CONESTOGA-ROVERS & ASSOCIATES

5900 Hollis Street, Suite A
Emeryville, California 94608
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TRANSMITTAL

DATE: January 26, 2010

REFERENCE NO.: 240781

PROJECT NAME: 2703 Martin Luther King Jr. Way, Oakland

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

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9:03 am, Jan 28, 2010
Alameda County
Environmental Health

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QUANTITY	DESCRIPTION
1	Soil Vapor Sampling Report

- ☐ As Requested
- ☐ For Your Use
- ☒ For Review and Comment
- ☐
- ☐

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

Copy to: Denis Brown, Shell Oil Products US, 20945 S. Wilmington Avenue, Carson, CA 90810
Rodney & Janet Kwan, Auto Tech West, 2703 Martin Luther King Jr. Way, Oakland, CA 94612
Scott Merillat, 664 27th Street, Oakland, CA 94612
Monique Oatis, 670 27th Street, Oakland, CA 94612
Jack Chang, 559 9th Avenue, San Francisco, CA 94118-3716

Completed by: Peter Schaefer Signed: Peter Schaefer

Filing: **Correspondence File**

Denis L. Brown
Shell Oil Products US
HSE - Environmental Services
20945 S. Wilmington Ave.
Carson, CA 90810-1039
Tel (707) 865 0251
Fax (707) 865 2542
Email denis.l.brown@shell.com

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

Re: Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California
SAP Code 129449
Incident No. 97093397
ACEH Case No. RO0000145

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,

Denis L. Brown
Project Manager

SOIL VAPOR SAMPLING REPORT

FORMER SHELL SERVICE STATION
2703 MARTIN LUTHER KING JR. WAY
OAKLAND, CALIFORNIA

SAP CODE	129449
INCIDENT NO.	97093397
AGENCY NO.	RO0000145

Prepared by:
Conestoga-Rovers & Associates

5900 Hollis Street, Suite A
Emeryville, California
U.S.A. 94608

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JANUARY 26, 2010
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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 document the recent soil vapor probe monitoring event, as recommended in CRA's September 16, 2008 *Site Investigation Report and Soil Vapor Monitoring Report – Third Quarter 2008* and approved in Alameda County Environmental Health's (ACEH's) November 6, 2008 letter. CRA followed the revised sampling protocol proposed in our August 3, 2009 *Groundwater Monitoring Report – Second Quarter 2009.*

The subject site is a former service station located on the northwest corner of the Martin Luther King Jr. Way and 27th Street intersection in a mixed commercial and residential area of Oakland, California (Figure 1). Currently, the site is occupied by Auto Tech West and is used as an automotive repair shop (Figure 2).

A summary of previous work performed at the site and additional background information was submitted in CRA's September 16, 2009 *Revised Remedial Action Plan* and is not repeated herein.

2.0 EXECUTIVE SUMMARY

On November 19, 2009, CRA sampled soil vapor probes VP-6 through VP-9 for BTEX.

- Soil vapor sample concentrations of BTEX in VP-6 through VP-9 have been below RWQCB ESLs for residential land use since the initial sampling event in May 2007 with the exception of 110 µg/m³ benzene detected in VP-6-3' during the May 2007 sampling event. This concentration is below the RWQCB ESL for commercial land use.
- Based on these results, no further soil vapor monitoring is warranted.

3.0 SAMPLING ACTIVITIES

3.1 PERSONNEL PRESENT

CRA Staff Geologist Erin Reinhart-Koylu sampled soil vapor probes VP-6 through VP-9 under the supervision of California Professional Geologist Peter Schaefer.

3.2 SAMPLING DATE

November 19, 2009.

3.3 SOIL VAPOR SAMPLING

CRA sampled soil vapor probes VP-6 through VP-8 (two screened intervals each) and VP-9 (one screened interval) using a lung box and Tedlar® bags. Water was initially found in both screened intervals of VP-7, and CRA purged it from the soil vapor probes prior to sampling.

Prior to sampling, CRA purged at least three tubing volumes of air from the vapor probes using a vacuum pump. Immediately after purging, a soil vapor sample was collected using a laboratory-supplied Tedlar® bag. During sampling, the Teflon® tubing for the vapor probe was connected to a lung box containing the Tedlar® bag, and the lung box chamber was connected to the vacuum pump. The sample was then drawn into the Tedlar® bag by reducing the pressure in the lung box with the vacuum pump. The samples were labeled, documented on a chain-of-custody, and submitted to Calscience Environmental Laboratories, Inc. of 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 are presented in Section 4.2. The samples were analyzed by the laboratory for helium, and CRA presents the results in Section 4.2 and on Table 1.

4.0 FINDINGS

4.1 SOIL VAPOR

The soil vapor sample collected from VP-7-3' on November 19, 2009 contained 2.8 micrograms per cubic meter ($\mu g/m^3$) benzene, 31 $\mu g/m^3$ toluene, 3.8 $\mu g/m^3$ ethylbenzene, and 18 $\mu g/m^3$ xylenes. No constituents of concern were detected in the other soil vapor probes.

Table 1 summarizes historical soil vapor analytical data. Benzene, toluene, ethylbenzene, and xylenes (BTEX) results are shown on Figure 2, and the laboratory analytical report is presented in Appendix A.

4.2 LEAK TESTING

Leak testing was performed as described above, and helium was not detected in the samples, with the exception of 0.0100 percent by volume (%*v*) in the sample from soil vapor probe VP-7-3'. As seen in the following table, the single detection and the reporting limits for helium (0.0100 %*v*) are below 10 percent of the concentration detected in the shroud, and the samples are considered valid.

Probe ID	*Helium concentration in sample (%v)*	*Helium detected in shroud (%v)*	*Maximum acceptable helium concentration in sample (%v)*
VP-6-3'	<0.0100	69	6.9
VP-6-5'	<0.0100	65	6.5
VP-7-3'	0.0100	65	6.5
VP-7-5'	<0.0100	65	6.5
VP-8-3'	<0.0100	68	6.8
VP-8-5'	<0.0100	72	7.2
VP-9-4.5'	<0.0100	65	6.5

The laboratory analytical report for helium is presented in Appendix A, and CRA includes the results on Table 1.

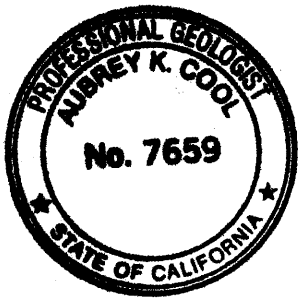
5.0 CONCLUSIONS AND RECOMMENDATIONS

BTEX concentrations in soil vapor probes VP-6 through VP-9 have been below San Francisco Bay Regional Water Quality Control Board (RWQCB) environmental screening levels (ESLs) for residential land use since the initial sampling event in May 2007, with the exception of 110 µg/m^3 benzene detected in VP-6-3' during the May 2007 sampling event. This concentration is below the RWQCB ESL for commercial land use. Based on these results, no further soil vapor monitoring is warranted.

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

Peter Schaefer, CEG, CHG

Aubrey K. Cool, PG



FIGURES

11/03/08

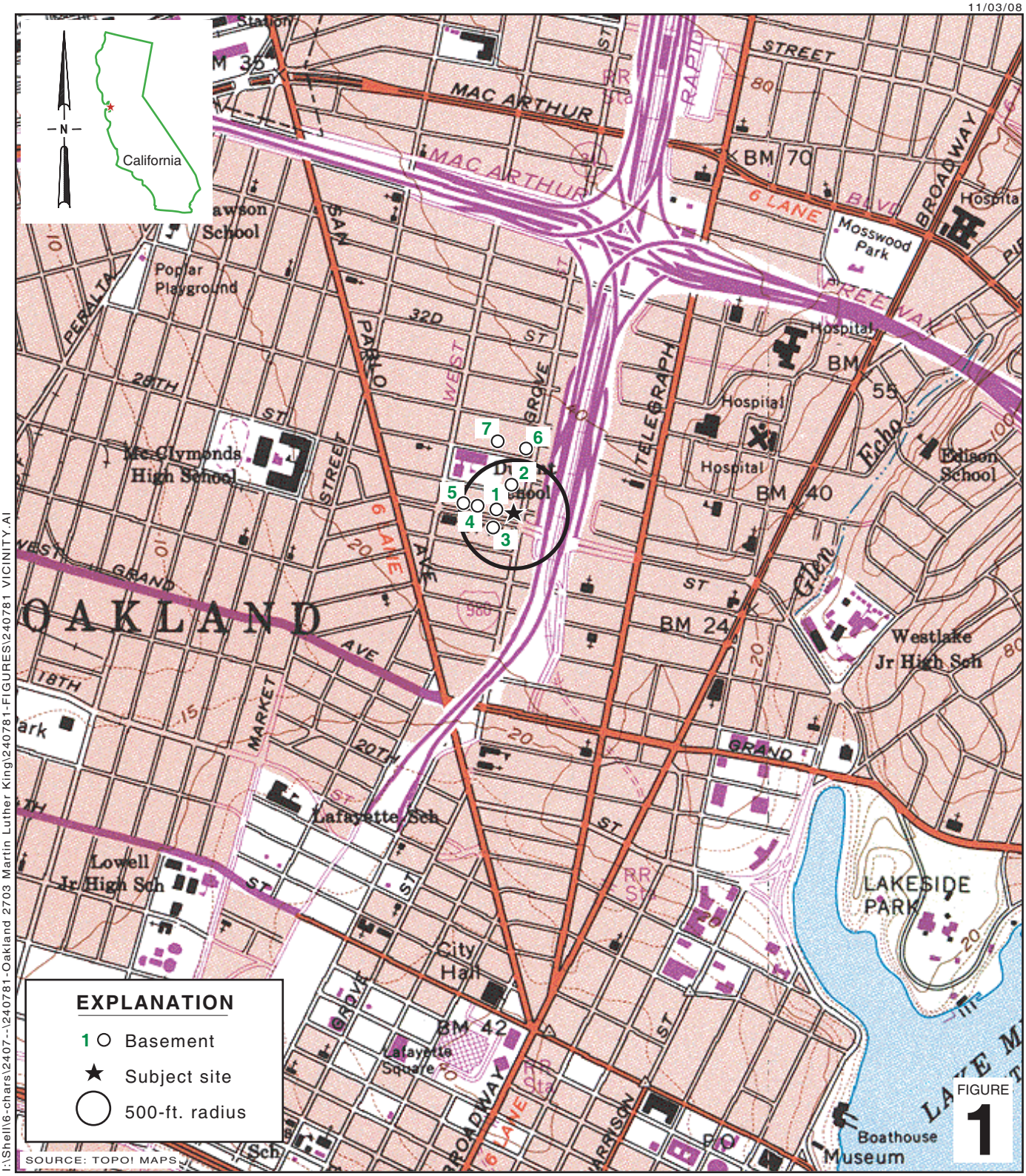


FIGURE 1

I:\Shell\6-chars\2407--\240781-Oakland 2703 Martin Luther King\240781-FIGURES\240781 VICINITY.AI

Former Shell Service Station
2703 Martin Luther King Jr. Way
Oakland, California

CONESTOGA-ROVERS & ASSOCIATES

Vicinity Map

01/19/10

EXPLANATION

- HA-1 — Hand auger boring location
- VP-1 — Vapor probe location (1/06, 5-6/07,7/08)
- V-1 — Soil vapor well location (7/96)
- MW-1 — Monitoring well location (7/96-2/06)
- E — Electrical line (E)
- T — Telecommunication line (T)
- G — Gas line (G)
- SAN — Sanitary sewer line (SAN)
- W — Water line (W)

Sample ID	Sample Date	Depth (fbg)	Benzene	Toluene	Ethyl-benzene	Total Xylenes
VP-9-5'	11/19/2009	5	<1.6	<19	<2.2	<8.7

Sample ID, depth, and date, and concentrations in soil vapor, in µg/m³

Note:
fbg = Feet below grade
<X = Not detected at detection limit X

Sample ID	Sample Date	Depth (fbg)	Benzene	Toluene	Ethyl-benzene	Total Xylenes
VP-6-3'	11/19/2009	3	<1.6	<19	<2.2	<8.7
VP-6-5'	11/19/2009	5	<1.6	<19	<2.2	<8.7

Sample ID	Sample Date	Depth (fbg)	Benzene	Toluene	Ethyl-benzene	Total Xylenes
VP-9-5'	11/19/2009	5	<1.6	<19	<2.2	<8.7

Sample ID	Sample Date	Depth (fbg)	Benzene	Toluene	Ethyl-benzene	Total Xylenes
VP-8-3'	11/19/2009	3	<1.6	<19	<2.2	<8.7
VP-8-5'	11/19/2009	5	<1.6	<19	<2.2	<8.7

Sample ID	Sample Date	Depth (fbg)	Benzene	Toluene	Ethyl-benzene	Total Xylenes
VP-7-3'	11/19/2009	3	2.8	31	3.8	18
VP-7-5'	11/19/2009	5	<1.6	<19	<2.2	<8.7

Residential
2719-23 Martin Luther King

Former W/O AST

Former Vent Lines

Anode

Building

TRENCH

Wooden Carport

Former USTs

Former Dispensers

Former Dispensers

Residential 670 27th St.

Residential 688 27th St.

Residential 664 27th St.

Gate

Driveway

Gate

Driveway

Driveway

MW-14 MW-7 MW-8 MW-5 MW-6 MW-4 MW-3 MW-2 MW-1

VP-7 VP-8 VP-1 VP-2 VP-3 VP-4 VP-5 VP-6 VP-9

V-1 V-2

HA-1 HA-2 HA-3 HA-4 HA-5 HA-6 HA-7 HA-8

N

0 7.5 15 30

Scale (ft)

27TH STREET

MARTIN LUTHER KING JR. WAY

Former Shell Station
2703 Martin Luther King

I:\Shell\6-chars\2407--\240781--Oakland 2703 Martin Luther King\240781-FIGURES\240781 4Q09-VAPOR.DWG

Soil Vapor Data Map

November 19, 2009

CONESTOGA-ROVERS & ASSOCIATES

Former Shell Service Station

2703 Martin Luther King Jr Way
Oakland, California

FIGURE
2

TABLE

TABLE 1

HISTORICAL SOIL VAPOR ANALYTICAL DATA
FORMER SHELL SERVICE STATION
2703 MARTIN LUTHER KING JR. WAY, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg*	*Benzene*	*Toluene*	*Ethyl-benzene*	*Total Xylenes*	*Isobutane*	*Butane*	*Propane*	*Helium (%v)*
VP-1-3	5/30/2007	3	**5,500,000**	<510	690	<690	<2,090	NA	NA	NA	NA
VP-1-5	5/30/2007	5			Unable to sample; water in probe						
VP-2-3	5/30/2007	3			Unable to sample; water in probe						
VP-2-5	5/30/2007	5			Unable to sample; water in probe						
VP-3-3	5/30/2007	3			Unable to sample; water in probe						
VP-3-5	5/30/2007	5	**31,000,000**	**760**	<75	<86	<256	NA	NA	NA	NA
VP-4-3	5/30/2007	3	**800,000**	<79	240	<110	<320	NA	NA	NA	NA
VP-4-5	5/30/2007	5	**680,000**	<66	170	<90	<270	NA	NA	NA	NA
VP-5-3	5/30/2007	3			Unable to sample; water in probe						
VP-5-5	5/30/2007	5			Unable to sample; water in probe						
VP-6-3	5/30/2007	3	**3,500,000**	110	320	<55	160	NA	NA	NA	NA
VP-6-3	4/17/2008	3	<17,000	<2.3	<2.8	<3.2	<9.6	ND	ND	ND	NA
VP-6-3	3/31/2009	3			Unable to sample; water in probe						
VP-6-3'	**11/19/2009**	**3**	NA	<1.6	<19	<2.2	<8.7	NA	NA	NA	<0.0100
VP-6-5	5/30/2007	5	**1,900,000**	<100	410	<140	<420	NA	NA	NA	NA
VP-6-5	4/17/2008	5	**14,000,000**	3.6	<2.6	<3.0	<9.0	66.8	ND	ND	NA
Ambient (near VP-6)	5/30/2007		<19,000	16	16	<3.1	<9.2	NA	NA	NA	NA
VP-6-5	3/31/2009	5			Unable to sample; water in probe						
VP-6-5'	**11/19/2009**	**5**	NA	<1.6	<19	<2.2	<8.7	NA	NA	NA	<0.0100
VP-7-3	6/12/2007	3	<21,000	23	7,000	110	241	NA	NA	NA	NA
VP-7-3	10/30/2007	3	<19,000	<2.7	9.6	<3.6	<17.6	657.3	16.6	ND	NA
VP-7-3	1/18/2008	3	23,000	4.3	23	3.4	13.8	ND	ND	ND	NA
VP-7-3	4/17/2008	3	<16,000	<2.2	6.1	<3.0	<9.1	648.95	ND	ND	NA
VP-7-3-DUP	4/17/2008	3	<16,000	<2.2	7.1	<3.0	<9.0	144.53	ND	ND	NA
VP-7-3	7/24/2008	3	<19,000	<2.7	51	<3.6	<10.8	601.17	10.93	ND	NA
Ambient (near VP-7)	7/24/2008		<16,000	<2.3	<2.7	<3.1	<9.2	ND	ND	ND	NA
VP-7-3	3/31/2009	3			Unable to sample; water in probe						
VP-7-3'	**11/19/2009**	**3**	NA	2.8	31	3.8	18	NA	NA	NA	0.0100
VP-7-5	6/12/2007	5	<21,000	23	2,100	110	230	NA	NA	NA	NA
VP-7-5	10/30/2007	5	<18,000	<2.5	15	<3.4	<16.4	402.4	ND	ND	NA
VP-7-5	1/18/2008	5	<20,000	<2.8	7.9	<3.8	<11.3	105.5	ND	ND	NA
VP-7-5-DUP	1/18/2008	5	<19,000	<2.6	7.6	<3.6	<10.8	66.6	ND	ND	NA
VP-7-5	4/17/2008	5	<15,000	<2.2	7.8	<2.9	<8.8	220.83	25.2	ND	NA
VP-7-5	7/24/2008	5			Unable to sample; water in probe						
VP-7-5	3/31/2009	5			Unable to sample; water in probe						

TABLE 1

HISTORICAL SOIL VAPOR ANALYTICAL DATA
FORMER SHELL SERVICE STATION
2703 MARTIN LUTHER KING JR. WAY, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg*	*Benzene*	*Toluene*	*Ethyl-benzene*	*Total Xylenes*	*Isobutane*	*Butane*	*Propane*	*Helium (%v)*
VP-7-5'	**11/19/2009**	**5**	NA	<1.6	<19	<2.2	<8.7	NA	NA	NA	<0.0100
VP-8-3	6/12/2007	3	<23,000	20	9,300	120	267	NA	NA	NA	NA
VP-8-3	10/30/2007	3	<24,000	<3.4	34	<4.6	<22.6	395.1	7.8	ND	NA
VP-8-3-DUP	10/30/2007	3	<18,000	<2.6	6.5	<3.5	<17.5	366.6	ND	ND	NA
VP-8-3	1/18/2008	3	<18,000	<2.6	7.2	<3.5	<10.4	128.6	ND	ND	NA
VP-8-3	4/17/2008	3	<16,000	<2.3	7.1	<3.1	<9.3	666.54	57.29	ND	NA
VP-8-3	7/24/2008	3	<18,000	<2.5	290	14	38	ND	ND	ND	NA
VP-8-3-DUP	7/24/2008	3	<19,000	<2.6	210	11	28.9	6.42	ND	ND	NA
VP-8-3'	3/31/2009	3	<9,100	<2.5	5.2	<3.5	<14	<19	<19	<43	NA
VP-8-3' DUP	3/31/2009	3	<8,100	<2.3	<2.7	<3.1	<12	<17	<17	<38	NA
Ambient (near VP-8)	3/31/2009		<13,000	<3.7	17	<5.0	<20	<27	<27	<62	NA
VP-8-3'	**11/19/2009**	**3**	NA	<1.6	<19	<2.2	<8.7	NA	NA	NA	<0.0100
VP-8-5	6/12/2007	5	<22,000	33	11,000	120	278	NA	NA	NA	NA
VP-8-5	10/30/2007	5	<19,000	<2.6	8.5	<3.6	<17.6	468.3	5.9	ND	NA
VP-8-5	1/18/2008	5	<19,000	<2.6	5.7	<3.5	<10.5	ND	ND	ND	NA
VP-8-5	4/17/2008	5	<17,000	11	<1.9	<3.2	<9.6	59.43	9.98	ND	NA
VP-8-5	7/24/2008	5	<17,000	<2.4	630	29	76	10.22	7.84	ND	NA
VP-8-5	3/31/2009	5	Unable to sample; water in probe								
VP-8-5'	**11/19/2009**	**5**	NA	<1.6	<19	<2.2	<8.7	NA	NA	NA	<0.0100
VP-9-5	8/8/2008	5	280	<3.9	17	<5.2	<10.4	ND	ND	ND	NA
Ambient (near VP-9)	8/8/2008		280	<3.2	<3.8	<4.4	<8.8	ND	ND	ND	NA
VP-9-5	12/31/2008	5	Unable to sample; water in probe								
VP-9-5	3/31/2009	5	Unable to sample; water in probe								
VP-9-5'	**11/19/2009**	**5**	NA	<1.6	<19	<2.2	<8.7	NA	NA	NA	<0.0100
ESLs [a]	*Commercial*		*29,000*	*280*	*180,000*	*3,300*	*58,000*	--	--	--	--
	Residential		*10,000*	*84*	*63,000*	*980*	*21,000*	--	--	--	--

Abbreviations and Notes:

All results in micrograms per cubic meter ($\mu g/m^3$) unless otherwise indicated.
fbg = Feet below grade
TPHg = Total petroleum hydrocarbons as gasoline; analyzed by Modified EPA Method TO-3M GC/FID
Benzene, toluene, ethylbenzene, and xylenes by Modified EPA Method TO-15 ,
Isobutane, butane, and propane by EPA Method TO-15
Helium by ASTM Method D-1946 (M)
%v = Percent by volume
<x = Not detected at reporting limit x
ND = Not detected
NA = Not analyzed
ESL = Environmental screening level
--- = No applicable ESL
Results in **bold** exceed commercial environmental screening level

TABLE 1

HISTORICAL SOIL VAPOR ANALYTICAL DATA
FORMER SHELL SERVICE STATION
2703 MARTIN LUTHER KING JR. WAY, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg*	*Benzene*	*Toluene*	*Ethyl-benzene*	*Total Xylenes*	*Isobutane*	*Butane*	*Propane*	*Helium (%v)*

a = San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) shallow soil gas screening level for evaluation of potential vapor intrusion concerns from *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, SFBRWQCB, Interim Final - November 2007 (Revised May 2008).

APPENDIX A

LABORATORY ANALYTICAL REPORT

Calscience
Environmental
Laboratories, Inc.

December 03, 2009

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

Subject: **Calscience Work Order No.:** **09-11-1711**
Client Reference: **2703 Martin Luther King Jr. Way, Oakland, CA**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 11/20/2009 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,

Philip Hamelle for

Calscience Environmental
Laboratories, Inc.
Xuan H. Dang
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Conestoga-Rovers & Associates	Date Received:	11/20/09
5900 Hollis Street, Suite A	Work Order No:	09-11-1711
Emeryville, CA 94608-2008	Preparation:	N/A
	Method:	ASTM D-1946 (M)

Project: 2703 Martin Luther King Jr. Way, Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-6-3'	09-11-1711-1-A	11/19/09 09:50	Air	GC 55	N/A	11/20/09 00:00	091120L01

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-6-5'	09-11-1711-2-A	11/19/09 10:15	Air	GC 55	N/A	11/20/09 00:00	091120L01

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-7-3'	09-11-1711-3-A	11/19/09 09:19	Air	GC 55	N/A	11/20/09 00:00	091120L01

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-7-5'	09-11-1711-4-A	11/19/09 09:35	Air	GC 55	N/A	11/20/09 00:00	091120L01

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-8-3'	09-11-1711-5-A	11/19/09 08:40	Air	GC 55	N/A	11/20/09 00:00	091120L01

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

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-8-5'	09-11-1711-6-A	11/19/09 08:50	Air	GC 55	N/A	11/20/09 00:00	091120L01

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Conestoga-Rovers & Associates		Date Received:	11/20/09
5900 Hollis Street, Suite A		Work Order No:	09-11-1711
Emeryville, CA 94608-2008		Preparation:	N/A
		Method:	ASTM D-1946 (M)

Project: 2703 Martin Luther King Jr. Way, Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-9-4.5'	09-11-1711-7-A	11/19/09 10:29	Air	GC 55	N/A	11/20/09 00:00	091120L01

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

Method Blank	099-12-872-17	N/A	Air	GC 55	N/A	11/20/09 00:00	091120L01

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 11/20/09
Work Order No: 09-11-1711
Preparation: N/A
Method: EPA TO-15M
Units: ug/m3

Project: 2703 Martin Luther King Jr. Way, Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-6-3'	09-11-1711-1-A	11/19/09 09:50	Air	GC/MS K	N/A	11/22/09 00:03	091121L01

Comment(s): -The method has been modified to use Tedlar bags instead of Summa Canisters.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Ethylbenzene	ND	2.2	1	
Toluene	ND	19	1		Xylenes (total)	ND	8.7	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	101	57-129			1,2-Dichloroethane-d4	97	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
VP-6-5'	09-11-1711-2-A	11/19/09 10:15	Air	GC/MS K	N/A	11/22/09 00:48	091121L01

Comment(s): -The method has been modified to use Tedlar bags instead of Summa Canisters.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Ethylbenzene	ND	2.2	1	
Toluene	ND	19	1		Xylenes (total)	ND	8.7	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	57-129			1,2-Dichloroethane-d4	98	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
VP-7-3'	09-11-1711-3-A	11/19/09 09:19	Air	GC/MS K	N/A	11/22/09 01:34	091121L01

Comment(s): -The method has been modified to use Tedlar bags instead of Summa Canisters.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	2.8	1.6	1		Ethylbenzene	3.8	2.2	1	
Toluene	31	19	1		Xylenes (total)	18	8.7	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	103	57-129			1,2-Dichloroethane-d4	99	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
VP-7-5'	09-11-1711-4-A	11/19/09 09:35	Air	GC/MS K	N/A	11/22/09 02:19	091121L01

Comment(s): -The method has been modified to use Tedlar bags instead of Summa Canisters.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Ethylbenzene	ND	2.2	1	
Toluene	ND	19	1		Xylenes (total)	ND	8.7	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	103	57-129			1,2-Dichloroethane-d4	98	47-137		
Toluene-d8	96	78-156							

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

Calscience Environmental Laboratories, Inc.

Analytical Report

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

Date Received: 11/20/09
Work Order No: 09-11-1711
Preparation: N/A
Method: EPA TO-15M
Units: ug/m3

Project: 2703 Martin Luther King Jr. Way, Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
VP-8-3'	09-11-1711-5-A	11/19/09 08:40	Air	GC/MS K	N/A	11/22/09 03:04	091121L01

Comment(s): -The method has been modified to use Tedlar bags instead of Summa Canisters.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Ethylbenzene	ND	2.2	1	
Toluene	ND	19	1		Xylenes (total)	ND	8.7	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	103	57-129			1,2-Dichloroethane-d4	96	47-137		
Toluene-d8	98	78-156							

VP-8-5'	09-11-1711-6-A	11/19/09 08:50	Air	GC/MS K	N/A	11/22/09 03:51	091121L01

Comment(s): -The method has been modified to use Tedlar bags instead of Summa Canisters.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Ethylbenzene	ND	2.2	1	
Toluene	ND	19	1		Xylenes (total)	ND	8.7	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	101	57-129			1,2-Dichloroethane-d4	92	47-137		
Toluene-d8	98	78-156							

VP-9-4.5'	09-11-1711-7-A	11/19/09 10:29	Air	GC/MS K	N/A	11/22/09 04:36	091121L01

Comment(s): -The method has been modified to use Tedlar bags instead of Summa Canisters.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Ethylbenzene	ND	2.2	1	
Toluene	ND	19	1		Xylenes (total)	ND	8.7	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	57-129			1,2-Dichloroethane-d4	91	47-137		
Toluene-d8	97	78-156							

Method Blank	099-12-983-218	N/A	Air	GC/MS K	N/A	11/21/09 14:02	091121L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Ethylbenzene	ND	2.2	1	
Toluene	ND	19	1		Xylenes (total)	ND	8.7	1	
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	57-129			1,2-Dichloroethane-d4	97	47-137		
Toluene-d8	96	78-156							

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

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

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

Date Received: N/A
Work Order No: 09-11-1711
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 2703 Martin Luther King Jr. Way, Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-872-17	Air	GC 55	N/A	11/20/09	091120L01

Parameter	LCS Conc	LCSD Conc	RPD	RPD CL	Qualifiers
Helium	1.108	1.109	0	0-30	
Hydrogen	1.077	1.082	0	0-30	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Conestoga-Rovers & Associates		Date Received:	N/A
5900 Hollis Street, Suite A		Work Order No:	09-11-1711
Emeryville, CA 94608-2008		Preparation:	N/A
		Method:	EPA TO-15M

Project: 2703 Martin Luther King Jr. Way, Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-983-218	Air	GC/MS K	N/A	11/21/09	091121L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	126	123	60-156	2	0-40	
Toluene	129	129	56-146	0	0-43	
Ethylbenzene	131	133	52-154	2	0-38	
p/m-Xylene	122	125	42-156	2	0-41	
o-Xylene	129	131	52-148	1	0-38	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 09-11-1711

Qualifier	Definition
*	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.

Shell Oil Products Chain Of Custody Record

LAB (LOCATION)
- ☑ CALSCIENCE ( )
- ☐ SPL ( )
- ☐ XENCO ( )
- ☐ TEST AMERICA ( )
- ☐ OTHER ( )

Please Check Appropriate Box:
☐ ENV. SERVICES ☐ MOTIVA RETAIL ☐ SHELL RETAIL
☐ MOTIVA SD&CM ☑ CONSULTANT ☐ LUBES
☐ SHELL PIPELINE ☐ OTHER

Print Bill To Contact Name: Peter Schaefer 240781-2009-9

PO #:

INCIDENT # (ENV SERVICES): 9 7 0 9 3 3 9 7

SAP #: 1 2 9 4 4 9

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 11/19/2009

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	2703 Martin Luther King Jr. Way, Oakland
State	CA
GLOBAL ID NO.	T0600101876
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	240781-2009-9
SAMPLER NAME(S) (Print)	Erin Reinhart-Koylu
LAB USE ONLY	09-11-1711

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

Copy of final report to Shell.Lab.Billing@craworld.com

If 8260B method is not available, Method TO-15 is acceptable

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

REQUESTED ANALYSIS

TEMPERATURE ON RECEIPT C°

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	TPH -GRO, Purgeable (8260B)	TPH -DRO, Extractable (8015M)	TPHg (8015M)	BTEX (8260B)	BTEX + MTBE (8260B)	BTEX + MTBE + TBA (8260B)	BTEX + 5 OXYs (MTBE, TBA, DIPE, TAME, ETBE) 8260B	Full VOC list (8260B)	Single Compound: ___ (8260B)	1,2-DCA (8260B)	EDB (8260B)	Ethanol (8260B)	Methanol (8015M)	He (ASTM D 1946 (M))	Container PID Readings or Laboratory Notes
1	VP-6-3'	11/19/09	9:50	Vapor				X						X										X	
2	VP-6-5'	######	10:15	Vapor				X						X										X	
3	VP-7-3'	######	9:19	Vapor				X						X										X	
4	VP-7-5'	######	9:35	Vapor				X						X										X	
5	VP-8-3'	######	8:40	Vapor				X						X										X	
6	VP-8-5'	######	8:50	Vapor				X						X										X	
7	VP-9-4.5'	11/19/09	10:29	Vapor				X						X										X	

Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:
Erin Reinhart-Koylu	[signature] CEL	11/19/09	11:55
[signature] to GSO 11-19-09 1730	Webster CEL	11/20/09	1030

05/2/06 Revision

6505130624 79

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 09-11-1741 1

SAMPLE RECEIPT FORM

Box 1 of 1

CLIENT: CRA

DATE: 11/20/09

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

Temperature _____.____ °C - 0.8 °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:** WB

CUSTODY SEALS INTACT:

☑ Box ☐_____ ☐ No (Not Intact) ☐ Not Present ☐ N/A **Initial:** WB

☐ Sample ☐_____ ☐ No (Not Intact) ☑ Not Present **Initial:** WB

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples	☑	☐	☐
COC document(s) received complete	☑	☐	☐
☐ Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
☐ COC not relinquished. ☐ No date relinquished. ☐ No time relinquished.			
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	☐	☐	☑
☐ Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace	☐	☐	☑
Tedlar bag(s) free of condensation	☑	☐	☐

CONTAINER TYPE:

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

Water: ☐VOA ☐VOA**h** ☐VOA**na_2** ☐125AGB ☐125AGB**h** ☐125AGB**p** ☐1AGB ☐1AGB**na_2** ☐1AGB**s** ☐500AGB ☐500AGJ ☐500AGJ**s** ☐250AGB ☐250CGB ☐250CGB**s** ☐1PB ☐500PB ☐500PB**na** ☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na_2** ☐_____ ☐_____ ☐_____

Air: ☑Tedlar® ☐Summa® **Other:** ☐_____ **Trip Blank Lot#:** _____ **Checked by:** WB

Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelop **Reviewed by:** YC

Preservative: h: HCL n: HNO3 **na_2**:$Na_2S_2O_3$ Na: NaOH p: H_3PO_4 s: H_2SO_4 znna: $ZnAc_2$+NaOH f: Field-filtered **Scanned by:** WB