-6-A	04/21/09 13:50	Air	GC 55	N/A	04/22/09 00:00	090422L01
-----	----------------	-------------------	-----	-------	-----	-------------------	-----------

Parameter	Result	RL	DF	Qual	Units
Helium	ND	0.0100	1		%v

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Analytical Report



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Date Received: 04/22/09
Work Order No: 09-04-1897
Preparation: N/A
Method: ASTM D-1946 (M)

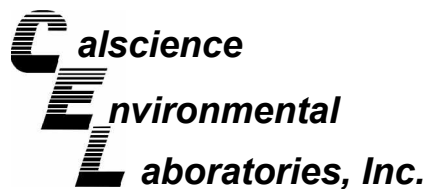
Project: 4411 Foothills Blvd, Oakland CA

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-872-4-A	N/A	Air	GC 55	N/A	04/22/09 00:00	090422L01

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Helium	ND	0.0100	1		%v

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

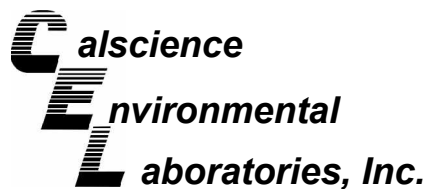
Date Received: N/A
Work Order No: 09-04-1897
Preparation: N/A
Method: EPA TO-15

Project: 4411 Foothills Blvd, Oakland CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-09-002-8,467	Air	GC/MS V	N/A	04/22/09	090422L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	87	110	60-156	24	0-40	
Toluene	82	101	56-146	21	0-43	
Ethylbenzene	93	114	52-154	21	0-38	
p/m-Xylene	87	105	42-156	19	0-41	
o-Xylene	86	104	52-148	19	0-38	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

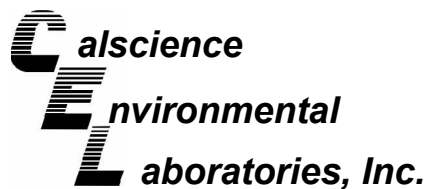
Date Received: N/A
Work Order No: 09-04-1897
Preparation: N/A
Method: EPA TO-15

Project: 4411 Foothills Blvd, Oakland CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-09-002-8,469	Air	GC/MS V	N/A	04/23/09	090423L01

<u>Parameter</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Benzene	123	120	60-156	2	0-40	
Toluene	115	113	56-146	2	0-43	
Ethylbenzene	128	129	52-154	1	0-38	
p/m-Xylene	119	119	42-156	1	0-41	
o-Xylene	117	116	52-148	1	0-38	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Date Received: N/A
Work Order No: 09-04-1897
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 4411 Foothills Blvd, Oakland CA

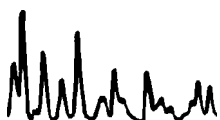
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-872-4	Air	GC 55	N/A	04/22/09	090422L01

<u>Parameter</u>	<u>LCS Conc</u>	<u>LCSD Conc</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Helium	1.032	1.028	0	0-30	
Hydrogen	0.9865	0.9823	0	0-30	

RPD - Relative Percent Difference , CL - Control Limit

Work Order Number: 09-04-1897

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.



LAB (LOCATION)

- CALSCIENCE (_____)
- SPL (_____)
- XENCO (_____)
- TEST AMERICA (_____)
- OTHER (_____)



Shell Oil Products Chain Of Custody Record

Please Check Appropriate Box:

<input checked="" type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SD&CM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER _____	

Print Bill To Contact Name: Denis Brown

INCIDENT # (ENV SERVICES): 9 8 9 9 5 7 4 6

PO #: _____ SAP #: _____

DATE: 4/21/09

PAGE: 1 of 1

SAMPLING COMPANY Conestoga-Rovers & Associates		LOG CODE CRAW	SITE ADDRESS: Street and City 4411 Foothill Blvd, Oakland	State CA	GLOBAL ID NO T0600101065
ADDRESS 5900 Hollis Street, Suite A, Emeryville, CA 94608			EDF DELIVERABLE TO (Name, Company, Office Location)	PHONE NO 510-420-3343	E-MAIL shell.em.edf@croworld.com
PROJECT CONTACT (Hardcopy or PDF Report to) Peter Schaefer			SAMPLER NAME(S) (Print) Brenda Carter, CRA, Emeryville		CONSULTANT PROJECT NO 240897-2009-12
TELEPHONE 510-420-3319	FAX 510-420-9170	E-MAIL pschaefer@croworld.com	SAMPLER NAME(S) (Print) Lauren Goldfinch		LAB USE ONLY 09.04-1897

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT UST AGENCY:

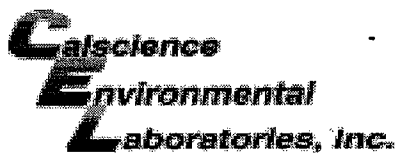
SPECIAL INSTRUCTIONS OR NOTES :
 please report results in µg/m³

SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 EDD NOT NEEDED
 RECEIPT VERIFICATION REQUESTED

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	BTEX by EPA Method (TO-3)	He by ATSM d 1946 (M)	TEMPERATURE ON RECEIPT C°	Container PID Readings or Laboratory Notes
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER					
1	V-5	4/21/09	9:50	air						1	X	X		
2	V-4	↓	10:45	↓						1	X	X		
3	V-6	↓	11:30	↓						1	X	X		
4	V-3	↓	12:00	↓						1	X	X		
5	V-2	↓	13:15	↓						1	X	X		
6	V-1	↓	13:50	↓						1	X	X		

Relinquished by: (Signature) <i>J. P.</i>	Received by: (Signature) <i>Tom Orvalley CER</i>	Date: 4/21/09	Time: 1430
Relinquished by: (Signature) <i>Tom Orvalley TO 650</i>	Received by: (Signature) <i>A. [unclear]</i>	Date: 042209	Time: 1000
Relinquished by: (Signature) <i>4/21/09 1730</i>	Received by: (Signature)	Date:	Time:

GSO AB# SU705379



WORK ORDER #: 09-04-11 8 9 7

SAMPLE RECEIPT FORM

Box Cooler 1 of 1

CLIENT: CRA

DATE: 04/22/09

TEMPERATURE: (Criteria: 0.0°C - 6.0°C, not frozen)

Temperature . °C - 0.2°C (CF) = . °C [] Blank [] Sample

- [] Sample(s) outside temperature criteria (PM/APM contacted by:).
[] Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.
[] Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: [x] Air [] Filter [] Metals Only [] PCBs Only

Initial: NC

CUSTODY SEALS INTACT:

- [] Cooler [] No (Not Intact) [x] Not Present [] N/A
[] Sample [] No (Not Intact) [x] Not Present

Initial: NC

Initial: NC

SAMPLE CONDITION:

Table with 4 columns: Item, Yes, No, N/A. Rows include Chain-Of-Custody (COC) document(s) received with samples, COC document(s) received complete, Sampler's name indicated on COC, Sample container label(s) consistent with COC, Sample container(s) intact and good condition, Correct containers and volume for analyses requested, Analyses received within holding time, Proper preservation noted on COC or sample container, Volatile analysis container(s) free of headspace, Tedlar bag(s) free of condensation.

CONTAINER TYPE:

- Solid: [] 4ozCGJ [] 8ozCGJ [] 16ozCGJ [] Sleeve [] EnCores® [] TerraCores®
Water: [] VOA [] VOAh [] VOAna2 [] 125AGB [] 125AGBh [] 125AGBp [] 1AGB [] 1AGBna2 [] 1AGBs
Air: [x] Tedlar® [] Summa® [] Other: []

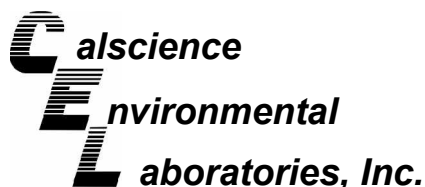
Checked/Labeled by: NC

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar (Wide-mouth) B: Bottle (Narrow-mouth)

Reviewed by: [Signature]

Preservative: h: HCL n: HNO3 na2:Na2S2O3 Na: NaOH p: H3PO4 s: H2SO4 zнна: ZnAc2+NaOH f: Field-filtered

Scanned by: [Signature]



May 22, 2009

Peter Schaefer
Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Subject: **CalScience Work Order No.: 09-05-1768**
Client Reference: 4411 Foothill Blvd., Oakland, CA

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/20/2009 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard CalScience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in cursive script that reads "Jessie Lee".

CalScience Environmental
Laboratories, Inc.
Jessie Lee
Project Manager

Analytical Report



Conestoga-Rovers & Associates
 5900 Hollis Street, Suite A
 Emeryville, CA 94608-2008

Date Received: 05/20/09
 Work Order No: 09-05-1768
 Preparation: N/A
 Method: EPA TO-15
 Units: ug/m3

Project: 4411 Foothill Blvd., Oakland, CA

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SSV-1	09-05-1768-1-A	05/19/09 10:05	Air	GC/MS K	N/A	05/21/09 17:29	090521L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	8.8	2.1	1.34		Ethylbenzene	4.4	2.9	1.34	
Toluene	11	2.5	1.34		Xylenes (total)	ND	12	1.34	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	105	57-129			1,2-Dichloroethane-d4	97	47-137		
Toluene-d8	93	78-156							

Method Blank	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-09-002-8,574	N/A	Air	GC/MS K	N/A	05/21/09 14:06	090521L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Ethylbenzene	ND	2.2	1	
Toluene	ND	1.9	1		Xylenes (total)	ND	8.7	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	98	57-129			1,2-Dichloroethane-d4	99	47-137		
Toluene-d8	92	78-156							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Date Received: 05/20/09
Work Order No: 09-05-1768
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 4411 Foothill Blvd., Oakland, CA

Page 1 of 1

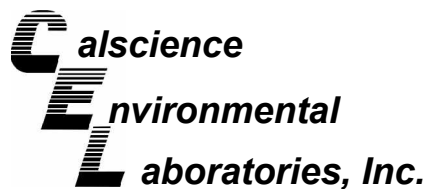
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SSV-1	09-05-1768-1-A	05/19/09 10:05	Air	GC 55	N/A	05/21/09 00:00	090521L01

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Helium	0.251	0.0134	1.34		%v

Method Blank	099-12-872-8	N/A	Air	GC 55	N/A	05/21/09 00:00	090521L01
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Helium	ND	0.0100	1		%v

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

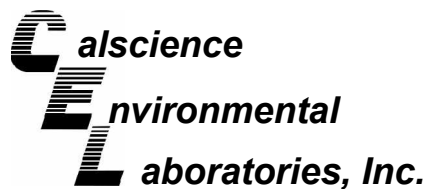
Date Received: N/A
Work Order No: 09-05-1768
Preparation: N/A
Method: EPA TO-15

Project: 4411 Foothill Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-09-002-8,574	Air	GC/MS K	N/A	05/21/09	090521L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	90	93	60-156	4	0-40	
Toluene	99	114	56-146	15	0-43	
Ethylbenzene	113	118	52-154	4	0-38	
p/m-Xylene	122	120	42-156	1	0-41	
o-Xylene	115	118	52-148	3	0-38	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Date Received: N/A
Work Order No: 09-05-1768
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 4411 Foothill Blvd., Oakland, CA

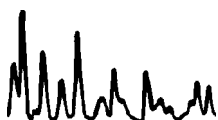
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-872-8	Air	GC 55	N/A	05/21/09	090521L01

<u>Parameter</u>	<u>LCS Conc</u>	<u>LCSD Conc</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Helium	0.8638	0.8698	1	0-30	
Hydrogen	0.8417	0.8530	1	0-30	

RPD - Relative Percent Difference , CL - Control Limit

Work Order Number: 09-05-1768

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis. Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.



LAB (LOCATION)



Shell Oil Products Chain Of Custody Record

- CALSCIENCE (_____)
- SPL (_____)
- XENCO (_____)
- TEST AMERICA (_____)
- OTHER (_____)

Please Check Appropriate Box:

<input checked="" type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SD&CM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER _____	

Print Bill To Contact Name: _____

INCIDENT # (ENV SERVICES) CHECK IF NO INCIDENT # APPLIES

9 8 9 9 5 7 4 6 DATE: **5/19/09**

PO # _____ SAP # _____

PAGE: 1 of 1

SAMPLING COMPANY: **Conestoga-Rovers & Associates**

LOG CODE: **CRAW**

ADDRESS: **5900 Hollis Street, Suite A, Emeryville, CA 94608**

PROJECT CONTACT (Hardcopy or PDF Report to): **Peter Schaefer**

TELEPHONE: **510-420-3319** FAX: **510-420-9170** E-MAIL: **pschaefer@craworld.com**

SITE ADDRESS: Street and City: **4411 Foothill Blvd, Oakland** State: **CA** GLOBAL ID NO.: **T0600101065**

EDF DELIVERABLE TO (Name, Company, Office Location): **Brenda Carter, CRA, Emeryville** PHONE NO.: **510-420-3343** E-MAIL: **shell.em.edf@craworld.com** CONSULTANT PROJECT NO.: **240897-2009-12**

SAMPLER NAME(S) (Print): **Lauren Goldfinch** LAB USE ONLY: **09-05-1768**

TURNAROUND TIME (CALENDAR DAYS):

STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

LA - RWQCB REPORT FORMAT UST AGENCY:

REQUESTED ANALYSIS

SPECIAL INSTRUCTIONS OR NOTES :

please report results in $\mu\text{g}/\text{m}^3$

- SHELL CONTRACT RATE APPLIES
- STATE REIMBURSEMENT RATE APPLIES
- EDD NOT NEEDED
- RECEIPT VERIFICATION REQUESTED

LAB USE ONLY	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	BTEX by EPA Method (TO-3)	He by ATSM d 1946 (M)	TEMPERATURE ON RECEIPT C	Container PID Readings or Laboratory Notes
	DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER					
	SSV-1	5/19/09 10:05	air						1	X	X		SUMMA ID: LC259

Relinquished by: (Signature) *[Signature]*

Relinquished by: (Signature) *[Signature]*

Relinquished by: (Signature) **Tom O'Malley TO 650 1730**

Received by: (Signature) *[Signature]* Date: **5/19/09** Time: **11:30**

Received by: (Signature) *[Signature]* Date: **5/19/09** Time: **1340**

Received by: (Signature) *[Signature]* Date: **5/20/09** Time: **10:15**

650 # 511891025

SAMPLE RECEIPT FORM

BOX
Cooler 1 of 1

CLIENT: CRA

DATE: 05/20/09

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen)

Temperature _____ °C - 0.2°C (CF) = _____ °C Blank Sample

Sample(s) outside temperature criteria (PM/APM contacted by: _____).

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: Air Filter Metals Only PCBs Only Initial: PS

CUSTODY SEALS INTACT:

Cooler _____ No (Not Intact) Not Present N/A Initial: PS

Sample _____ No (Not Intact) Not Present Initial: PS

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> COC not relinquished. <input type="checkbox"/> No date relinquished. <input type="checkbox"/> No time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct containers and volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve EnCores® TerraCores® _____

Water: VOA VOA_h VOA_{na2} 125AGB 125AGB_h 125AGB_p 1AGB 1AGB_{na2} 1AGBs

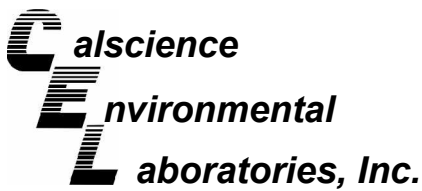
500AGB 500AGJ 500AGJs 250AGB 250CGB 250CGBs 1PB 500PB 500PB_{na}

250PB 250PB_n 125PB 125PB_{znna} 100PB 100PB_{na2} _____ _____ _____

Air: Tedlar® Summa® _____ **Other:** _____ **Checked/Labeled by:** PS

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar (Wide-mouth) B: Bottle (Narrow-mouth) **Reviewed by:** WB

Preservative: h: HCL n: HNO3 na₂: Na₂S₂O₃ Na: NaOH p: H₃PO₄ s: H₂SO₄ znna: ZnAc₂+NaOH f: Field-filtered **Scanned by:** PS



May 28, 2009

Peter Schaefer
Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Subject: **CalScience Work Order No.: 09-05-1540**
Client Reference: 4411 Foothill Blvd., Oakland, CA

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 5/16/2009 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of subcontracted analysis, if any, is provided herein, and follows the standard CalScience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in cursive script that reads "Jessie Lee".

CalScience Environmental
Laboratories, Inc.
Jessie Lee
Project Manager

Analytical Report



Conestoga-Rovers & Associates
 5900 Hollis Street, Suite A
 Emeryville, CA 94608-2008

Date Received: 05/16/09
 Work Order No: 09-05-1540
 Preparation: N/A
 Method: EPA TO-15
 Units: ug/m3

Project: 4411 Foothill Blvd., Oakland, CA

Page 1 of 1

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SSV-2	09-05-1540-1-A	05/15/09 10:06	Air	GC/MS II	N/A	05/19/09 18:43	090519L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	2.1	1.3		Ethylbenzene	ND	2.8	1.3	
Toluene	ND	2.4	1.3		Xylenes (total)	ND	11	1.3	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	102	57-129			1,2-Dichloroethane-d4	119	47-137		
Toluene-d8	100	78-156							

Method Blank	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	097-09-002-8,569	N/A	Air	GC/MS II	N/A	05/19/09 13:21	090519L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Ethylbenzene	ND	2.2	1	
Toluene	ND	1.9	1		Xylenes (total)	ND	8.7	1	
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	98	57-129			1,2-Dichloroethane-d4	114	47-137		
Toluene-d8	98	78-156							

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Analytical Report



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Date Received: 05/16/09
Work Order No: 09-05-1540
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 4411 Foothill Blvd., Oakland, CA

Page 1 of 1

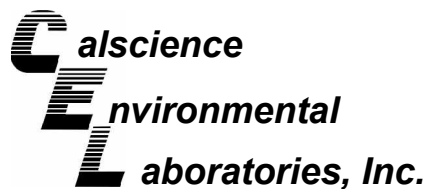
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SSV-2	09-05-1540-1-A	05/15/09 10:06	Air	GC 55	N/A	05/19/09 00:00	090519L01

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Helium	0.261	0.0130	1.3		%v

Method Blank	099-12-872-7	N/A	Air	GC 55	N/A	05/19/09 00:00	090519L01
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
Helium	ND	0.0100	1		%v

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

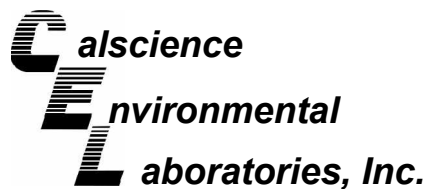
Date Received: N/A
Work Order No: 09-05-1540
Preparation: N/A
Method: EPA TO-15

Project: 4411 Foothill Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
097-09-002-8,569	Air	GC/MS II	N/A	05/19/09	090519L01

<u>Parameter</u>	<u>LCS %REC</u>	<u>LCSD %REC</u>	<u>%REC CL</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Benzene	116	121	60-156	4	0-40	
Toluene	116	118	56-146	1	0-43	
Ethylbenzene	132	134	52-154	2	0-38	
p/m-Xylene	144	147	42-156	2	0-41	
o-Xylene	142	145	52-148	2	0-38	

RPD - Relative Percent Difference , CL - Control Limit



Quality Control - LCS/LCS Duplicate



Conestoga-Rovers & Associates
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Date Received: N/A
Work Order No: 09-05-1540
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 4411 Foothill Blvd., Oakland, CA

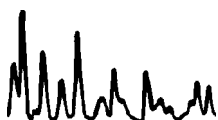
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-872-7	Air	GC 55	N/A	05/19/09	090519L01

<u>Parameter</u>	<u>LCS Conc</u>	<u>LCSD Conc</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Helium	0.9477	0.9602	1	0-30	
Hydrogen	1.071	1.088	2	0-30	

RPD - Relative Percent Difference , CL - Control Limit

Work Order Number: 09-05-1540

<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS Recovery Percentage is within LCS ME Control Limit range.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture.



SAMPLE RECEIPT FORM

Box 1 of 1
Cooler

CLIENT: CRA

DATE: 05/16/09

TEMPERATURE: (Criteria: 0.0°C – 6.0°C, not frozen)

Temperature _____ °C - 0.2°C (CF) = _____ °C Blank Sample

Sample(s) outside temperature criteria (PM/APM contacted by: _____).

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: Air Filter Metals Only PCBs Only Initial: [Signature]

CUSTODY SEALS INTACT:

Cooler _____ No (Not Intact) Not Present N/A Initial: [Signature]

Sample _____ No (Not Intact) Not Present Initial: MH

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> COC not relinquished. <input type="checkbox"/> No date relinquished. <input type="checkbox"/> No time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Correct containers and volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper preservation noted on COC or sample container.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

CONTAINER TYPE:

Solid: 4ozCGJ 8ozCGJ 16ozCGJ Sleeve EnCores® TerraCores® _____

Water: VOA VOA_h VOA_{na2} 125AGB 125AGB_h 125AGB_p 1AGB 1AGB_{na2} 1AGBs

500AGB 500AGJ 500AGJs 250AGB 250CGB 250CGBs 1PB 500PB 500PB_{na}

250PB 250PB_n 125PB 125PB_{znna} 100PB 100PB_{na2} _____ _____ _____

Air: Tedlar® Summa® _____ **Other:** _____ **Checked/Labeled by:** MH

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar (Wide-mouth) B: Bottle (Narrow-mouth) **Reviewed by:** [Signature]

Preservative: h: HCL n: HNO3 na₂: Na₂S₂O₃ Na: NaOH p: H₃PO₄ s: H₂SO₄ znna: ZnAc₂+NaOH f: Field-filtered **Scanned by:** MH