CONESTOGA-ROVERS & ASSOCIATES

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Emeryville, California 94608
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www.CRAworld.com

TRANSMITTAL

DATE: January 10, 2013

REFERENCE NO.: 240524

PROJECT NAME: 4255 MacArthur Boulevard, Oakland

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

RECEIVED
By Alameda County Environmental Health at 4:43 pm, Jan 17, 2013

Please find enclosed:
- ☐ Draft
- ☐ Originals
- ☐ Prints
- ☒ Final
- ☐ Other

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- ☐ Mail
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- ☒ Other GeoTracker and Alameda County FTP

QUANTITY	DESCRIPTION
1	Subsurface Investigation Report

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

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 (electronic copy)
Roland C. Malone Trust (property owner), Erik Parrish, Trustee, 1359 Napa Valley Lane, Eugene, OR 97404
Kenneth Williams, MacArthur/High Trailer Park, c/o Bookkeeping, 332 Peyton Drive, Hayward, CA 94544
Ed C. Ralston, ConocoPhillips Risk Management & Remediation (electronic copy)

Completed by: Peter Schaefer Signed: Peter Schaefer

Filing: **Correspondence File**

Denis L. Brown
Shell Oil Products US
HSE – Environmental Services
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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
4255 MacArthur Boulevard
Oakland, California
SAP Code 135701
Incident No. 98995758
ACEH Case No. RO0000486

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
Senior Program Manager

SUBSURFACE INVESTIGATION REPORT

FORMER SHELL SERVICE STATION
4255 MACARTHUR BOULEVARD
OAKLAND, CALIFORNIA

SAP CODE	135701
INCIDENT NO.	98995758
AGENCY NO.	RO0000486

Prepared by:
Conestoga-Rovers & Associates

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JANUARY 10, 2013
REF. NO. 240524 (23)
This report is printed on recycled paper.

TABLE OF CONTENTS

LIST OF FIGURES
(Following Text)

LIST OF TABLES
(Following Text)

LIST OF APPENDICES

EXECUTIVE SUMMARY

- Three nested soil vapor probes (SVP-13 through SVP-15) were installed in the mobile home park west of the site, two sub-slab soil vapor probes (SVP-16 and SVP-17) were installed within the church building north of the site, and four nested soil vapor probes (SVP-18 through 21) were installed on site.
- Soil vapor samples from the probes installed within the mobile home park contained up to 36,000,000 $\mu g/m^3$ TPHg and exceeded the ESL in probes SVP-14 and SVP-15. No BTEX, naphthalene, or MTBE was detected in these samples; however, detection limits were elevated due to TPHg concentrations. Concentrations in samples collected from 2.5 fbg in probes SVP-14 and SVP-15 were lower than concentrations in samples collected from 5 fbg, demonstrating vertical attenuation of TPHg.
- No COCs exceeded ESLs in the sub-slab soil vapor samples.
- Soil vapor samples from the probes installed on site contained up to 230,000,000 $\mu g/m^3$ TPHg. No BTEX, naphthalene, or MTBE concentrations exceeded ESLs, with the exception of 1,500,000 $\mu g/m^3$ benzene and 300,000 $\mu g/m^3$ ethylbenzene detected in the soil vapor sample from probe SVP-19 at 5 fbg. CRA was unable to collect a sample from SVP-19 at 2.5 fbg due to water in the probe.
- CRA attempted to sample existing nested soil vapor probes SVP-1, SVP-2, and SVP-6 on November 14 and December 20, 2012. Due to water in the probes, we were unable to collect samples from the probes, with the exception of SVP-2 at 3 fbg on December 20, 2012.
- CRA recommends an additional shallow soil vapor investigation in the mobile home park to delineate the extent of shallow soil vapor impacts. We note that the mobile home park is paved with asphalt and that mobile homes in the area of probes SVP-14 and SVP-15 do not have any skirting, allowing free flow of air beneath them, both of which would minimize the potential for soil vapor intrusion.
- Based on sub-slab soil vapor results, no additional investigation is recommended for the church building.
- No additional sampling of on-site soil vapor probes is recommended at this time.
- CRA recommends installing soil vapor probes at 1.5 fbg at the locations of SVP-1, SVP-6, and SVP-19 to obtain soil vapor samples from above the persistent perched water found at these locations. In addition, we recommend installing soil vapor probes at 1.5 fbg at the locations of SVP-4 and SVP-7 to provide additional data on vertical attenuation of soil vapor in these locations.

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 installation and sampling. The purpose of the investigation was to assess the potential for soil gas migration to indoor air. CRA followed the scope of work and procedures presented in our May 25, 2012 work plan, which was approved by Alameda County Environmental Health (ACEH) in their July 31, 2012 letter. ACEH's October 31, 2012 electronic correspondence approved an extension of the due date for this report to January 14, 2013.

The site is a former Shell Service Station located on the western corner of MacArthur Boulevard and High Street in Oakland, California (Figure 1). Currently the site is a vacant lot. The former site layout consisted of a kiosk, three underground storage tanks, and three dispenser islands (Figure 2). The area surrounding the site is of mixed commercial and residential use.

A summary of previous work performed at the site and additional background information was presented in CRA's May 25, 2012 work plan and is not repeated herein.

2.0 INVESTIGATION ACTIVITIES

2.1 PERMITS

CRA obtained drilling permits from Alameda County Public Works Agency (Appendix A).

2.2 FIELD DATES

October 29 to 31, 2012 (soil vapor probe installation) and November 14 and December 20, 2012 (soil vapor probe sampling).

2.3 DRILLING COMPANY

Vapor Tech Services (VTS).

2.4 CRA PERSONNEL

Environmental scientist Scott Lewis directed the probe installation working under the supervision of California Professional Geologist Peter Schaefer.

2.5 DRILLING METHODS

Air-knife, water-knife, jackhammer, and hammer drill.

2.6 NUMBER OF PROBES

CRA installed three soil vapor probes (SVP-13 through SVP-15) in the mobile home park west of the former station, two sub-slab soil vapor probes (SVP-16 and SVP-17) in the church building north of the former station, and four soil vapor probes (SVP-18 through SVP-21) on site. The probe specifications and soil types encountered are described on the boring logs contained in Appendix B. The probe locations are shown on Figure 2.

2.7 VAPOR PROBE MATERIALS

The soil vapor probes were constructed using ¼-inch diameter Teflon® tubing attached to 1-inch-length plastic screen intervals and #2/12 Monterey sand filter pack. Probe diagrams are provided with boring logs in Appendix B.

For the sub-slab soil vapor probes, stainless steel tubing was cut to a length that allows each probe to float within the sidewalk thickness to avoid obstruction of the probe with base material. The tubing was approximately 1/4-inch diameter with stainless steel compression fittings. Each sub-slab soil vapor probe was placed in the borehole so that the top of the probe is flush with the floor. The top of each probe has a recessed stainless steel plug.

2.8 SCREENED INTERVALS

SVP-13 through SVP-15 and SVP-19 through 21: 2.5 to 2.6 and 5.0 to 5.1 feet below grade (fbg).

SVP-18: 2.0 to 2.1 and 4.0 to 4.1 fbg.

SVP-16 and SVP-17: 0.5 fbg.

2.9 SOIL VAPOR SAMPLING PROCEDURE

Prior to sampling, CRA purged at least three tubing volumes of air from each soil vapor probe using a vacuum pump. No purging was required from the sub-slab soil vapor probes due to negligible tubing volume. Immediately after purging, CRA collected a soil vapor sample using a laboratory-supplied Tedlar® bag. During sampling, CRA connected the Teflon® tubing for each vapor probe to a lung box containing the Tedlar® bag, and the lung box chamber was connected to the vacuum pump. CRA then drew the sample into the Tedlar® bag by reducing the pressure in the lung box with the vacuum pump. Each sample was 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, CRA placed a containment unit (or shroud) over the soil vapor probe surface casing and sampling manifold. Prior to soil vapor probe purging, CRA introduced helium into the containment unit to obtain a minimum 50 percent (%) helium content level. CRA confirmed the helium content within the containment unit using a helium meter. The helium meter readings are presented in Section 3.2. All samples were analyzed by the laboratory for helium, and CRA presents the results in Section 3.2 and on Table 1.

2.10 SOIL VAPOR SAMPLING ANALYSES

Soil vapor samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by EPA Method TO-3 (modified); for benzene, toluene, ethylbenzene, and total xylenes (BTEX), naphthalene, and methyl tertiary-butyl ether (MTBE) by modified EPA Method 8260B; for oxygen and argon, carbon dioxide, and methane by ASTM D-1946; and for helium by ASTM D-1946 (M).

2.11 WASTE DISPOSAL

Water-knife sludge generated during field activities were stored on site in 55-gallon drums, sampled, and profiled for disposal. The laboratory analytical report is presented in Appendix C. Disposal documentation is pending and will be provided upon request.

3.0 FINDINGS

3.1 SOIL VAPOR

The soil vapor chemical analytical data are summarized in Table 1, and TPHg and benzene analytical results are presented on Figure 2. The laboratory analytical report is presented in Appendix C. CRA was unable to collect a sample from SVP-19 at 2.5 fbg due to water in the probe.

CRA attempted to sample existing nested soil vapor probes SVP-1, SVP-2, and SVP-6 on November 14 and December 20, 2012. Due to water in the probes, we were unable to collect samples from the probes, with the exception of SVP-2 at 3 fbg on December 20, 2012.

3.2 LEAK TESTING

CRA performed leak testing as described above, and up to 0.0889 percent by volume (%v) helium was detected in the samples. As shown in the following table, the detections are less than 10% of the concentration detected in the shroud, and the samples are considered valid.

Probe ID	*Depth*	*Helium concentration in sample (%v)*	*Minimum helium concentration detected in shroud (%v)*	*Maximum acceptable helium concentration in sample (%v)*
SVP-2	3	<0.0250	62.0	6.20
SVP-13	2.5	<0.0100	53.1	5.31
SVP-13	5	<0.0100	56.5	5.65
SVP-14	2.5	<0.0100	57.7	5.77
SVP-14	5	<0.0100	57.1	5.71
SVP-15	2.5	<0.0100	56.0	5.60
SVP-15	5	<0.0100	55.2	5.52
SVP-16	0.5	0.0135	61.1	6.11
SVP-17	0.5	0.0889	54.7	5.47
SVP-18	2.0	<0.0100	58.4	5.84
SVP-18	4	<0.0100	57.6	5.76
SVP-19	5	<0.0100	62.3	6.23
SVP-20	2.5	<0.0100	53.2	5.32
SVP-20	5	<0.0100	55.4	5.54
SVP-21	2.5	<0.0100	57.7	5.77
SVP-21	5	<0.0100	55.3	5.53

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

4.0 CONCLUSIONS

Soil vapor samples from the probes installed within the mobile home park (SVP-13 through SVP-15) contained up to 36,000,000 micrograms per cubic meter ($\mu g/m^3$) TPHg and exceeded the San Francisco Bay Regional Water Quality Control Board environmental screening level (ESL)[1] in probes SVP-14 and SVP-15. No BTEX, naphthalene, or MTBE was detected in these samples; however, detection limits were elevated due to TPHg concentrations. Concentrations in samples collected from 2.5 fbg in probes SVP-14 and SVP-15 were lower than concentrations in samples collected from 5 fbg, demonstrating vertical attenuation of TPHg.

No chemicals of concern exceeded ESLs in the sub-slab soil vapor samples (SVP-16 and SVP-17).

Soil vapor samples from the probes installed on site (SVP-18 through SVP-21) contained up to 230,000,000 $\mu g/m^3$ TPHg. No BTEX, naphthalene, or MTBE concentrations exceeded ESLs, with the exception of 1,500,000 $\mu g/m^3$ benzene and 300,000 $\mu g/m^3$ ethylbenzene detected in the soil vapor sample from probe SVP-19 at 5 fbg. CRA was unable to collect a sample from SVP-19 at 2.5 fbg due to water in the probe.

5.0 RECOMMENDATIONS

Based on sub-slab soil vapor results, no additional investigation is recommended for the church building.

No additional sampling of the existing on-site soil vapor probes is recommended at this time.

CRA recommends an additional shallow soil vapor investigation in the mobile home park to delineate the extent of shallow soil vapor impacts. We note that the mobile home park is paved with asphalt and that mobile homes in the area of probes SVP-14 and SVP-15 do not have any skirting, allowing free flow of air beneath them, both of which would minimize the potential for soil vapor intrusion.

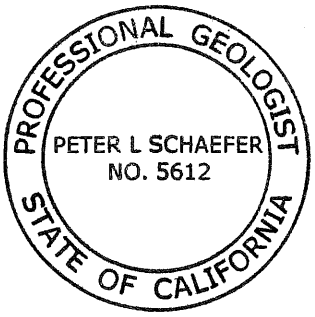
---

1 *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater,* California Regional Water Quality Control Board, Interim Final - November 2007 [Revised May 2008]

CRA recommends installing soil vapor probes at 1.5 fbg at the locations of SVP-1, SVP-6, and SVP-19 to obtain soil vapor samples from above the persistent perched water found at these locations. In addition, we recommend installing soil vapor probes at 1.5 fbg at the locations of SVP-4 and SVP-7 to provide additional data on vertical attenuation of soil vapor in these locations.

A work plan for the proposed on-site soil vapor probe installations and the additional shallow soil vapor investigation in the mobile home park will be submitted under separate cover.

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



Peter Schaefer, CEG, CHG

for
Aubrey K. Cool, PG

FIGURES

12/16/08

I:\Shell\6-chars\2405--\240524-Oakland 4255 MacArthur\240524-FIGURES\240524 VICINITY.AI

FIGURE
1

0 1/8 1/4 1/2 1

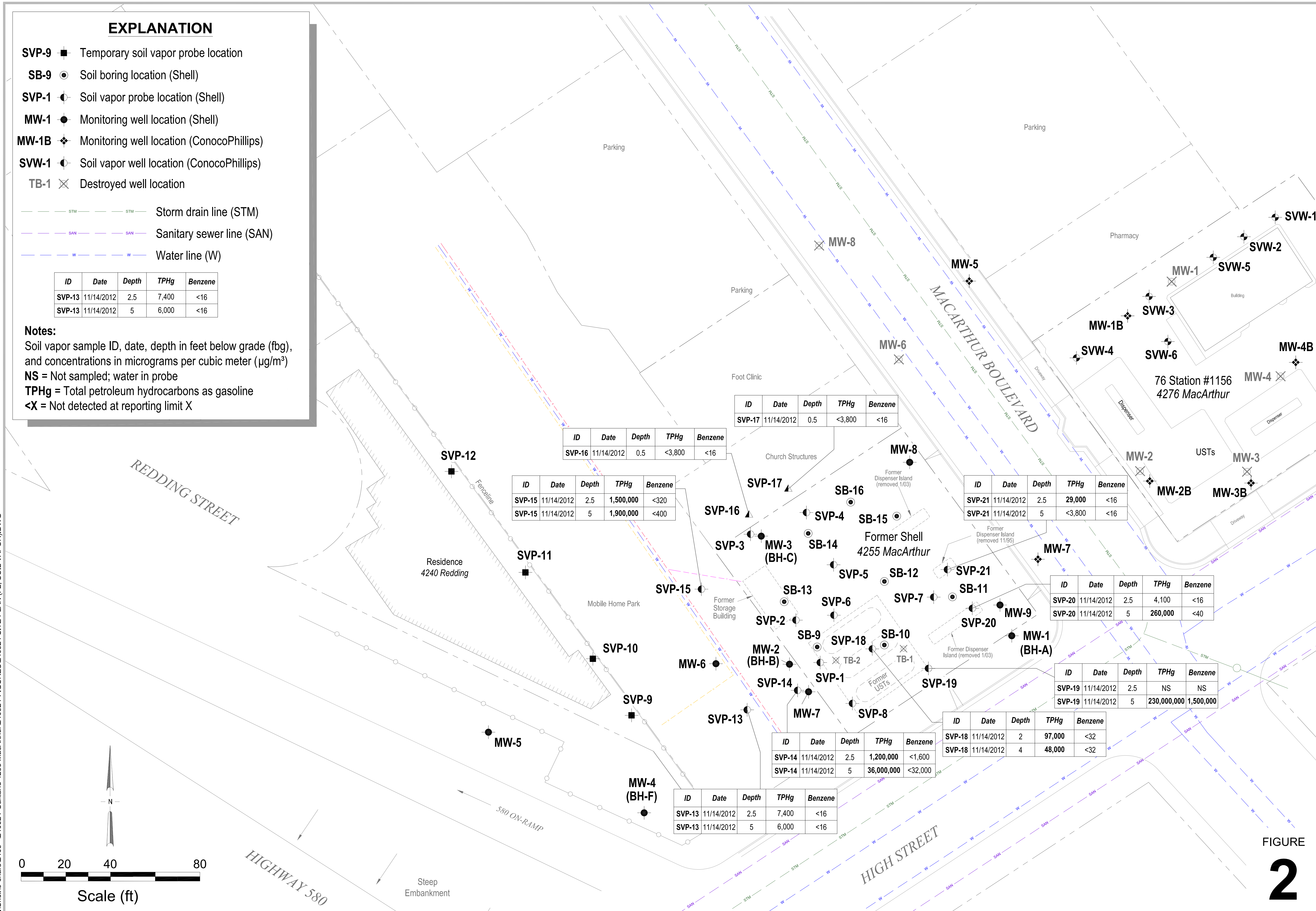
SCALE : 1" = 1/4 MILE

Former Shell Service Station
4255 MacArthur Boulevard
Oakland, California

CONESTOGA-ROVERS
& ASSOCIATES

Vicinity Map

12/19/2012



ID	Date	Depth	TPHg	Benzene
SVP-13	11/14/2012	2.5	7,400	<16
SVP-13	11/14/2012	5	6,000	<16

ID	Date	Depth	TPHg	Benzene
SVP-17	11/14/2012	0.5	<3,800	<16

ID	Date	Depth	TPHg	Benzene
SVP-16	11/14/2012	0.5	<3,800	<16

ID	Date	Depth	TPHg	Benzene
SVP-15	11/14/2012	2.5	1,500,000	<320
SVP-15	11/14/2012	5	1,900,000	<400

ID	Date	Depth	TPHg	Benzene
SVP-21	11/14/2012	2.5	29,000	<16
SVP-21	11/14/2012	5	<3,800	<16

ID	Date	Depth	TPHg	Benzene
SVP-20	11/14/2012	2.5	4,100	<16
SVP-20	11/14/2012	5	260,000	<40

ID	Date	Depth	TPHg	Benzene
SVP-19	11/14/2012	2.5	NS	NS
SVP-19	11/14/2012	5	230,000,000	1,500,000

ID	Date	Depth	TPHg	Benzene
SVP-18	11/14/2012	2	97,000	<32
SVP-18	11/14/2012	4	48,000	<32

ID	Date	Depth	TPHg	Benzene
SVP-14	11/14/2012	2.5	1,200,000	<1,600
SVP-14	11/14/2012	5	36,000,000	<32,000

ID	Date	Depth	TPHg	Benzene
SVP-13	11/14/2012	2.5	7,400	<16
SVP-13	11/14/2012	5	6,000	<16

I:\Shell6-chars\2405--\240524-Oakland 4255 MacArthur\240524-FIGURES\240524 SITE PLAN (F2, SOIL VAPOR).DWG

Soil Vapor Concentration Map

November 14, 2012

CONESTOGA-ROVERS & ASSOCIATES

Former Shell Service Station

4255 MacArthur Boulevard
Oakland, California

FIGURE
2

TABLE

TABLE 1

HISTORICAL SOIL VAPOR ANALYTICAL DATA
FORMER SHELL SERVICE STATION
4255 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg ($\mu g/m^3$)*	*B ($\mu g/m^3$)*	*T ($\mu g/m^3$)*	*E ($\mu g/m^3$)*	*X ($\mu g/m^3$)*	*Naphthalene ($\mu g/m^3$)*	*MTBE ($\mu g/m^3$)*	*Methane (%v)*	*Carbon Dioxide (%v)*	*Carbon Monoxide (%v)*	*Oxygen + Argon (%v)*	*Nitrogen (%v)*	*Helium (%v)*
SVP-1	3/9/2011	3	Unable to sample, water in probe			---	---	---	---	---	---	---	---	---	---
SVP-1	8/27/2011	3	Unable to sample, water in probe			---	---	---	---	---	---	---	---	---	---
SVP-1	3/9/2011	5	Unable to sample, water in probe			---	---	---	---	---	---	---	---	---	---
SVP-1	8/27/2011	5	Unable to sample, water in probe			---	---	---	---	---	---	---	---	---	---
SVP-2	3/9/2011	3	9,900	30	<19	130	120	---	<36	<0.500	<0.500	---	20.7	---	<0.0100
SVP-2	8/27/2011	3	<3,800	<16	<19	<22	<43	---	55	<0.500	<0.500	<0.500	19.8	80.2	<0.0100
SVP-2	12/20/2012	3	8,000	<16	<19	<22	<43	---	<52	<0.500	<0.500	---	21.8	---	<0.0250
SVP-2	3/9/2011	5	Unable to sample, water in probe			---	---	---	---	---	---	---	---	---	---
SVP-2	8/27/2011	5	Unable to sample, water in probe			---	---	---	---	---	---	---	---	---	---
SVP-3	3/9/2011	3	13,000	38	<19	140	120	---	<36	<0.500	<0.500	---	20.9	---	<0.0100
SVP-3	8/27/2011	3	<3,800	<16	<19	<22	<43	---	<36	<0.500	<0.500	<0.500	22.0	78.0	<0.0100
SVP-3	3/9/2011	5	25,000	28	<19	220	210	---	<36	<0.500	1.36	---	19.9	---	<0.0100
SVP-3	8/27/2011	5	<3,800	<16	<19	<22	<43	---	<36	<0.500	0.543	<0.500	21.5	78.0	<0.0100
SVP-4	3/9/2011	3	**1,800,000**	<320	<380	460	<870	---	<720	0.664	1.42	---	17.4	---	1.00
SVP-4	8/27/2011	3	**7,900,000**	<1,600	<1,900	<2,200	<4,300	---	<3,600	3.76	11.1	<0.500	3.97	81.2	<0.0100
SVP-4	3/9/2011	5	**8,600,000**	<640	<750	<870	<1,700	---	<1,400	3.10	7.02	---	2.28	---	<0.0100
SVP-4	8/27/2011	5	**8,600,000**	<800	<940	<1,100	<2,200	---	<1,800	4.18	12.4	<0.500	1.94	81.5	<0.0100
SVP-5	3/9/2011	3	**920,000**	<640	<750	<870	<1,700	---	4,600	<0.500	<0.500	---	19.8	---	<0.0100
SVP-5	8/27/2011	3	<3,800	<16	<19	<22	<43	---	<36	<0.500	<0.500	<0.500	21.5	78.5	<0.0100
SVP-5	3/9/2011	5	**76,000,000**	**49,000**	<30,000	<35,000	<69,000	---	<58,000	12.3	5.89	---	2.52	---	<0.0100
SVP-5	8/27/2011	5	**130,000,000**	**120,000**	<9,400	**25,000**	<22,000	---	<18,000	23.2	9.09	<0.500	1.56	56.5	<0.0100
SVP-6	3/9/2011	3	Unable to sample, water in probe			---	---	---	---	---	---	---	---	---	---

HISTORICAL SOIL VAPOR ANALYTICAL DATA
FORMER SHELL SERVICE STATION
4255 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg ($\mu g/m^3$)*	*B ($\mu g/m^3$)*	*T ($\mu g/m^3$)*	*E ($\mu g/m^3$)*	*X ($\mu g/m^3$)*	*Naphthalene ($\mu g/m^3$)*	*MTBE ($\mu g/m^3$)*	*Methane (%v)*	*Carbon Dioxide (%v)*	*Carbon Monoxide (%v)*	*Oxygen + Argon (%v)*	*Nitrogen (%v)*	*Helium (%v)*
SVP-6	8/27/2011	3	Unable to sample, water in probe			---	---	---	---	---	---	---	---	---	---
SVP-6	3/9/2011	5	Unable to sample, water in probe			---	---	---	---	---	---	---	---	---	---
SVP-6	8/27/2011	5	Unable to sample, water in probe			---	---	---	---	---	---	---	---	---	---
SVP-7	3/9/2011	3	**130,000**	**590**	<150	2,000	1,500	---	<290	<0.500	<0.500	---	17.3	---	<0.0100
SVP-7	8/27/2011	3	18,000	23	<19	34	<43	---	170	<0.500	<0.500	<0.500	17.4	82.6	<0.0100
SVP-7	3/9/2011	5	**270,000,000**	**650,000**	<300,000	**420,000**	<690,000	---	<580,000	12.6	4.02	---	3.34	---	<0.0100
SVP-7	8/27/2011	5	**230,000,000**	**310,000**	<19,000	**140,000**	**88,000**	---	**66,000**	15.2	10.5	<0.500	1.96	60.2	<0.0100
SVP-8	3/9/2011	3	29,000	<26	<30	70	70	---	<58	<0.500	<0.500	---	19.7	---	<0.0100
SVP-8	8/27/2011	3	6,200	<16	<19	<22	<43	---	<36	<0.500	<0.500	<0.500	20.3	79.7	<0.0100
SVP-8	3/9/2011	5	**33,000**	36	<38	170	160	---	<72	<0.500	<0.500	---	19.3	---	<0.0100
SVP-8	8/27/2011	5	<3,800	<16	<19	<22	<43	---	130	<0.500	<0.500	<0.500	19.5	80.5	<0.0100
SVP-9	4/17/2012	1	<3,800	2.0 a	35	3.0 a	15 a	<52	---	<0.500	1.87	---	19.9	---	<0.0100
SVP-10	4/17/2012	1	<3,800	1.7 a	46	2.7 a	12 a	<52	---	<0.500	<0.500	---	21.9	---	<0.0100
SVP-11	4/17/2012	1	<3,800	0.92 a	36	1.9 a	10 a	<52	---	<0.500	1.01	---	21.0	---	0.0132
SVP-12	4/17/2012	1	<3,800	1.9 a	38	3.0 a	15 a	<52	---	<0.500	<0.500	---	21.5	---	<0.0100
SVP-13	11/14/2012	2.5	7,400	<16	31	<22	<43	<52	---	<0.500	<0.500	---	21.5	---	<0.0100
SVP-13	11/14/2012	5	6,000	<16	30	<22	<43	<52	---	<0.500	5.32	---	16.1	---	<0.0100
SVP-14	11/14/2012	2.5	**1,200,000**	<1,600	<1,900	<2,200	<4,300	<5,200	---	0.764	8.54	---	10.9	---	<0.0100
SVP-14	11/14/2012	5	**36,000,000**	<32,000	<38,000	<43,000	<87,000	<100,000	---	6.86	11.7	---	5.17	---	<0.0100

HISTORICAL SOIL VAPOR ANALYTICAL DATA
FORMER SHELL SERVICE STATION
4255 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg ($\mu g/m^3$)*	*B ($\mu g/m^3$)*	*T ($\mu g/m^3$)*	*E ($\mu g/m^3$)*	*X ($\mu g/m^3$)*	*Naphthalene ($\mu g/m^3$)*	*MTBE ($\mu g/m^3$)*	*Methane (%v)*	*Carbon Dioxide (%v)*	*Carbon Monoxide (%v)*	*Oxygen + Argon (%v)*	*Nitrogen (%v)*	*Helium (%v)*
SVP-15	11/14/2012	2.5	**1,500,000**	<320	<380	<430	<870	<1,000	---	<0.500	8.84	---	2.48	---	<0.0100
SVP-15	11/14/2012	5	**1,900,000**	<400	<470	<540	<1,100	<1,300	---	<0.500	9.31	---	2.04	---	<0.0100
SVP-16	11/14/2012	0.5	<3,800	<16	66	<22	<43	<52	---	<0.500	2.55	---	21.1	---	0.0135
SVP-17	11/14/2012	0.5	<3,800	<16	44	<22	<43	<52	---	<0.500	2.35	---	20.8	---	0.0889
SVP-18	11/14/2012	2	**97,000**	<32	<38	46	210	<100	---	<0.500	<0.500	---	20.0	---	<0.0100
SVP-18	11/14/2012	4	**48,000**	<32	90	92	760	<100	---	<0.500	<0.500	---	18.6	---	<0.0100
SVP-19	11/14/2012	2.5	Unable to sample, water in probe			---	---	---	---	---	---	---	---	---	---
SVP-19	11/14/2012	5	**230,000,000**	**1,500,000**	<94,000	**300,000**	<220,000	<260,000	---	4.80	12.5	---	2.62	---	<0.0100
SVP-20	11/14/2012	2.5	4,100	<16	48	<22	<43	<52	---	<0.500	0.908	---	17.7	---	<0.0100
SVP-20	11/14/2012	5	**260,000**	<40	<47	<54	<110	<130	---	<0.500	3.83	---	12.9	---	<0.0100
SVP-21	11/14/2012	2.5	**29,000**	<16	30	120	750	<52	---	<0.500	<0.500	---	16.1	---	<0.0100
SVP-21	11/14/2012	5	<3,800	<16	<19	<22	<43	<52	---	<0.500	<0.500	---	15.1	---	<0.0100
Residential land use ESLs[b]:			***10,000***	***84***	***63,000***	***980***	***21,000***	***72***	***9,400***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***
Commercial land use ESLs[c]:			***29,000***	***280***	***180,000***	***3,300***	***58,000***	***240***	***31,000***	***NA***	***NA***	***NA***	***NA***	***NA***	***NA***

Notes:

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method TO-3M

BTEX = Benzene, toluene, ethylbenzene, total xylenes, and naphthalene by EPA Method 8260B (M)

HISTORICAL SOIL VAPOR ANALYTICAL DATA
FORMER SHELL SERVICE STATION
4255 MACARTHUR BOULEVARD, OAKLAND, CALIFORNIA

Sample ID	*Date*	*Depth (fbg)*	*TPHg ($\mu g/m^3$)*	*B ($\mu g/m^3$)*	*T ($\mu g/m^3$)*	*E ($\mu g/m^3$)*	*X ($\mu g/m^3$)*	*Naphthalene ($\mu g/m^3$)*	*MTBE ($\mu g/m^3$)*	*Methane (%v)*	*Carbon Dioxide (%v)*	*Carbon Monoxide (%v)*	*Oxygen + Argon (%v)*	*Nitrogen (%v)*	*Helium (%v)*

Naphthalene analyzed by EPA Method 8260B (M)
MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B (M)
Methane, carbon dioxide, and oxygen + argon analyzed by ASTM D-1946
Helium analyzed by ASTM D-1946 (M)
fbg = Feet below grade
$\mu g/m^3$ = Micrograms per cubic meter
%*v* = Percent by volume
<x = Not detected at reporting limit x
--- = Not analyzed
ESL = Environmental screening level
NA = No applicable ESL
Results in **bold** exceed ESL

a = Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.

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

c = San Francisco Bay Regional Water Quality Control Board (RWQCB) shallow soil gas screening level for evaluation of potential vapor intrusion concerns - commercial/industrial land use from RWQCB's *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, California Regional Water Quality Control Board, Interim Final - November 2007 (Revised May 2008).

APPENDIX A

PERMITS

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: 09/27/2012 By jamesy

Permit Numbers: W2012-0681
Permits Valid from 10/05/2012 to 10/05/2012

Application Id:	1348153875799	**City of Project Site:** Oakland
Site Location:	3251 High Street	
Project Start Date:	10/05/2012	**Completion Date:** 10/05/2012
Assigned Inspector:	Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org	
Applicant:	Conestoga-Rovers & Associates - Scott Lewis 19449 Riverside Drive, Suite 230, Sonoma, CA 95476	**Phone:** 707-933-2369
Property Owner:	James Malone PO Box 1204, Manteca, CA 95336	**Phone:** --
Client:	Shell Oil Products US 20945 South Wilmington Avenue, Carson, CA 90810	**Phone:** 707-865-0251
Contact:	Scott Lewis	**Phone:** 707-933-2369 **Cell:** 707-249-0697

Total Due:	$265.00
Receipt Number: WR2012-0311 **Total Amount Paid:**	$265.00
Payer Name : Conestoga-Rovers & Paid By: CHECK	**PAID IN FULL**
Associates	

Works Requesting Permits:

Well Construction-Vapor monitoring well-Vapor monitoring well - 3 Wells
Driller: Vapor Tech Services - Lic #: 916085 - Method: other **Work Total: $265.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2012-0681	09/27/2012	01/03/2013	SVP-13	3.50 in.	0.25 in.	4.00 ft	5.20 ft
W2012-0681	09/27/2012	01/03/2013	SVP-14	3.50 in.	0.25 in.	4.00 ft	5.20 ft
W2012-0681	09/27/2012	01/03/2013	SVP-15	3.50 in.	0.25 in.	4.00 ft	5.20 ft

Specific Work Permit Conditions

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

2. Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate state reporting-requirements related to well 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 number and site map.

3. 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.

4. Permittee, 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.

5. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an 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.

6. No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.

7. 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.

8. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

9. 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.

10. Vapor monitoring wells above water level constructed with tubing maybe be backfilled with pancake-batter consistency bentonite. Minimum surface seal thickness is two inches of cement grout around well box.

Vapor monitoring wells above water level constructed with pvc pipe shall have a minimum seal depth (Neat Cement Seal) of 2 feet below ground surface (BGS). Minimum surface seal thickness is two inches of cement grout around well box. All other conditions for monitoring well construction shall apply.

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: 09/27/2012 By jamesy

Permit Numbers: W2012-0682
Permits Valid from 10/29/2012 to 10/31/2012

Application Id:	1348154766571	**City of Project Site:**	Oakland
Site Location:	4251 MacArthur Boulevard		
Project Start Date:	10/05/2012	**Completion Date:**	10/05/2012
Assigned Inspector:	Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org		
Extension Start Date:	10/29/2012	**Extension End Date:**	10/31/2012
Extension Count:	1	**Extended By:**	vickyh1

Applicant:	Conestoga-Rovers & Associates - Scott Lewis 19449 Riverside Drive, Suite 230, Sonoma, CA 95476	**Phone:** 707-933-2369
Property Owner:	Roland Malone 3167 Riverbend Avenue, Eugene, OR 97408	**Phone:** --
Client:	Shell Oil Products US 20945 South Wilmington Avenue, Carson, CA 90810	**Phone:** 707-865-0251
Contact:	Scott Lewis	**Phone:** 707-933-2369 **Cell:** 707-249-0697

Total Due: $265.00
Receipt Number: WR2012-0312 **Total Amount Paid:** $265.00
Payer Name : Conestoga-Rovers & Paid By: CHECK **PAID IN FULL**
Associates

Works Requesting Permits:

Well Construction-Vapor monitoring well-Vapor monitoring well - 2 Wells
Driller: Vapor Tech Services - Lic #: 916085 - Method: other **Work Total: $265.00**

Specifications

Permit #	Issued Date	Expire Date	Owner Well Id	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2012-0682	09/27/2012	01/03/2013	SVP-16	0.75 in.	0.50 in.	0.80 ft	1.00 ft
W2012-0682	09/27/2012	01/03/2013	SVP-17	0.75 in.	0.50 in.	0.80 ft	1.00 ft

Specific Work Permit Conditions

1. Drilling Permit(s) can be voided/ cancelled only in writing. It is the applicant's responsibility to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.

2. Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate state reporting-requirements related to well 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 number and site map.

3. 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.

4. Permittee, 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.

5. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an 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.

6. No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.

7. Applicant shall submit the copies of the approved encroachment permit to this office within 60 days.

8. 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.

9. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.

10. 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.

11. Vapor monitoring wells above water level constructed with tubing maybe be backfilled with pancake-batter consistency bentonite. Minimum surface seal thickness is two inches of cement grout around well box.

Vapor monitoring wells above water level constructed with pvc pipe shall have a minimum seal depth (Neat Cement Seal) of 2 feet below ground surface (BGS). Minimum surface seal thickness is two inches of cement grout around well box. All other conditions for monitoring well construction shall apply.

APPENDIX B

BORING LOGS

Conestoga-Rovers & Associates
5900 Hollis Avenue, Suite A
Emeryville, California 94608-2008
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SVP-13
JOB/SITE NAME	Former Shell service station	DRILLING STARTED	29-Oct-12
LOCATION	4255 MacArthur Boulevard, Oakland, California	DRILLING COMPLETED	29-Oct-12
PROJECT NUMBER	240524	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Vapor Tech Services	GROUND SURFACE ELEVATION	169.89 ft above msl
DRILLING METHOD	Airknife and Waterknife	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	4"	SCREENED INTERVAL	2.5 to 2.6 fbg ; 5 to 5.1 fbg
LOGGED BY	S. Lewis	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer PG#5612	DEPTH TO WATER (Static)	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.3	Bentonite Seal
					SM		**Silty SAND with Gravel (SM)** ; brown (7.5YR 4/3); moist; 20% silt, 50% fine to coarse sand, 30% fine to coarse gravel.	1.0	Monterey Sand #2/16 1" - Polyethylene Vapor Implant
				5	GM		**Silty GRAVEL (GM)** ; brown (7.5YR 4/3); moist; 20% silt, 10% fine to coarse sand, 70% fine to coarse gravel.	5.5	1/4" OD Teflon Tubing Monterey Sand #2/16 1" - Polyethylene Vapor Implant Bottom of Boring @ 5.5 ft
				10					

WELL LOG NESTED (PID) I:\SONOMA.PUBLIC\0-USERS\LEWIS\240524\240524-GINT.GPJ DEFAULT.GDT 11/28/12

Conestoga-Rovers & Associates
5900 Hollis Avenue, Suite A
Emeryville, California 94608-2008
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SVP-14
JOB/SITE NAME	Former Shell service station	DRILLING STARTED	29-Oct-12
LOCATION	4255 MacArthur Boulevard, Oakland, California	DRILLING COMPLETED	29-Oct-12
PROJECT NUMBER	240524	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Vapor Tech Services	GROUND SURFACE ELEVATION	170.97 ft above msl
DRILLING METHOD	Airknife and Waterknife	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	4"	SCREENED INTERVAL	2.5 to 2.6 fbg ; 5 to 5.1 fbg
LOGGED BY	S. Lewis	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer PG#5612	DEPTH TO WATER (Static)	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.3	Bentonite Seal
					GM		**Silty GRAVEL with Sand (GM)**; brown (7.5YR 4/3); moist; 5% clay, 20% silt, 20% fine to coarse sand, 55% fine to coarse gravel.	1.0	Monterey Sand #2/16 1" - Polyethylene Vapor Implant
					ML		**SILT (ML)**; greenish gray (10Y 5/1); moist; 10% clay, 80% silt, 5% fine to coarse sand, 5% fine to coarse gravel; low plasticity.	5.5	1/4" OD Teflon Tubing Monterey Sand #2/16 1" - Polyethylene Vapor Implant Bottom of Boring @ 5.5 ft

WELL LOG NESTED (PID) I:\SONOMA.PUBLIC\0-USERS\SLEWIS\240524\240524-GINT.GPJ DEFAULT.GDT 11/28/12

Conestoga-Rovers & Associates
5900 Hollis Avenue, Suite A
Emeryville, California 94608-2008
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SVP-15
JOB/SITE NAME	Former Shell service station	DRILLING STARTED	29-Oct-12
LOCATION	4255 MacArthur Boulevard, Oakland, California	DRILLING COMPLETED	29-Oct-12
PROJECT NUMBER	240524	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Vapor Tech Services	GROUND SURFACE ELEVATION	171.00 ft above msl
DRILLING METHOD	Airknife and Waterknife	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	4"	SCREENED INTERVAL	2.5 to 2.6 fbg ; 5 to 5.1 fbg
LOGGED BY	S. Lewis	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer PG#5612	DEPTH TO WATER (Static)	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
							ASPHALT	0.3	Bentonite Seal
					GM		**Silty GRAVEL with Sand (GM)**; brown (7.5YR 4/3); moist; 5% clay, 20% silt, 20% fine to coarse sand, 55% fine to coarse gravel.	1.0	Monterey Sand #2/16 1" - Polyethylene Vapor Implant
				5	ML		**SILT (ML)**; greenish gray (10Y 5/1); moist; 10% clay, 80% silt, 5% fine to coarse sand, 5% fine to coarse gravel; low plasticity.	5.5	1/4" OD Teflon Tubing Monterey Sand #2/16 1" - Polyethylene Vapor Implant Bottom of Boring @ 5.5 ft
				10					

WELL LOG NESTED (PID) I:\SONOMA.PUBLIC\0-USERS\SLEWIS\240524\240524-GINT.GPJ DEFAULT.GDT 11/28/12

Conestoga-Rovers & Associates
5900 Hollis Avenue, Suite A
Emeryville, California 94608-2008
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SVP-18
JOB/SITE NAME	Former Shell service station	DRILLING STARTED	31-Oct-12
LOCATION	4255 MacArthur Boulevard, Oakland, California	DRILLING COMPLETED	31-Oct-12
PROJECT NUMBER	240524	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Vapor Tech Services	GROUND SURFACE ELEVATION	173.84 ft above msl
DRILLING METHOD	Jackhammer	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	6"	SCREENED INTERVAL	2 to 2.1 fbg ; 3.8 to 3.9 fbg
LOGGED BY	S. Lewis	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer PG#5612	DEPTH TO WATER (Static)	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					GM		**Silty GRAVEL with Sand (GM)** ; brown (7.5YR 4/3); dry to moist; 5% clay, 20% silt, 25% fine to coarse sand, 50% fine to coarse gravel.	4.0	Bentonite Seal Monterey Sand #2/16 1" - Polyethylene Vapor Implant 1/4" OD Teflon Tubing Monterey Sand #2/16 1" - Polyethylene Vapor Implant Bottom of Boring @ 4 ft

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BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SVP-19
JOB/SITE NAME	Former Shell service station	DRILLING STARTED	31-Oct-12
LOCATION	4255 MacArthur Boulevard, Oakland, California	DRILLING COMPLETED	31-Oct-12
PROJECT NUMBER	240524	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Vapor Tech Services	GROUND SURFACE ELEVATION	174.72 ft above msl
DRILLING METHOD	Airknife and Waterknife	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	4"	SCREENED INTERVAL	2.5 to 2.6 fbg ; 5 to 5.1 fbg
LOGGED BY	S. Lewis	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer PG#5612	DEPTH TO WATER (Static)	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					GM		**Silty GRAVEL with Sand (GM)**; brown (7.5YR 4/3); dry to moist; 15% silt, 15% fine to coarse sand, 70% fine to coarse gravel.		Bentonite Seal
					ML		**SILT with Sand (ML)**; brown (7.5YR 4/3); moist; 5% clay, 75% silt, 20% fine to coarse sand; low plasticity.	2.0	Monterey Sand #2/16 1" - Polyethylene Vapor Implant 1/4" OD Teflon Tubing Monterey Sand #2/16 1" - Polyethylene Vapor Implant Bentonite Seal
				5				6.0	Bottom of Boring @ 6 ft
				10					

WELL LOG NESTED (PID) I:\SONOMA.PUBLIC\C-USERS\SLEWIS\240524\240524-GINT.GPJ DEFAULT.GDT 11/28/12

Conestoga-Rovers & Associates
5900 Hollis Avenue, Suite A
Emeryville, California 94608-2008
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	**BORING/WELL NAME**	SVP-20
JOB/SITE NAME	Former Shell service station	**DRILLING STARTED**	30-Oct-12
LOCATION	4255 MacArthur Boulevard, Oakland, California	**DRILLING COMPLETED**	30-Oct-12
PROJECT NUMBER	240524	**WELL DEVELOPMENT DATE (YIELD)**	NA
DRILLER	Vapor Tech Services	**GROUND SURFACE ELEVATION**	175.54 ft above msl
DRILLING METHOD	Airknife and Waterknife	**TOP OF CASING ELEVATION**	Not Surveyed
BORING DIAMETER	4"	**SCREENED INTERVAL**	2.5 to 2.6 fbg ; 5 to 5.1 fbg
LOGGED BY	S. Lewis	**DEPTH TO WATER (First Encountered)**	NA
REVIEWED BY	P. Schaefer PG#5612	**DEPTH TO WATER (Static)**	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					GM		**Silty GRAVEL with Sand (GM)** ; brown (10YR 4/3); moist; 5% clay, 15% silt, 20% fine to coarse sand, 60% fine to coarse gravel.	1.0	Bentonite Seal
				5	ML		**SILT (ML)** ; brown (10YR 5/3); moist; 20% clay, 70% silt, 5% fine to coarse sand, 5% fine to coarse gravel; low plasticity.	6.0	Monterey Sand #2/16 1" - Polyethylene Vapor Implant 1/4" OD Teflon Tubing Monterey Sand #2/16 1" - Polyethylene Vapor Implant Bentonite Seal Bottom of Boring @ 6 ft
				10					

WELL LOG NESTED (PID) I:\SONOMA.PUBLIC\D-USERS\SLEWIS\240524\240524-GINT.GPJ DEFAULT.GDT 11/28/12

Conestoga-Rovers & Associates
5900 Hollis Avenue, Suite A
Emeryville, California 94608-2008
Telephone: 510-420-0700
Fax: 510-420-9170

BORING/WELL LOG

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME	SVP-21
JOB/SITE NAME	Former Shell service station	DRILLING STARTED	30-Oct-12
LOCATION	4255 MacArthur Boulevard, Oakland, California	DRILLING COMPLETED	30-Oct-12
PROJECT NUMBER	240524	WELL DEVELOPMENT DATE (YIELD)	NA
DRILLER	Vapor Tech Services	GROUND SURFACE ELEVATION	175.22 ft above msl
DRILLING METHOD	Jackhammer and Waterknife	TOP OF CASING ELEVATION	Not Surveyed
BORING DIAMETER	6"	SCREENED INTERVAL	2.5 to 2.6 fbg ; 5 to 5.1 fbg
LOGGED BY	S. Lewis	DEPTH TO WATER (First Encountered)	NA
REVIEWED BY	P. Schaefer PG#5612	DEPTH TO WATER (Static)	NA
REMARKS			

PID (ppm)	BLOW COUNTS	SAMPLE ID	EXTENT	DEPTH (fbg)	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
					GM		**Silty GRAVEL with Sand (GM)** ; brown (10YR 5/3); dry to moist; 5% clay, 20% silt, 15% fine to coarse sand, 60% fine to coarse gravel.		Bentonite Seal
				5	ML		**SILT (ML)** ; brown (10YR 5/3); moist; 10% clay, 80% silt, 5% fine to coarse sand, 5% fine to coarse gravel; low plasticity.	3.5	Monterey Sand #2/16 1" - Polyethylene Vapor Implant 1/4" OD Teflon Tubing Monterey Sand #2/16 1" - Polyethylene Vapor Implant
				10				5.5	Bottom of Boring @ 5.5 ft

WELL LOG NESTED (PID) I:\SONOMA.PUBLIC\C-USERS\SLEWIS\240524\240524-GINT.GPJ DEFAULT.GDT 11/28/12

APPENDIX C

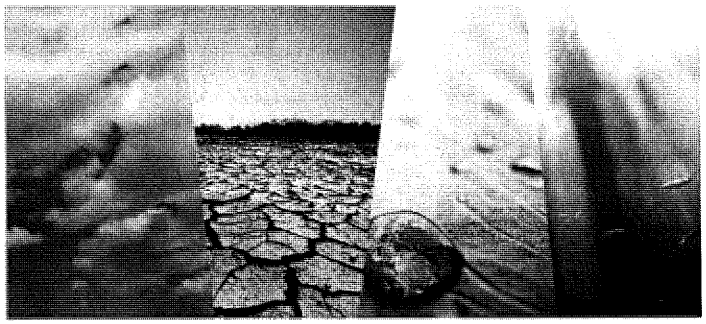
LABORATORY ANALYTICAL REPORTS

Calscience Environmental Laboratories, Inc.

CALSCIENCE

WORK ORDER NUMBER: 12-11-1068

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Conestoga-Rovers & Associates

Client Project Name: 4255 Mac Arthur Blvd., Oakland, CA

Attention: Peter Schaefer
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Approved for release on 11/21/2012 by:
Xuan Dang
Project Manager

ResultLink ›

Email your PM ›

Calscience Environmental Laboratories, Inc.

Contents

Client Project Name: 4255 Mac Arthur Blvd., Oakland, CA
Work Order Number: 12-11-1068

Calscience Environmental Laboratories, Inc.

Case Narrative

Work Order # 12-11-1068

Modified EPA 8260 in Air

This method is used to determine the concentration of BTEX/Oxygenates/Naphthalene having a vapor pressure greater than 10^{-1} torr at 25°C at standard pressure in an air matrix. The method is similar to EPA TO-15 and uses air standards for calibration. Method specifics are listed in the table below. A known volume of sample is directed from the container (Summa® canister or Tedlar™ bag) through a solid multi-module (glass beads, tenex, cryofocuser) concentrator. Following concentration, the VOCs are thermally desorbed onto a gas chromatographic column for separation and then detected on a mass selective detector.

Comparison of CalscienceTO-15(Modified) versus EPA 8260 (Modified) in Air

Requirement	Calscience TO-15(M)	Calscience EPA 8260(M) in Air
BFB Acceptance Criteria	SW846 Protocol	SW846 Protocol
Initial Calibration	Allowable % RSD for each Target Analyte <= 30%, 10% of analytes allowed <=40%	Allowable % RSD for each Target Analyte <= 30%, 10% of analytes allowed <= 40%
Initial Calibration Verification (ICV) - Second Source Standard (LCS)	Analytes contained in the LCS standard evaluated against historical control limits for the LCS	BTEX and MTBE only - <= 30%D
Daily Calibration Verification (CCV)	**Full List Analysis:** Allowable % Difference for each CCC analyte is <= 30%	BTEX and MTBE only - <= 30%D
	Target List Analysis: Allowable % Difference for each target analytes is <= 30%	
Daily Calibration Verification (CCV) - Internal Standard Area Response	Allowable +/- 50% (Range: 50% to 150%)	Allowable +/- 50% (Range: 50% to 150%)
Method Blank, Laboratory Control Sample and Sample - Internal Standard Area Response	Allowable +/- 50% of the mean area response of most recent Calibration Verification (Range: 50% to 150%)	Allowable +/- 50% of the mean area response of the most recent Calibration Verification (Range: 50% to 150%)
Surrogates	1,4-Bromoflurobenzene, 1,2-Dichloroethane-d4 and Toluene-d8 - % Recoveries based upon historical control limits +/-3S	1,4-Bromoflurobenzene, 1,2-Dichloroethane-d4 and Toluene-d8 - % Recoveries based upon historical control limits +/-3S

Client:	Conestoga-Rovers & Associates	Work Order:	12-11-1068
	5900 Hollis Street, Suite A	Project name:	4255 Mac Arthur Blvd., Oakland, CA
	Emeryville, CA 94608-2008	Received:	11/15/12 10:30
Attn:	Peter Schaefer		

DETECTIONS SUMMARY

Client Sample ID Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
SVP-13-2.5' (12-11-1068-1)						
Oxygen + Argon	**21.5**		0.500	%v	ASTM D-1946	N/A
Toluene	**31**		19	ug/m3	EPA 8260B (M)	N/A
Gasoline Range Organics (C6-C12)	**7400**		3800	ug/m3	EPA TO-3M	N/A
SVP-13-5' (12-11-1068-2)						
Carbon Dioxide	**5.32**		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	**16.1**		0.500	%v	ASTM D-1946	N/A
Toluene	**30**		19	ug/m3	EPA 8260B (M)	N/A
Gasoline Range Organics (C6-C12)	**6000**		3800	ug/m3	EPA TO-3M	N/A
SVP-14-2.5' (12-11-1068-3)						
Methane	**0.764**		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	**8.54**		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	**10.9**		0.500	%v	ASTM D-1946	N/A
Gasoline Range Organics (C6-C12)	**1200000**		7600	ug/m3	EPA TO-3M	N/A
SVP-14-5' (12-11-1068-4)						
Methane	**6.86**		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	**11.7**		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	**5.17**		0.500	%v	ASTM D-1946	N/A
Gasoline Range Organics (C6-C12)	**36000000**		380000	ug/m3	EPA TO-3M	N/A
SVP-15-2.5' (12-11-1068-5)						
Carbon Dioxide	**8.84**		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	**2.48**		0.500	%v	ASTM D-1946	N/A
Gasoline Range Organics (C6-C12)	**1500000**		7600	ug/m3	EPA TO-3M	N/A
SVP-15-5' (12-11-1068-6)						
Carbon Dioxide	**9.31**		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	**2.04**		0.500	%v	ASTM D-1946	N/A
Gasoline Range Organics (C6-C12)	**1900000**		7600	ug/m3	EPA TO-3M	N/A
SVP-16 (12-11-1068-7)						
Carbon Dioxide	**2.55**		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	**21.1**		0.500	%v	ASTM D-1946	N/A
Helium	**0.0135**		0.0100	%v	ASTM D-1946 (M)	N/A
Toluene	**66**		19	ug/m3	EPA 8260B (M)	N/A

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Client:	Conestoga-Rovers & Associates	Work Order:	12-11-1068
	5900 Hollis Street, Suite A	Project name:	4255 Mac Arthur Blvd., Oakland, CA
	Emeryville, CA 94608-2008	Received:	11/15/12 10:30
Attn:	Peter Schaefer		

DETECTIONS SUMMARY

Client Sample ID Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
SVP-17 (12-11-1068-8)						
Carbon Dioxide	**2.35**		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	**20.8**		0.500	%v	ASTM D-1946	N/A
Helium	**0.0889**		0.0100	%v	ASTM D-1946 (M)	N/A
Toluene	**44**		19	ug/m3	EPA 8260B (M)	N/A
SVP-18-2' (12-11-1068-9)						
Oxygen + Argon	**20.0**		0.500	%v	ASTM D-1946	N/A
Ethylbenzene	**46**		43	ug/m3	EPA 8260B (M)	N/A
Xylenes (total)	**210**		87	ug/m3	EPA 8260B (M)	N/A
Gasoline Range Organics (C6-C12)	**97000**		3800	ug/m3	EPA TO-3M	N/A
SVP-18-4' (12-11-1068-10)						
Oxygen + Argon	**18.6**		0.500	%v	ASTM D-1946	N/A
Toluene	**90**		38	ug/m3	EPA 8260B (M)	N/A
Ethylbenzene	**92**		43	ug/m3	EPA 8260B (M)	N/A
Xylenes (total)	**760**		87	ug/m3	EPA 8260B (M)	N/A
Gasoline Range Organics (C6-C12)	**48000**		3800	ug/m3	EPA TO-3M	N/A
SVP-19-5' (12-11-1068-11)						
Methane	**4.80**		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	**12.5**		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	**2.62**		0.500	%v	ASTM D-1946	N/A
Benzene	**1500000**		80000	ug/m3	EPA 8260B (M)	N/A
Ethylbenzene	**300000**		110000	ug/m3	EPA 8260B (M)	N/A
Gasoline Range Organics (C6-C12)	**230000000**		760000	ug/m3	EPA TO-3M	N/A
SVP-20-2.5' (12-11-1068-12)						
Carbon Dioxide	**0.908**		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	**17.7**		0.500	%v	ASTM D-1946	N/A
Toluene	**48**		19	ug/m3	EPA 8260B (M)	N/A
Gasoline Range Organics (C6-C12)	**4100**		3800	ug/m3	EPA TO-3M	N/A
SVP-20-5' (12-11-1068-13)						
Carbon Dioxide	**3.83**		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	**12.9**		0.500	%v	ASTM D-1946	N/A
Gasoline Range Organics (C6-C12)	**260000**		3800	ug/m3	EPA TO-3M	N/A

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Client:	Conestoga-Rovers & Associates	Work Order:	12-11-1068
	5900 Hollis Street, Suite A	Project name:	4255 Mac Arthur Blvd., Oakland, CA
	Emeryville, CA 94608-2008	Received:	11/15/12 10:30
Attn:	Peter Schaefer		

DETECTIONS SUMMARY

Client Sample ID Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
SVP-21-2.5' (12-11-1068-14)						
Oxygen + Argon	**16.1**		0.500	%v	ASTM D-1946	N/A
Toluene	**30**		19	ug/m3	EPA 8260B (M)	N/A
Ethylbenzene	**120**		22	ug/m3	EPA 8260B (M)	N/A
Xylenes (total)	**750**		43	ug/m3	EPA 8260B (M)	N/A
Gasoline Range Organics (C6-C12)	**29000**		3800	ug/m3	EPA TO-3M	N/A
SVP-21-5' (12-11-1068-15)						
Oxygen + Argon	**15.1**		0.500	%v	ASTM D-1946	N/A

Subcontracted analyses, if any, are not included in this summary.

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 11/15/12
Work Order No: 12-11-1068
Preparation: N/A
Method: ASTM D-1946
Units: %v

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-13-2.5'	**12-11-1068-1-B**	**11/14/12 12:45**	**Air**	**GC 34**	**N/A**	**11/15/12 15:03**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	21.5	0.500	1	
Carbon Dioxide	ND	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-13-5'	**12-11-1068-2-A**	**11/14/12 12:27**	**Air**	**GC 34**	**N/A**	**11/15/12 15:34**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	16.1	0.500	1	
Carbon Dioxide	5.32	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-14-2.5'	**12-11-1068-3-A**	**11/14/12 13:42**	**Air**	**GC 34**	**N/A**	**11/15/12 16:06**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	0.764	0.500	1		Oxygen + Argon	10.9	0.500	1	
Carbon Dioxide	8.54	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-14-5'	**12-11-1068-4-A**	**11/14/12 13:23**	**Air**	**GC 34**	**N/A**	**11/15/12 17:13**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	6.86	0.500	1		Oxygen + Argon	5.17	0.500	1	
Carbon Dioxide	11.7	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-15-2.5'	**12-11-1068-5-A**	**11/14/12 14:45**	**Air**	**GC 34**	**N/A**	**11/15/12 17:46**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	2.48	0.500	1	
Carbon Dioxide	8.84	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-15-5'	**12-11-1068-6-A**	**11/14/12 14:27**	**Air**	**GC 34**	**N/A**	**11/15/12 19:06**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	2.04	0.500	1	
Carbon Dioxide	9.31	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-16	**12-11-1068-7-A**	**11/14/12 10:36**	**Air**	**GC 34**	**N/A**	**11/15/12 00:53**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	21.1	0.500	1	
Carbon Dioxide	2.55	0.500	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Conestoga-Rovers & Associates	Date Received:	11/15/12
5900 Hollis Street, Suite A	Work Order No:	12-11-1068
Emeryville, CA 94608-2008	Preparation:	N/A
	Method:	ASTM D-1946
	Units:	%v

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-17	**12-11-1068-8-A**	**11/14/12 10:18**	**Air**	**GC 34**	**N/A**	**11/16/12 01:23**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	20.8	0.500	1	
Carbon Dioxide	2.35	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-18-2'	**12-11-1068-9-A**	**11/14/12 11:40**	**Air**	**GC 34**	**N/A**	**11/16/12 02:31**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	20.0	0.500	1	
Carbon Dioxide	ND	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-18-4'	**12-11-1068-10-A**	**11/14/12 11:14**	**Air**	**GC 34**	**N/A**	**11/16/12 03:07**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	18.6	0.500	1	
Carbon Dioxide	ND	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-19-5'	**12-11-1068-11-A**	**11/14/12 15:11**	**Air**	**GC 34**	**N/A**	**11/16/12 03:45**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	4.80	0.500	1		Oxygen + Argon	2.62	0.500	1	
Carbon Dioxide	12.5	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-20-2.5'	**12-11-1068-12-A**	**11/14/12 09:18**	**Air**	**GC 34**	**N/A**	**11/16/12 04:22**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	17.7	0.500	1	
Carbon Dioxide	0.908	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-20-5'	**12-11-1068-13-A**	**11/14/12 08:51**	**Air**	**GC 34**	**N/A**	**11/16/12 05:01**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	12.9	0.500	1	
Carbon Dioxide	3.83	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-21-2.5'	**12-11-1068-14-A**	**11/14/12 08:16**	**Air**	**GC 34**	**N/A**	**11/16/12 05:37**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	16.1	0.500	1	
Carbon Dioxide	ND	0.500	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Conestoga-Rovers & Associates	Date Received:	11/15/12
5900 Hollis Street, Suite A	Work Order No:	12-11-1068
Emeryville, CA 94608-2008	Preparation:	N/A
	Method:	ASTM D-1946
	Units:	%v

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-21-5'	**12-11-1068-15-A**	**11/14/12 08:06**	**Air**	**GC 34**	**N/A**	**11/16/12 06:13**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	15.1	0.500	1	
Carbon Dioxide	ND	0.500	1						

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-03-002-1,684**	**N/A**	**Air**	**GC 34**	**N/A**	**11/15/12 14:09**	**121115L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	ND	0.500	1	
Carbon Dioxide	ND	0.500	1		Nitrogen	ND	0.500	1	
Carbon Monoxide	ND	0.500	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 11/15/12
Work Order No: 12-11-1068
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-13-2.5'	**12-11-1068-1-B**	**11/14/12 12:45**	**Air**	**GC 55**	**N/A**	**11/15/12 14:05**	**121115L01**

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
SVP-13-5'	**12-11-1068-2-A**	**11/14/12 12:27**	**Air**	**GC 55**	**N/A**	**11/15/12 14:28**	**121115L01**

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
SVP-14-2.5'	**12-11-1068-3-A**	**11/14/12 13:42**	**Air**	**GC 55**	**N/A**	**11/15/12 14:51**	**121115L01**

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
SVP-14-5'	**12-11-1068-4-A**	**11/14/12 13:23**	**Air**	**GC 55**	**N/A**	**11/15/12 15:20**	**121115L01**

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
SVP-15-2.5'	**12-11-1068-5-A**	**11/14/12 14:45**	**Air**	**GC 55**	**N/A**	**11/15/12 15:44**	**121115L01**

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
SVP-15-5'	**12-11-1068-6-A**	**11/14/12 14:27**	**Air**	**GC 55**	**N/A**	**11/15/12 16:06**	**121115L01**

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

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 11/15/12
Work Order No: 12-11-1068
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-16	**12-11-1068-7-A**	**11/14/12 10:36**	**Air**	**GC 55**	**N/A**	**11/15/12 16:35**	**121115L01**

Parameter	Result	RL	DF	Qual	Units
Helium	0.0135	0.0100	1		%v

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-17	**12-11-1068-8-A**	**11/14/12 10:18**	**Air**	**GC 55**	**N/A**	**11/15/12 18:19**	**121115L01**

Parameter	Result	RL	DF	Qual	Units
Helium	0.0889	0.0100	1		%v

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-18-2'	**12-11-1068-9-A**	**11/14/12 11:40**	**Air**	**GC 55**	**N/A**	**11/15/12 19:48**	**121115L01**

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
SVP-18-4'	**12-11-1068-10-A**	**11/14/12 11:14**	**Air**	**GC 55**	**N/A**	**11/15/12 20:15**	**121115L01**

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
SVP-19-5'	**12-11-1068-11-A**	**11/14/12 15:11**	**Air**	**GC 55**	**N/A**	**11/15/12 20:37**	**121115L01**

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
SVP-20-2.5'	**12-11-1068-12-A**	**11/14/12 09:18**	**Air**	**GC 55**	**N/A**	**11/15/12 21:00**	**121115L01**

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

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 11/15/12
Work Order No: 12-11-1068
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-20-5'	**12-11-1068-13-A**	**11/14/12 08:51**	**Air**	**GC 55**	**N/A**	**11/15/12 21:21**	**121115L01**

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
SVP-21-2.5'	**12-11-1068-14-A**	**11/14/12 08:16**	**Air**	**GC 55**	**N/A**	**11/15/12 21:43**	**121115L01**

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
SVP-21-5'	**12-11-1068-15-A**	**11/14/12 08:06**	**Air**	**GC 55**	**N/A**	**11/15/12 22:26**	**121115L01**

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
Method Blank	**099-12-872-349**	**N/A**	**Air**	**GC 55**	**N/A**	**11/15/12 10:38**	**121115L01**

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

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 11/15/12
Work Order No: 12-11-1068
Preparation: N/A
Method: EPA 8260B (M)
Units: ug/m3

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-13-2.5'	**12-11-1068-1-B**	**11/14/12 12:45**	**Air**	**GC/MS KKK**	**N/A**	**11/16/12 15:21**	**121116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)	ND	43	1	
Toluene	31	19	1		Naphthalene	ND	52	1	
Ethylbenzene	ND	22	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	98	47-156			1,2-Dichloroethane-d4	99	47-156		
Toluene-d8	99	47-156							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-13-5'	**12-11-1068-2-A**	**11/14/12 12:27**	**Air**	**GC/MS KKK**	**N/A**	**11/16/12 16:10**	**121116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)	ND	43	1	
Toluene	30	19	1		Naphthalene	ND	52	1	
Ethylbenzene	ND	22	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	106	47-156			1,2-Dichloroethane-d4	105	47-156		
Toluene-d8	110	47-156							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-14-2.5'	**12-11-1068-3-A**	**11/14/12 13:42**	**Air**	**GC/MS KKK**	**N/A**	**11/17/12 15:10**	**121117L01**

Comment(s): -Reporting limit is elevated due to high levels of non-target hydrocarbons.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1600	100		Xylenes (total)	ND	4300	100	
Toluene	ND	1900	100		Naphthalene	ND	5200	100	
Ethylbenzene	ND	2200	100						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	47-156			1,2-Dichloroethane-d4	100	47-156		
Toluene-d8	98	47-156							

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Conestoga-Rovers & Associates	Date Received: 11/15/12
5900 Hollis Street, Suite A	Work Order No: 12-11-1068
Emeryville, CA 94608-2008	Preparation: N/A
	Method: EPA 8260B (M)
	Units: ug/m3

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-14-5'	**12-11-1068-4-A**	**11/14/12 13:23**	**Air**	**GC/MS KKK**	**N/A**	**11/16/12 19:26**	**121116L01**

Comment(s): -Reporting limit is elevated due to high levels of non-target hydrocarbons.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	32000	2000		Xylenes (total)	ND	87000	2000	
Toluene	ND	38000	2000		Naphthalene	ND	100000	2000	
Ethylbenzene	ND	43000	2000						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	97	47-156		1,2-Dichloroethane-d4	99	47-156	
Toluene-d8	91	47-156					

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-15-2.5'	**12-11-1068-5-A**	**11/14/12 14:45**	**Air**	**GC/MS KKK**	**N/A**	**11/17/12 18:25**	**121117L01**

Comment(s): -Reporting limit is elevated due to high levels of non-target hydrocarbons.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	320	20		Xylenes (total)	ND	870	20	
Toluene	ND	380	20		Naphthalene	ND	1000	20	
Ethylbenzene	ND	430	20						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	139	47-156		1,2-Dichloroethane-d4	104	47-156	
Toluene-d8	46	47-156	2,6				

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-15-5'	**12-11-1068-6-A**	**11/14/12 14:27**	**Air**	**GC/MS KKK**	**N/A**	**11/17/12 16:48**	**121117L01**

Comment(s): -Reporting limit is elevated due to high levels of non-target hydrocarbons.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	400	25		Xylenes (total)	ND	1100	25	
Toluene	ND	470	25		Naphthalene	ND	1300	25	
Ethylbenzene	ND	540	25						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
1,4-Bromofluorobenzene	144	47-156		1,2-Dichloroethane-d4	102	47-156	
Toluene-d8	45	47-156	2,6				

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 11/15/12
Work Order No: 12-11-1068
Preparation: N/A
Method: EPA 8260B (M)
Units: ug/m3

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-16	**12-11-1068-7-A**	**11/14/12 10:36**	**Air**	**GC/MS KKK**	**N/A**	**11/16/12 17:02**	**121116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)	ND	43	1	
Toluene	66	19	1		Naphthalene	ND	52	1	
Ethylbenzene	ND	22	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	102	47-156			1,2-Dichloroethane-d4	101	47-156		
Toluene-d8	100	47-156							

SVP-17	**12-11-1068-8-A**	**11/14/12 10:18**	**Air**	**GC/MS KKK**	**N/A**	**11/16/12 17:51**	**121116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)	ND	43	1	
Toluene	44	19	1		Naphthalene	ND	52	1	
Ethylbenzene	ND	22	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	47-156			1,2-Dichloroethane-d4	104	47-156		
Toluene-d8	102	47-156							

SVP-18-2'	**12-11-1068-9-A**	**11/14/12 11:40**	**Air**	**GC/MS KKK**	**N/A**	**11/16/12 21:48**	**121116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	32	2		Xylenes (total)	210	87	2	
Toluene	ND	38	2		Naphthalene	ND	100	2	
Ethylbenzene	46	43	2						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	141	47-156			1,2-Dichloroethane-d4	99	47-156		
Toluene-d8	99	47-156							

SVP-18-4'	**12-11-1068-10-A**	**11/14/12 11:14**	**Air**	**GC/MS KKK**	**N/A**	**11/17/12 04:57**	**121116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	32	2		Xylenes (total)	760	87	2	
Toluene	90	38	2		Naphthalene	ND	100	2	
Ethylbenzene	92	43	2						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	149	47-156			1,2-Dichloroethane-d4	99	47-156		
Toluene-d8	99	47-156							

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

Calscience Environmental Laboratories, Inc.

Analytical Report

Conestoga-Rovers & Associates	Date Received:	11/15/12
5900 Hollis Street, Suite A	Work Order No:	12-11-1068
Emeryville, CA 94608-2008	Preparation:	N/A
	Method:	EPA 8260B (M)
	Units:	ug/m3

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-19-5'	**12-11-1068-11-A**	**11/14/12 15:11**	**Air**	**GC/MS KKK**	**N/A**	**11/17/12 04:10**	**121116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	1500000	80000	5000		Xylenes (total)	ND	220000	5000	
Toluene	ND	94000	5000		Naphthalene	ND	260000	5000	
Ethylbenzene	300000	110000	5000						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	101	47-156			1,2-Dichloroethane-d4	100	47-156		
Toluene-d8	91	47-156							

SVP-20-2.5'	**12-11-1068-12-A**	**11/14/12 09:18**	**Air**	**GC/MS KKK**	**N/A**	**11/17/12 00:11**	**121116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)	ND	43	1	
Toluene	48	19	1		Naphthalene	ND	52	1	
Ethylbenzene	ND	22	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	101	47-156			1,2-Dichloroethane-d4	102	47-156		
Toluene-d8	102	47-156							

SVP-20-5'	**12-11-1068-13-A**	**11/14/12 08:51**	**Air**	**GC/MS KKK**	**N/A**	**11/17/12 17:37**	**121117L01**

Comment(s): -Reporting limit is elevated due to high levels of non-target hydrocarbons.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	40	2.5		Xylenes (total)	ND	110	2.5	
Toluene	ND	47	2.5		Naphthalene	ND	130	2.5	
Ethylbenzene	ND	54	2.5						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	109	47-156			1,2-Dichloroethane-d4	105	47-156		
Toluene-d8	65	47-156							

SVP-21-2.5'	**12-11-1068-14-A**	**11/14/12 08:16**	**Air**	**GC/MS KKK**	**N/A**	**11/17/12 01:45**	**121116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)	750	43	1	
Toluene	30	19	1		Naphthalene	ND	52	1	
Ethylbenzene	120	22	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	113	47-156			1,2-Dichloroethane-d4	100	47-156		
Toluene-d8	95	47-156							

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 11/15/12
Work Order No: 12-11-1068
Preparation: N/A
Method: EPA 8260B (M)
Units: ug/m3

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-21-5'	**12-11-1068-15-A**	**11/14/12 08:06**	**Air**	**GC/MS KKK**	**N/A**	**11/17/12 02:37**	**121116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)	ND	43	1	
Toluene	ND	19	1		Naphthalene	ND	52	1	
Ethylbenzene	ND	22	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	103	47-156			1,2-Dichloroethane-d4	101	47-156		
Toluene-d8	100	47-156							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-13-041-1,102**	**N/A**	**Air**	**GC/MS KKK**	**N/A**	**11/16/12 14:13**	**121116L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)	ND	43	1	
Toluene	ND	19	1		Naphthalene	ND	52	1	
Ethylbenzene	ND	22	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	98	47-156			1,2-Dichloroethane-d4	99	47-156		
Toluene-d8	99	47-156							

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	**099-13-041-1,106**	**N/A**	**Air**	**GC/MS KKK**	**N/A**	**11/17/12 14:04**	**121117L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)	ND	43	1	
Toluene	ND	19	1		Naphthalene	ND	52	1	
Ethylbenzene	ND	22	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	99	47-156			1,2-Dichloroethane-d4	100	47-156		
Toluene-d8	100	47-156							

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 11/15/12
Work Order No: 12-11-1068
Preparation: N/A
Method: EPA TO-3M

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-13-2.5'	**12-11-1068-1-B**	**11/14/12 12:45**	**Air**	**GC 38**	**N/A**	**11/15/12 20:30**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	7400	3800	1		ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-13-5'	**12-11-1068-2-A**	**11/14/12 12:27**	**Air**	**GC 38**	**N/A**	**11/15/12 21:11**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	6000	3800	1		ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-14-2.5'	**12-11-1068-3-A**	**11/14/12 13:42**	**Air**	**GC 38**	**N/A**	**11/16/12 05:55**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	1200000	7600	2		ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-14-5'	**12-11-1068-4-A**	**11/14/12 13:23**	**Air**	**GC 38**	**N/A**	**11/16/12 21:17**	**121116L01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	36000000	380000	100		ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-15-2.5'	**12-11-1068-5-A**	**11/14/12 14:45**	**Air**	**GC 38**	**N/A**	**11/16/12 06:35**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	1500000	7600	2		ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-15-5'	**12-11-1068-6-A**	**11/14/12 14:27**	**Air**	**GC 38**	**N/A**	**11/16/12 14:31**	**121116L01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	1900000	7600	2		ug/m3

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 11/15/12
Work Order No: 12-11-1068
Preparation: N/A
Method: EPA TO-3M

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-16	**12-11-1068-7-A**	**11/14/12 10:36**	**Air**	**GC 38**	**N/A**	**11/15/12 21:53**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	3800	1		ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-17	**12-11-1068-8-A**	**11/14/12 10:18**	**Air**	**GC 38**	**N/A**	**11/15/12 22:34**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	3800	1		ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-18-2'	**12-11-1068-9-A**	**11/14/12 11:40**	**Air**	**GC 38**	**N/A**	**11/16/12 02:33**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	97000	3800	1		ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-18-4'	**12-11-1068-10-A**	**11/14/12 11:14**	**Air**	**GC 38**	**N/A**	**11/16/12 11:38**	**121116L01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	48000	3800	1		ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-19-5'	**12-11-1068-11-A**	**11/14/12 15:11**	**Air**	**GC 38**	**N/A**	**11/16/12 22:01**	**121116L01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	230000000	760000	200		ug/m3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-20-2.5'	**12-11-1068-12-A**	**11/14/12 09:18**	**Air**	**GC 38**	**N/A**	**11/15/12 00:22**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	4100	3800	1		ug/m3

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 11/15/12
Work Order No: 12-11-1068
Preparation: N/A
Method: EPA TO-3M

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-20-5'	**12-11-1068-13-A**	**11/14/12 08:51**	**Air**	**GC 38**	**N/A**	**11/15/12 19:08**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	260000	3800	1		ug/m3

SVP-21-2.5'	**12-11-1068-14-A**	**11/14/12 08:16**	**Air**	**GC 38**	**N/A**	**11/16/12 01:44**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	29000	3800	1		ug/m3

SVP-21-5'	**12-11-1068-15-A**	**11/14/12 08:06**	**Air**	**GC 38**	**N/A**	**11/16/12 01:05**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	3800	1		ug/m3

Method Blank	**099-14-431-83**	**N/A**	**Air**	**GC 38**	**N/A**	**11/15/12 13:12**	**121115L02**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	3800	1		ug/m3

Method Blank	**099-14-431-84**	**N/A**	**Air**	**GC 38**	**N/A**	**11/16/12 10:59**	**121116L01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	3800	1		ug/m3

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

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Conestoga-Rovers & Associates		Date Received:	11/15/12
5900 Hollis Street, Suite A		Work Order No:	12-11-1068
Emeryville, CA 94608-2008		Preparation:	N/A
		Method:	EPA TO-3M

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
SVP-20-5'	**Air**	**GC 38**	**N/A**	**11/15/12**	**121115D02**

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	261400	272500	4	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Conestoga-Rovers & Associates	Date Received:	11/15/12
5900 Hollis Street, Suite A	Work Order No:	12-11-1068
Emeryville, CA 94608-2008	Preparation:	N/A
	Method:	EPA TO-3M

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
SVP-18-4'	**Air**	**GC 38**	**N/A**	**11/16/12**	**121116D01**

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	47910	49290	3	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: N/A
Work Order No: 12-11-1068
Preparation: N/A
Method: ASTM D-1946

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-03-002-1,684	**Air**	**GC 34**	**N/A**	**11/15/12**	**121115L01**

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Methane	10.12	9.040	89	9.180	91	80-120	2	0-30	
Carbon Dioxide	10.07	9.596	95	9.707	96	80-120	1	0-30	
Carbon Monoxide	9.930	9.596	97	9.773	98	80-120	2	0-30	
Oxygen + Argon	3.500	3.806	109	3.527	101	80-120	8	0-30	
Nitrogen	10.02	10.99	110	9.900	99	80-120	10	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:	12-11-1068
Emeryville, CA 94608-2008	Preparation:	N/A
	Method:	ASTM D-1946 (M)

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-872-349	**Air**	**GC 55**	**N/A**	**11/15/12**	**121115L01**

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Helium	1.000	0.9563	96	0.9050	90	80-120	6	0-30	
Hydrogen	1.000	1.017	102	0.9031	90	80-120	12	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: 12-11-1068
Emeryville, CA 94608-2008	Preparation: N/A
	Method: EPA 8260B (M)

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-13-041-1,102	Air	GC/MS KKK	N/A	11/16/12	121116L01

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	79.87	78.72	99	79.12	99	60-156	44-172	1	0-40	
Toluene	94.21	93.50	99	93.61	99	56-146	41-161	0	0-43	
Ethylbenzene	108.6	107.9	99	107.4	99	52-154	35-171	0	0-38	
Xylenes (total)	325.7	326.7	100	325.0	100	42-156	23-175	1	0-41	
Methyl-t-Butyl Ether (MTBE)	90.13	87.80	97	88.59	98	45-147	28-164	1	0-25	
Tert-Butyl Alcohol (TBA)	151.6	147.3	97	149.4	99	60-140	47-153	1	0-35	
Diisopropyl Ether (DIPE)	104.5	99.40	95	100.6	96	60-140	47-153	1	0-35	
Ethyl-t-Butyl Ether (ETBE)	104.5	102.2	98	103.0	99	60-140	47-153	1	0-35	
Tert-Amyl-Methyl Ether (TAME)	104.5	100.5	96	101.1	97	60-140	47-153	1	0-35	
Naphthalene	131.1	118.6	90	116.4	89	60-140	47-153	2	0-30	
Ethanol	188.4	217.0	115	219.9	117	47-137	32-152	1	0-35	
1,1-Difluoroethane	67.54	67.12	99	80.38	119	78-156	65-169	18	0-35	
Isopropanol	61.45	59.49	97	60.06	98	78-156	65-169	1	0-35	

Total number of LCS compounds : 13
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

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:	12-11-1068
Emeryville, CA 94608-2008		Preparation:	N/A
		Method:	EPA 8260B (M)

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-13-041-1,106	**Air**	**GC/MS KKK**	**N/A**	**11/17/12**	**121117L01**

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	79.87	92.52	116	91.42	114	60-156	44-172	1	0-40	
Toluene	94.21	109.8	117	107.9	115	56-146	41-161	2	0-43	
Ethylbenzene	108.6	126.2	116	123.4	114	52-154	35-171	2	0-38	
Xylenes (total)	325.7	381.3	117	373.0	115	42-156	23-175	2	0-41	
Methyl-t-Butyl Ether (MTBE)	90.13	94.64	105	93.64	104	45-147	28-164	1	0-25	
Tert-Butyl Alcohol (TBA)	151.6	187.4	124	181.8	120	60-140	47-153	3	0-35	
Diisopropyl Ether (DIPE)	104.5	111.4	107	109.9	105	60-140	47-153	1	0-35	
Ethyl-t-Butyl Ether (ETBE)	104.5	109.5	105	108.1	104	60-140	47-153	1	0-35	
Tert-Amyl-Methyl Ether (TAME)	104.5	113.7	109	111.8	107	60-140	47-153	2	0-35	
Naphthalene	131.1	115.4	88	110.1	84	60-140	47-153	5	0-30	
Ethanol	188.4	123.5	66	193.9	103	47-137	32-152	44	0-35	X
1,1-Difluoroethane	67.54	81.26	120	80.17	119	78-156	65-169	1	0-35	
Isopropanol	61.45	65.92	107	63.19	103	78-156	65-169	4	0-35	

Total number of LCS compounds : 13
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Conestoga-Rovers & Associates	Date Received:	N/A
5900 Hollis Street, Suite A	Work Order No:	12-11-1068
Emeryville, CA 94608-2008	Preparation:	N/A
	Method:	EPA TO-3M

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-14-431-83	**Air**	**GC 38**	**11/15/12**	**12111502**	**121115L02**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Gasoline Range Organics (C6-C12)	382400	367700	96	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Conestoga-Rovers & Associates		Date Received:	N/A
5900 Hollis Street, Suite A		Work Order No:	12-11-1068
Emeryville, CA 94608-2008		Preparation:	N/A
		Method:	EPA TO-3M

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-14-431-84	**Air**	**GC 38**	**11/16/12**	**12111602**	**121116L01**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Gasoline Range Organics (C6-C12)	382400	426000	111	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 12-11-1068

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
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 or PES/PESD 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 without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
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.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
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. All QC results are reported on a wet weight basis.
MPN - Most Probable Number

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 240524
INCIDENT # (ENV SERVICES): ☐ CHECK IF NO INCIDENT # APPLIES
PO #: SAP #:
DATE: 11/14/2012
PAGE: 1 of 2

SITE ADDRESS: Street and City: ~~461 8th Street, Oakland~~ 4255 MacArthur Blvd Oakland | State: CA | GLOBAL ID NO.: T0600101261
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.: 240524-95-12.03

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
SAMPLER NAME(S) (Print): Scott Lewis

12-11-1068

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 :
Copy final report to Shell.Lab.Billing@craworld.com
Report results in µg/m³

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

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	TPH -GRO, Purgeable C6-C12 (8260B)	TPH -DRO, Extractable (8015M)	TPHg (8015M)	Naphthalene (8260B)	BTEX (8260B)	BTEX + MTBE (8260B)	BTEX + MTBE + TBA (TO-15)	BTEX + 5 OXYs (MTBE, TBA, DIPE, TAME, ETBE) 8260B	Full VOC list (8260B)	Single Compound: ____ (8260B)	1,2-DCA (8260B)	EDB (8260B)	Ethanol (8260B)	CH4 ASTMD 1946	O2 + Argon ASTMD 1946	Helium ASTMD 1946 (M)	CO2 ASTMD 1946	TEMPERATURE ON RECEIPT C° / Container PID Readings or Laboratory Notes
1	SVP-13-2.5'	11/14	1245	Vapor						1	X			X	X									X	X	X	X	
2	SVP-13-5'	11/14	1227	Vapor						1	X			X	X									X	X	X	X	
3	SVP-14-2.5'	11/14	1343	Vapor						1	X			X	X									X	X	X	X	
4	SVP-14-5'	11/15	1323	Vapor						1	X			X	X									X	X	X	X	
5	SVP-15-2.5'	11/14	1445	Vapor						1	X			X	X									X	X	X	X	
6	SVP-15-5'	11/14	1427	Vapor						1	X			X	X									X	X	X	X	
7	SVP-16	11/14	1036	Vapor						1	X			X	X									X	X	X	X	
8	SVP-17	11/14	1018	Vapor						1	X			X	X									X	X	X	X	
9	SVP-18-2'	11/14	1140	Vapor						1	X			X	X									X	X	X	X	
10	SVP-18-4'	11/14	1114	Vapor						1	X			X	X									X	X	X	X	

Relinquished by: (Signature) Scott Lewis — Received by: (Signature) Tom O'Malley CRL — Date: 11/14/12 — Time: 1630
Relinquished by: (Signature) Tom O'Malley 11/14/12 1730 — Received by: (Signature) [illegible] — Date: 11/15/12 — Time: 10:30
Relinquished by: (Signature) — Received by: (Signature) — Date: — Time:

05/2/06 Revision

Shell Oil Products Chain Of Custody Record

LAB (LOCATION)
- [x] CALSCIENCE (_____)
- [ ] SPL (_____)
- [ ] XENCO (_____)
- [ ] TEST AMERICA (_____)
- [ ] OTHER (_____)

Please Check Appropriate Box:
- [ ] ENV. SERVICES
- [ ] MOTIVA RETAIL
- [ ] SHELL RETAIL
- [ ] MOTIVA SD&CM
- [x] CONSULTANT
- [ ] LUBES
- [ ] SHELL PIPELINE
- [ ] OTHER _____

Print Bill To Contact Name: Peter Schaefer 240524

INCIDENT # (ENV SERVICES): [ ] CHECK IF NO INCIDENT # APPLIES

PO #:

SAP #:

DATE: 11/14/2012

PAGE: 2 of 2

SAMPLING COMPANY: Conestoga-Rovers & Associates

LOG CODE: CRAW

SITE ADDRESS: Street and City: 4255 MacArthur Boulevard, Oakland

State: CA

GLOBAL ID NO.: T0600101261

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

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.: 240524-95-12.03

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

TELEPHONE: 510-420-3319

FAX: 510-420-9170

E-MAIL: pschaefer@craworld.com

SAMPLER NAME(S) (Print): Scott Lewis

LAB USE ONLY: 12-11-1068

TURNAROUND TIME (CALENDAR DAYS):
- [x] 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 :

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

Report results in µg/m³

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

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	TPH -GRO, Purgeable C6-C12 (8260B)	TPH -DRO, Extractable (8015M)	TPHg (8015M)	Naphthalene (8260B)	BTEX (8260B)	BTEX + MTBE (8260B)	BTEX + MTBE + TBA (TO-15)	BTEX + 5 OXYs (MTBE, TBA, DIPE, TAME, ETBE) 8260B	Full VOC list (8260B)	Single Compound: _____ (8260B)	1,2-DCA (8260B)	EDB (8260B)	Ethanol (8260B)	CH4 ASTMD 1946	O2 + Argon ASTMD 1946	Helium ASTMD 1946 (M)	CO2 ASTMD 1946	Container PID Readings or Laboratory Notes
	SVP-19-2.5'	11/14		Vapor						1	X			X	X									X	X	X	X	
11	SVP-19-5'	11/14	1571	Vapor						1	X			X	X									X	X	X	X	
12	SVP-20-2.5'	11/14	0918	Vapor						1	X			X	X									X	X	X	X	
13	SVP-20-5'	11/15	0851	Vapor						1	X			X	X									X	X	X	X	
14	SVP-21-2.5'	11/14	0816	Vapor						1	X			X	X									X	X	X	X	
15	SVP-21-5'	11/14	0806	Vapor						1	X			X	X									X	X	X	X	

TEMPERATURE ON RECEIPT C°

Relinquished by: (Signature) Scott Lewis	Received by: (Signature) Tom O'Malley CRL	Date: 11/14/12	Time: 1630
Relinquished by: (Signature) Tom O'Malley 7060 11/14/12 1230	Received by: (Signature) [illegible]	Date: 11/15/12	Time: 10:30
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

05/2/06 Revision

1068

GSO

WebShip > > > > >

800-322-5555 www.gso.com

Ship From:
ALAN KEMP
CAL SCIENCE- CONCORD
5063 COMMERCIAL CIRCLE #H
CONCORD, CA 94520

Ship To:
SAMPLE RECEIVING
CEL
7440 LINCOLN WAY
GARDEN GROVE, CA 92841

COD:
$0.00

Reference:
CARDNO ERI, CRA

Delivery Instructions:

Signature Type:
SIGNATURE REQUIRED

Tracking #: 520442204

NPS

ORC

A

GARDEN GROVE

D92841A

6550867

Print Date : 11/14/12 16:20 PM

Package 1 of 1

Send Label To Printer | ☑ Print All | Edit Shipment | Finish

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

STEP 1 - Use the "Send Label to Printer" button on this page to print the shipping label on a laser or inkjet printer.
STEP 2 - Fold this page in half.
STEP 3 - Securely attach this label to your package, do not cover the barcode.
STEP 4 - Request an on-call pickup for your package, if you do not have scheduled daily pickup service or Drop-off your package at the nearest GSO drop box. Locate nearest GSO dropbox locations using this link.

ADDITIONAL OPTIONS:

Send Label Via Email | Create Return Label

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all the service terms and conditions described in this section.
Our liability for loss or damage to any package is limited to your actual damages or $100 whichever is less, unless you pay for and declare a higher authorized value. If you declare a higher value and pay the additional charge, our liability will be the lesser of your declared value or the actual value of your loss or damage. In any event, we will not be liable for any damage, whether direct, incidental, special or consequential, in excess of the declared value of a shipment whether or not we had knowledge that such damage might be incurred including but not limited to loss of income or profit. We will not be liable for your acts or omissions, including but not limited to improper or insufficient packaging, securing, marking or addressing. Also, we will not be liable if you or the recipient violates any of the terms of our agreement. We will not be liable for loss, damage or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions, act of public enemies, war, strikes, or civil commotion. The highest declared value for our GSO Priority Letter or GSO Priority Package is $500. For other shipments the highest declared value is $10,000 unless your package contains items of "extraordinary value", in which case the highest declared value we allow is $500. Items of "extraordinary value" include, but or not limited to, artwork, jewelry, furs, precious metals, tickets, negotiable instruments and other items with intrinsic value.

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 12-11-1068

SAMPLE RECEIPT FORM

Cooler 0 of 0

CLIENT: CRA DATE: 11/15/12

TEMPERATURE: Thermometer ID: SC4 (Criteria: 0.0 °C – 6.0 °C, not frozen)

Temperature ____.____ °C - 0.3 °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 Initial: JS

CUSTODY SEALS INTACT:

☐ Cooler ☐_____ ☐ No (Not Intact) ☐ Not Present ☑ N/A Initial: JS

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

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.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☐	☑	☐
Sample container(s) intact and good condition	☐	☑	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
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 ☐1PB**na** ☐500PB ☐250PB ☐250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☑Tedlar® ☐Canister **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** JS

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

Preservative: **h:** HCL **n:** HNO_3 **na$_2$:** $Na_2S_2O_3$ **na:** NaOH **p:** H_3PO_4 **s:** H_2SO_4 **u:** Ultra-pure **znna:** $ZnAc_2$+NaOH **f:** Filtered **Scanned by:** _____

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 12-11-1068

SAMPLE ANOMALY FORM

SAMPLES - CONTAINERS & LABELS:

Comments:

- ☐ **Sample(s) NOT RECEIVED but listed on COC**
- ☐ **Sample(s) received but NOT LISTED on COC**
- ☐ **Holding time expired** – list sample ID(s) and test
- ☐ **Insufficient quantities for analysis** – list test
- ☐ **Improper container(s) used** – list test
- ☐ **Improper preservative used** – list test
- ☐ **No preservative noted on COC or label** – list test & notify lab
- ☐ **Sample labels illegible** – note test/container type — COLLECTION DATE PER LABEL :
- ☑ **Sample label(s) do not match COC** – Note in comments
  - ☐ **Sample ID** — (-4)+(-13) 11/14/12
  - ☑ **Date and/or Time Collected**
  - ☐ **Project Information**
  - ☐ **# of Container(s)** — COLLECTION TIME PER LABEL :
  - ☐ **Analysis**
- ☐ **Sample container(s) compromised** – Note in comments — (-4) 12:23
  - ☐ **Water present in sample container** — (-14) 8-22
  - ☐ **Broken**
- ☐ **Sample container(s) not labeled**
- ☑ **Air sample container(s) compromised** – Note in comments
  - ☐ **Flat**
  - ☑ **Very low in volume** — (-1) RECEIVED LEAKING.
  - ☐ **Leaking (Not transferred - duplicate bag submitted)**
  - ☑ **Leaking (transferred into Calscience Tedlar® Bag*)**
  - ☐ **Leaking (transferred into Client's Tedlar® Bag*)**
- ☐ **Other:** _____

HEADSPACE – Containers with Bubble > 6mm or ¼ inch:

Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis

Comments: _____

*Transferred at Client's request.

Initial / Date: JS 11/15/12

Sheila Luu

From: Schaefer, Peter [pschaefer@craworld.com]
Sent: Friday, November 16, 2012 5:23 AM
To: Sheila Luu
Cc: Lewis, Scott
Subject: RE: 12-11-1068 - 4255 Mac Arthur Blvd., Oakland, CA

Sheila,

All samples, including #4 & #13 were collected on 11/14/12. Please use the COC collection times for samples #4 and #14. Too bad about #1, please complete the fixed gases and GRO analysis anyway.

Regards,

Peter Schaefer
(510) 420-3319

From: Sheila Luu [mailto:sluu@calscience.com]
Sent: Thursday, November 15, 2012 4:30 PM
To: Schaefer, Peter
Cc: Xuan Dang
Subject: 12-11-1068 - 4255 Mac Arthur Blvd., Oakland, CA

Peter,

Collection date per label for samples #4 and #13 is 11/14/12. Collection time per label for samples #4 is 12:23 and #14 is 8:22. Should we follow the COC or labels?

Sample #1 received leaking. The remaining volume is not sufficient for EPA 8260B analysis. Fixed gases and GRO will be analyzed.

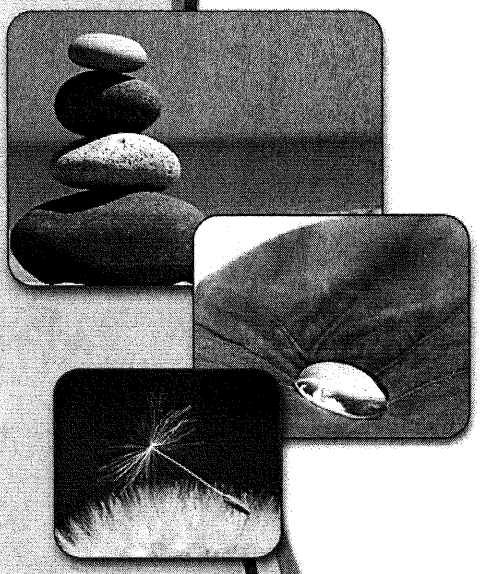
Thank you.

Sheila Luu
Project Manager Assistant

Calscience

7440 Lincoln Way
Garden Grove, CA 92841-1427
(714) 895-5494
www.calscience.com

Thanksgiving Holiday Schedule:
Nov. 22, Thursday – CLOSED
Nov. 23, Friday – CLOSED
Nov. 24, Saturday – Sample Receiving open 0830-1730



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-28532-1
Client Project/Site: 4255 MacArthur Blvd., Oakland, CA

For:
Conestoga-Rovers & Associates, Inc.
19449 Riverside Drive, Suite 230
Sonoma, California 95476

Attn: Peter Schaefer

Philip Sanelle

Authorized for release by:
11/26/2012 3:46:57 PM

Philip Sanelle
Project Manager I
philip.sanelle@testamericainc.com

Table of Contents

Sample Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 4255 MacArthur Blvd., Oakland, CA

TestAmerica Job ID: 440-28532-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-28532-1	CRA-1A	Solid	10/31/12 09:26	11/02/12 09:45

Case Narrative

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 4255 MacArthur Blvd., Oakland, CA

TestAmerica Job ID: 440-28532-1

Job ID: 440-28532-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-28532-1

Comments
No additional comments.

Receipt
The sample was received on 11/2/2012 9:45 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.6° C.

GC/MS VOA
Method(s) 8260B/CA_LUFTMS: Surrogate recovery for the following sample(s) was outside control limits: CRA-1A (440-28532-1). Re-extraction and/or re-analysis was performed with concurring results.

Method(s) 8260B: Surrogate recovery for the following sample(s) was outside control limits: CRA-1A (440-28532-1). Re-extraction and/or re-analysis was performed with concurring results.

Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 66333 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Metals
Method(s) 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for molybdenum, antimony, and selenium in batch 440-65585 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 939-M: The following sample(s) was prepared and/or analyzed outside the method defined holding time: (440-28532-1 MS), (440-28532-1 MSD), CRA-1A (440-28532-1).

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

VOA Prep
No analytical or quality issues were noted.

Client Sample ID: CRA-1A
Date Collected: 10/31/12 09:26
Date Received: 11/02/12 09:45

Lab Sample ID: 440-28532-1
Matrix: Solid

Method: 8260B/CA_LUFTMS - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		0.10		mg/Kg			11/13/12 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*5*	*X*	*80 - 125*		*11/13/12 14:31*	*1*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/13/12 14:31*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/13/12 14:31*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010		mg/Kg			11/13/12 14:31	1
Ethylbenzene	ND		0.0010		mg/Kg			11/13/12 14:31	1
Toluene	ND		0.0010		mg/Kg			11/13/12 14:31	1
Xylenes, Total	0.0020		0.0020		mg/Kg			11/13/12 14:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*80 - 120*		*11/13/12 14:31*	*1*
Dibromofluoromethane (Surr)	*5*	*X*	*80 - 125*		*11/13/12 14:31*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/13/12 14:31*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28)	64		5.0		mg/Kg		11/13/12 12:18	11/14/12 01:40	1
ORO (C29-C40)	29		5.0		mg/Kg		11/13/12 12:18	11/14/12 01:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*46*		*40 - 140*	*11/13/12 12:18*	*11/14/12 01:40*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		9.9		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Arsenic	4.3		2.0		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Barium	100		0.99		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Beryllium	ND		0.50		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Cadmium	ND		0.50		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Chromium	24		0.99		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Cobalt	4.2		0.99		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Copper	23		2.0		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Lead	67		2.0		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Molybdenum	ND		2.0		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Nickel	27		2.0		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Selenium	2.6		2.0		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Thallium	ND		9.9		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Vanadium	20		0.99		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Zinc	72		5.0		mg/Kg		11/09/12 08:35	11/09/12 19:15	5
Silver	ND		0.99		mg/Kg		11/09/12 08:35	11/09/12 19:15	5

Method: 6010B - Metals (ICP) - STLC Citrate

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	1.3		0.10		mg/L			11/21/12 21:27	20

Client Sample ID: CRA-1A
Date Collected: 10/31/12 09:26
Date Received: 11/02/12 09:45

Lab Sample ID: 440-28532-1
Matrix: Solid

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.14		0.020		mg/Kg		11/14/12 10:55	11/14/12 13:19	1

Method: 939-M - Organic Lead (GFAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Organo-Lead	ND	H	0.025		mg/Kg		11/17/12 20:09	11/19/12 20:27	1

Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 4255 MacArthur Blvd., Oakland, CA

TestAmerica Job ID: 440-28532-1

Client Sample ID: CRA-1A
Date Collected: 10/31/12 09:26
Date Received: 11/02/12 09:45

Lab Sample ID: 440-28532-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	5.01 g	10 mL	66333	11/13/12 14:31	BD	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		1	5.01 g	10 mL	66334	11/13/12 14:31	BD	TAL IRV
Total/NA	Prep	CA LUFT			30.00 g	1 mL	66468	11/13/12 12:18	HN	TAL IRV
Total/NA	Analysis	8015B		1			66503	11/14/12 01:40	RR	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	65585	11/09/12 08:35	DT	TAL IRV
Total/NA	Analysis	6010B		5			65821	11/09/12 19:15	DT	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	66589	11/14/12 10:55	MM	TAL IRV
Total/NA	Analysis	7471A		1			66820	11/14/12 13:19	DB	TAL IRV
Total/NA	Prep	939M			50 mL	100 mL	67712	11/17/12 20:09	CH	TAL IRV
Total/NA	Analysis	939-M		1			68096	11/19/12 20:27	DB	TAL IRV
STLC Citrate	Leach	CA WET Citrate			50.04 g	500 mL	67670	11/17/12 12:07	CH	TAL IRV
STLC Citrate	Analysis	6010B		20	1.0 mL	1.0 mL	68821	11/21/12 21:27	DT	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-66333/4
Matrix: Solid
Analysis Batch: 66333

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.0010		mg/Kg			11/13/12 09:02	1
Ethylbenzene	ND		0.0010		mg/Kg			11/13/12 09:02	1
Toluene	ND		0.0010		mg/Kg			11/13/12 09:02	1
Xylenes, Total	ND		0.0020		mg/Kg			11/13/12 09:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*11/13/12 09:02*	*1*
Dibromofluoromethane (Surr)	*109*		*80 - 125*		*11/13/12 09:02*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/13/12 09:02*	*1*

Lab Sample ID: LCS 440-66333/5
Matrix: Solid
Analysis Batch: 66333

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	0.0500	0.0533		mg/Kg		107	65 - 120
Ethylbenzene	0.0500	0.0564		mg/Kg		113	70 - 125
m,p-Xylene	0.100	0.115		mg/Kg		115	70 - 125
o-Xylene	0.0500	0.0590		mg/Kg		118	70 - 125
Toluene	0.0500	0.0562		mg/Kg		112	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
Dibromofluoromethane (Surr)	*110*		*80 - 125*
Toluene-d8 (Surr)	*107*		*80 - 120*

Lab Sample ID: 440-29146-A-16 MS
Matrix: Solid
Analysis Batch: 66333

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	ND		0.0495	0.0553		mg/Kg		112	65 - 130
Ethylbenzene	ND		0.0495	0.0590		mg/Kg		119	70 - 135
m,p-Xylene	ND		0.0990	0.121		mg/Kg		122	70 - 130
o-Xylene	ND		0.0495	0.0614		mg/Kg		124	65 - 130
Toluene	ND		0.0495	0.0593		mg/Kg		120	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Dibromofluoromethane (Surr)	*101*		*80 - 125*
Toluene-d8 (Surr)	*107*		*80 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-29146-A-16 MSD
Matrix: Solid
Analysis Batch: 66333

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Benzene	ND		0.0498	0.0574		mg/Kg		115	65 - 130	4	20
Ethylbenzene	ND		0.0498	0.0616		mg/Kg		124	70 - 135	4	25
m,p-Xylene	ND		0.0996	0.127		mg/Kg		128	70 - 130	5	25
o-Xylene	ND		0.0498	0.0646		mg/Kg		130	65 - 130	5	25
Toluene	ND		0.0498	0.0607		mg/Kg		122	70 - 130	2	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Dibromofluoromethane (Surr)	*103*		*80 - 125*
Toluene-d8 (Surr)	*105*		*80 - 120*

Method: 8260B/CA_LUFTMS - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 440-66334/4
Matrix: Solid
Analysis Batch: 66334

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		0.10		mg/Kg			11/13/12 09:02	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Dibromofluoromethane (Surr)	*109*		*80 - 125*		*11/13/12 09:02*	*1*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*		*11/13/12 09:02*	*1*
Toluene-d8 (Surr)	*106*		*80 - 120*		*11/13/12 09:02*	*1*

Lab Sample ID: LCS 440-66334/6
Matrix: Solid
Analysis Batch: 66334

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	1.00	1.04		mg/Kg		104	60 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*108*		*80 - 125*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Toluene-d8 (Surr)	*108*		*80 - 120*

Lab Sample ID: 440-29146-A-16 MS
Matrix: Solid
Analysis Batch: 66334

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Volatile Fuel Hydrocarbons (C4-C12)	ND		3.42	3.08		mg/Kg		90	55 - 140

Method: 8260B/CA_LUFTMS - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 440-29146-A-16 MS
Matrix: Solid
Analysis Batch: 66334

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*101*		*80 - 125*
4-Bromofluorobenzene (Surr)	*101*		*80 - 120*
Toluene-d8 (Surr)	*107*		*80 - 120*

Lab Sample ID: 440-29146-A-16 MSD
Matrix: Solid
Analysis Batch: 66334

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Volatile Fuel Hydrocarbons (C4-C12)	ND		3.44	3.29		mg/Kg		96	55 - 140	7	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Dibromofluoromethane (Surr)	*103*		*80 - 125*
4-Bromofluorobenzene (Surr)	*102*		*80 - 120*
Toluene-d8 (Surr)	*105*		*80 - 120*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 440-66468/1-A
Matrix: Solid
Analysis Batch: 66503

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66468

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
DRO (C10-C28)	ND		5.0		mg/Kg		11/13/12 12:18	11/13/12 16:49	1
ORO (C29-C40)	ND		5.0		mg/Kg		11/13/12 12:18	11/13/12 16:49	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*73*		*40 - 140*	*11/13/12 12:18*	*11/13/12 16:49*	*1*

Lab Sample ID: LCS 440-66468/2-A
Matrix: Solid
Analysis Batch: 66503

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66468

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
DRO (C10-C28)	33.3	22.2		mg/Kg		67	45 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*78*		*40 - 140*

Lab Sample ID: 440-28396-G-7-A MS
Matrix: Solid
Analysis Batch: 66503

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 66468

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
DRO (C10-C28)	ND		33.3	18.5		mg/Kg		55	40 - 120

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 440-28396-G-7-A MS
Matrix: Solid
Analysis Batch: 66503

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 66468

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane	*69*		*40 - 140*

Lab Sample ID: 440-28396-G-7-B MSD
Matrix: Solid
Analysis Batch: 66503

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 66468

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
DRO (C10-C28)	ND		33.3	17.9		mg/Kg		54	40 - 120	3	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane	*67*		*40 - 140*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-65585/1-A ^5
Matrix: Solid
Analysis Batch: 65821

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65585

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		9.9		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Arsenic	ND		2.0		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Barium	ND		0.99		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Beryllium	ND		0.50		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Cadmium	ND		0.50		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Chromium	ND		0.99		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Cobalt	ND		0.99		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Copper	ND		2.0		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Lead	ND		2.0		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Molybdenum	ND		2.0		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Nickel	ND		2.0		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Selenium	ND		2.0		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Thallium	ND		9.9		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Vanadium	ND		0.99		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Zinc	ND		5.0		mg/Kg		11/09/12 08:35	11/09/12 18:35	5
Silver	ND		0.99		mg/Kg		11/09/12 08:35	11/09/12 18:35	5

Lab Sample ID: LCS 440-65585/2-A ^5
Matrix: Solid
Analysis Batch: 65821

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65585

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	49.8	46.9		mg/Kg		94	80 - 120
Arsenic	49.8	46.4		mg/Kg		93	80 - 120
Barium	49.8	47.1		mg/Kg		95	80 - 120
Beryllium	49.8	46.5		mg/Kg		94	80 - 120
Cadmium	49.8	45.9		mg/Kg		92	80 - 120
Chromium	49.8	49.0		mg/Kg		98	80 - 120
Cobalt	49.8	47.5		mg/Kg		96	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-65585/2-A ^5
Matrix: Solid
Analysis Batch: 65821

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65585

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Copper	49.8	49.2		mg/Kg		99	80 - 120
Lead	49.8	47.3		mg/Kg		95	80 - 120
Molybdenum	49.8	44.4		mg/Kg		89	80 - 120
Nickel	49.8	47.7		mg/Kg		96	80 - 120
Selenium	49.8	43.1		mg/Kg		87	80 - 120
Thallium	49.8	46.3		mg/Kg		93	80 - 120
Vanadium	49.8	47.9		mg/Kg		96	80 - 120
Zinc	49.8	46.1		mg/Kg		93	80 - 120
Silver	24.9	23.5		mg/Kg		94	80 - 120

Lab Sample ID: 440-28671-A-5-B MS ^5
Matrix: Solid
Analysis Batch: 65821

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 65585

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		50.0	19.5	F	mg/Kg		39	75 - 125
Arsenic	2.2		50.0	50.0		mg/Kg		96	75 - 125
Barium	66		50.0	129		mg/Kg		124	75 - 125
Beryllium	ND		50.0	49.6		mg/Kg		98	75 - 125
Cadmium	ND		50.0	52.7		mg/Kg		105	75 - 125
Chromium	14		50.0	67.4		mg/Kg		107	75 - 125
Cobalt	3.7		50.0	55.7		mg/Kg		104	75 - 125
Copper	8.0		50.0	59.8		mg/Kg		104	75 - 125
Lead	2.1		50.0	49.0		mg/Kg		94	75 - 125
Molybdenum	2.4		50.0	43.8		mg/Kg		83	75 - 125
Nickel	8.9		50.0	61.6		mg/Kg		105	75 - 125
Selenium	2.0		50.0	44.7		mg/Kg		85	75 - 125
Thallium	ND		50.0	44.0		mg/Kg		88	75 - 125
Vanadium	17		50.0	71.7		mg/Kg		110	75 - 125
Zinc	35		50.0	92.9		mg/Kg		116	75 - 125
Silver	ND		25.0	23.3		mg/Kg		93	75 - 125

Lab Sample ID: 440-28671-A-5-C MSD ^5
Matrix: Solid
Analysis Batch: 65821

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 65585

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		49.8	19.2	F	mg/Kg		39	75 - 125	2	20
Arsenic	2.2		49.8	45.3		mg/Kg		87	75 - 125	10	20
Barium	66		49.8	112		mg/Kg		92	75 - 125	14	20
Beryllium	ND		49.8	44.4		mg/Kg		88	75 - 125	11	20
Cadmium	ND		49.8	45.9		mg/Kg		92	75 - 125	14	20
Chromium	14		49.8	61.6		mg/Kg		96	75 - 125	9	20
Cobalt	3.7		49.8	47.5		mg/Kg		88	75 - 125	16	20
Copper	8.0		49.8	53.1		mg/Kg		91	75 - 125	12	20
Lead	2.1		49.8	43.1		mg/Kg		82	75 - 125	13	20
Molybdenum	2.4		49.8	38.7	F	mg/Kg		73	75 - 125	12	20
Nickel	8.9		49.8	53.6		mg/Kg		90	75 - 125	14	20
Selenium	2.0		49.8	38.9	F	mg/Kg		74	75 - 125	14	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-28671-A-5-C MSD ^5
Matrix: Solid
Analysis Batch: 65821

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 65585

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Thallium	ND		49.8	38.7		mg/Kg		78	75 - 125	13	20
Vanadium	17		49.8	65.6		mg/Kg		99	75 - 125	9	20
Zinc	35		49.8	84.6		mg/Kg		100	75 - 125	9	20
Silver	ND		24.9	20.7		mg/Kg		83	75 - 125	12	20

Lab Sample ID: MB 440-67670/1-A ^20
Matrix: Solid
Analysis Batch: 68821

Client Sample ID: Method Blank
Prep Type: STLC Citrate

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.10		mg/L			11/21/12 21:22	20

Lab Sample ID: LCS 440-67670/2-A ^20
Matrix: Solid
Analysis Batch: 68821

Client Sample ID: Lab Control Sample
Prep Type: STLC Citrate

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	20.0	18.1		mg/L		90	80 - 120

Lab Sample ID: 440-28532-1 MS
Matrix: Solid
Analysis Batch: 68821

Client Sample ID: CRA-1A
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	1.3		20.0	19.4		mg/L		90	75 - 125

Lab Sample ID: 440-28532-1 MSD
Matrix: Solid
Analysis Batch: 68821

Client Sample ID: CRA-1A
Prep Type: STLC Citrate

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	1.3		20.0	19.3		mg/L		90	75 - 125	1	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 440-66589/1-A
Matrix: Solid
Analysis Batch: 66820

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66589

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		11/14/12 10:55	11/14/12 13:15	1

Lab Sample ID: LCS 440-66589/2-A
Matrix: Solid
Analysis Batch: 66820

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.800	0.843		mg/Kg		105	80 - 120

Method: 7471A - Mercury (CVAA) (Continued)

Lab Sample ID: 440-28532-1 MS
Matrix: Solid
Analysis Batch: 66820

Client Sample ID: CRA-1A
Prep Type: Total/NA
Prep Batch: 66589

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.14		0.816	0.978		mg/Kg		102	70 - 130

Lab Sample ID: 440-28532-1 MSD
Matrix: Solid
Analysis Batch: 66820

Client Sample ID: CRA-1A
Prep Type: Total/NA
Prep Batch: 66589

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.14		0.816	0.990		mg/Kg		104	70 - 130	1	20

Method: 939-M - Organic Lead (GFAA)

Lab Sample ID: MB 440-67712/1-B
Matrix: Solid
Analysis Batch: 68096

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 67712

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Organo-Lead	ND		0.025		mg/Kg		11/17/12 20:09	11/19/12 20:05	1

Lab Sample ID: LCS 440-67712/2-B
Matrix: Solid
Analysis Batch: 68096

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 67712

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Organo-Lead	0.100	0.107		mg/Kg		107	80 - 120

Lab Sample ID: 440-28532-1 MS
Matrix: Solid
Analysis Batch: 68096

Client Sample ID: CRA-1A
Prep Type: Total/NA
Prep Batch: 67712

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Organo-Lead	ND	H	0.100	0.0940		mg/Kg		79	80 - 120

Lab Sample ID: 440-28532-1 MSD
Matrix: Solid
Analysis Batch: 68096

Client Sample ID: CRA-1A
Prep Type: Total/NA
Prep Batch: 67712

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Organo-Lead	ND	H	0.100	0.0877		mg/Kg		72	80 - 120	7	20

QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 4255 MacArthur Blvd., Oakland, CA

TestAmerica Job ID: 440-28532-1

GC/MS VOA

Analysis Batch: 66333

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28532-1	CRA-1A	Total/NA	Solid	8260B	
440-29146-A-16 MS	Matrix Spike	Total/NA	Solid	8260B	
440-29146-A-16 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	
LCS 440-66333/5	Lab Control Sample	Total/NA	Solid	8260B	
MB 440-66333/4	Method Blank	Total/NA	Solid	8260B	

Analysis Batch: 66334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28532-1	CRA-1A	Total/NA	Solid	8260B/CA_LUFT MS	
440-29146-A-16 MS	Matrix Spike	Total/NA	Solid	8260B/CA_LUFT MS	
440-29146-A-16 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B/CA_LUFT MS	
LCS 440-66334/6	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT MS	
MB 440-66334/4	Method Blank	Total/NA	Solid	8260B/CA_LUFT MS	

GC Semi VOA

Prep Batch: 66468

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28396-G-7-A MS	Matrix Spike	Total/NA	Solid	CA LUFT	
440-28396-G-7-B MSD	Matrix Spike Duplicate	Total/NA	Solid	CA LUFT	
440-28532-1	CRA-1A	Total/NA	Solid	CA LUFT	
LCS 440-66468/2-A	Lab Control Sample	Total/NA	Solid	CA LUFT	
MB 440-66468/1-A	Method Blank	Total/NA	Solid	CA LUFT	

Analysis Batch: 66503

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28396-G-7-A MS	Matrix Spike	Total/NA	Solid	8015B	66468
440-28396-G-7-B MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	66468
440-28532-1	CRA-1A	Total/NA	Solid	8015B	66468
LCS 440-66468/2-A	Lab Control Sample	Total/NA	Solid	8015B	66468
MB 440-66468/1-A	Method Blank	Total/NA	Solid	8015B	66468

Metals

Prep Batch: 65585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28532-1	CRA-1A	Total/NA	Solid	3050B	
440-28671-A-5-B MS ^5	Matrix Spike	Total/NA	Solid	3050B	
440-28671-A-5-C MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	3050B	
LCS 440-65585/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
MB 440-65585/1-A ^5	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 65821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28532-1	CRA-1A	Total/NA	Solid	6010B	65585
440-28671-A-5-B MS ^5	Matrix Spike	Total/NA	Solid	6010B	65585

Metals (Continued)

Analysis Batch: 65821 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28671-A-5-C MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	6010B	65585
LCS 440-65585/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	65585
MB 440-65585/1-A ^5	Method Blank	Total/NA	Solid	6010B	65585

Prep Batch: 66589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28532-1	CRA-1A	Total/NA	Solid	7471A	
440-28532-1 MS	CRA-1A	Total/NA	Solid	7471A	
440-28532-1 MSD	CRA-1A	Total/NA	Solid	7471A	
LCS 440-66589/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 440-66589/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 66820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28532-1	CRA-1A	Total/NA	Solid	7471A	66589
440-28532-1 MS	CRA-1A	Total/NA	Solid	7471A	66589
440-28532-1 MSD	CRA-1A	Total/NA	Solid	7471A	66589
LCS 440-66589/2-A	Lab Control Sample	Total/NA	Solid	7471A	66589
MB 440-66589/1-A	Method Blank	Total/NA	Solid	7471A	66589

Leach Batch: 67670

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28532-1	CRA-1A	STLC Citrate	Solid	CA WET Citrate	
440-28532-1 MS	CRA-1A	STLC Citrate	Solid	CA WET Citrate	
440-28532-1 MSD	CRA-1A	STLC Citrate	Solid	CA WET Citrate	
LCS 440-67670/2-A ^20	Lab Control Sample	STLC Citrate	Solid	CA WET Citrate	
MB 440-67670/1-A ^20	Method Blank	STLC Citrate	Solid	CA WET Citrate	

Prep Batch: 67712

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28532-1	CRA-1A	Total/NA	Solid	939M	
440-28532-1 MS	CRA-1A	Total/NA	Solid	939M	
440-28532-1 MSD	CRA-1A	Total/NA	Solid	939M	
LCS 440-67712/2-B	Lab Control Sample	Total/NA	Solid	939M	
MB 440-67712/1-B	Method Blank	Total/NA	Solid	939M	

Analysis Batch: 68096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28532-1	CRA-1A	Total/NA	Solid	939-M	67712
440-28532-1 MS	CRA-1A	Total/NA	Solid	939-M	67712
440-28532-1 MSD	CRA-1A	Total/NA	Solid	939-M	67712
LCS 440-67712/2-B	Lab Control Sample	Total/NA	Solid	939-M	67712
MB 440-67712/1-B	Method Blank	Total/NA	Solid	939-M	67712

Analysis Batch: 68821

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-28532-1	CRA-1A	STLC Citrate	Solid	6010B	67670
440-28532-1 MS	CRA-1A	STLC Citrate	Solid	6010B	67670
440-28532-1 MSD	CRA-1A	STLC Citrate	Solid	6010B	67670
LCS 440-67670/2-A ^20	Lab Control Sample	STLC Citrate	Solid	6010B	67670
MB 440-67670/1-A ^20	Method Blank	STLC Citrate	Solid	6010B	67670

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
X	Surrogate is outside control limits

Metals

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
F	MS or MSD exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: Conestoga-Rovers & Associates, Inc.
Project/Site: 4255 MacArthur Blvd., Oakland, CA

TestAmerica Job ID: 440-28532-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-13
Arizona	State Program	9	AZ0671	10-13-13
California	LA Cty Sanitation Districts	9	10256	01-31-13
California	NELAC	9	1108CA	01-31-13
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12.002r	01-23-13
Hawaii	State Program	9	N/A	01-31-13
Nevada	State Program	9	CA015312007A	07-31-13
New Mexico	State Program	6	N/A	01-31-13
Northern Mariana Islands	State Program	9	MP0002	01-31-13
Oregon	NELAC	10	4005	09-12-13
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-13

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 240524

INCIDENT # (ENV SERVICES)

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 10/31/12

PAGE: 1 of 2

PO #

SAP #

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: 4425 MacArthur Boulevard, Oakland

State: CA

GLOBAL ID NO.: T0600101261

EDF DELIVERABLE TO (Name, Company, Office Location): Brenda Carter, CRA, Emeryville

PHONE NO.: 510-420-3343

E-MAIL: shelledf@craworld.com

CONSULTANT PROJECT NO.: 240524-95-12.04

SAMPLER NAME(S) (Print): Scott Lewis

LAB USE ONLY: 440-28532

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 :

Marked TAT except for those contingent tests needed for Aquatic Bioassay determination (5 day TAT or better may apply)

cc: Bbarlow@craworld.com, Deisman@craworld.com and Shell.Lab.Billing@craworld.com Call

composite sample IDs and field point names: CRA-A, CRA-B, etc

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

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE HCL	HNO3	H2SO4	NONE	OTHER	NO. OF CONT.	TPH - Purgeable (8260B)	TPH - Extractable (8015M)	BTEX (8260B)	5 Oxygenates (8260B)	MTBE (8260B)	TBA (8260B)	DIPE (8260B)	TAME (8260B)	ETBE (8260B)	1,2 DCA (8260B)	EDB (8260B)	Ethanol (8260B)	Methanol (8015M)	TPH - MO (8015M)	CAM17 Metals - Total (6010)	SVOCs (8270C)	VOCs (8260)	PCBs (8082)	Test for disposal (See Attached)	Container PID Readings or Laboratory Notes
440-28532	CRA-1A	10/31	0926	SO						1	X	X	X											X	X				X	Please call
																														composite sample
																														CRA-A
																														Per Contingency Sheet,
																														for Solids & Liquids;
																														run STLC and / or TCLP
																														as needed.
																														Solids ONLY;
																														run Fish Toxicity

TEMPERATURE ON RECEIPT C°: 1.8°C

0/5

Relinquished by: (Signature) Scott Lewis	Received by: (Signature) Sarah Maylon	Date: 11-1-12	Time: 9:55
Relinquished by: (Signature) Sarah Maylon 11-1-12 17:00	Received by: (Signature)	Date:	Time:
Relinquished by: (Signature)	Received by: (Signature)	Date: 11/2/12	Time: 0945

05/2/06 Revision

11/26/2012

Page 19 of 21

California Contingent Analyses - Metals

440-28532

Metal	Trigger level TTLC (mg/kg)	Requirement (based on CCR 66261.24) [Both Solids and Liquids]
Antimony	150	STLC required if TTLC ≥ 150 mg/kg
Arsenic	50/100	STLC required if TTLC ≥ 50 mg/kg; TCLP required if TTLC ≥ 100 mg/kg
Barium	1,000/2,000	STLC required if TTLC ≥ 1,000 mg/kg; TCLP required if TTLC ≥ 2,000 mg/kg
Beryllium	7.5	STLC required if TTLC ≥ 7.5 mg/kg
Cadmium	10/20	STLC required if TTLC ≥ 10 mg/kg; TCLP required if TTLC ≥ 20 mg/kg
Chromium	50/100	STLC required if TTLC ≥ 50 mg/kg; TCLP required if TTLC ≥ 100 mg/kg
Cobalt	800	STLC required if TTLC ≥ 800 mg/kg
Copper	250	STLC required if TTLC ≥ 250 mg/kg
Lead	**13/50/100**	Organic lead required if TTLC lead ≥ 13 mg/kg STLC required if TTLC ≥ 50 mg/kg; TCLP required if TTLC ≥ 100 mg/kg
Mercury	2/4	STLC required if TTLC ≥ 2 mg/kg; TCLP required if TTLC ≥ 4 mg/kg
Molybdenum	3,500	STLC required if TTLC ≥ 350 mg/kg
Nickel	200	STLC required if TTLC ≥ 200 mg/kg
Selenium	10/20	STLC required if TTLC ≥ 10 mg/kg; TCLP required if TTLC ≥ 20 mg/kg
Silver	50/100	STLC required if TTLC ≥ 50 mg/kg; TCLP required if TTLC ≥ 100 mg/kg
Thallium	70	STLC required if TTLC ≥ 70 mg/kg
Vanadium	240	STLC required if TTLC ≥ 240 mg/kg
Zinc	2,500	STLC required if TTLC ≥ 2,500 mg/kg

California Contingent Analyses - Organics

Organic Constituents	Trigger level TTLC (mg/kg)	Requirement (based on CCR 66261.24) [Both Solids and Liquids]
Pentachlorophenol	1.7	STLC required if TTLC ≥ 1.7
Trichloroethylene	10/204	STLC required if TTLC ≥ 10 mg/kg; TCLP required if TTLC ≥ 204 mg/kg

Organic Constituents	(mg/kg)	Requirements based on TSDF permits **[ONLY for Solids if they meet the below criteria]**
TPHd	20,000	Requires fish bioassay (Acute Aquatic 96 hr LC 50)
TPHg	5,900	Requires fish bioassay (Acute Aquatic 96 hr LC 50)
TPHmo	10,000	Requires fish bioassay (Acute Aquatic 96 hr LC 50)
TRPH (tot rec pet hc)	5,000	Requires fish bioassay (Acute Aquatic 96 hr LC 50)

Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 440-28532-1

Login Number: 28532
List Number: 1
Creator: Chavez, Elizabeth

List Source: TestAmerica Irvine

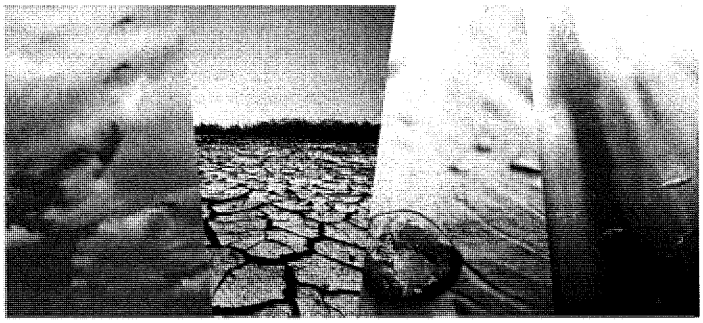
Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	Scott Lewis
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	

Calscience Environmental Laboratories, Inc.

CALSCIENCE

WORK ORDER NUMBER: 12-12-1496

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: Conestoga-Rovers & Associates

Client Project Name: 4255 Mac Arthur Blvd., Oakland, CA

Attention: Peter Schaefer
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Approved for release on 01/2/2013 by:
Xuan Dang
Project Manager

ResultLink ›

Email your PM ›

Calscience Environmental Laboratories, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

Calscience Environmental Laboratories, Inc.

Contents

Client Project Name: 4255 Mac Arthur Blvd., Oakland, CA
Work Order Number: 12-12-1496

Calscience Environmental Laboratories, Inc.

Case Narrative

Work Order # 12-12-1496

Modified EPA 8260 in Air

This method is used to determine the concentration of BTEX/Oxygenates/Naphthalene having a vapor pressure greater than 10^{-1} torr at 25°C at standard pressure in an air matrix. The method is similar to EPA TO-15 and uses air standards for calibration. Method specifics are listed in the table below. A known volume of sample is directed from the container (Summa® canister or Tedlar™ bag) through a solid multi-module (glass beads, tenex, cryofocuser) concentrator. Following concentration, the VOCs are thermally desorbed onto a gas chromatographic column for separation and then detected on a mass selective detector.

Comparison of CalscienceTO-15(Modified) versus EPA 8260 (Modified) in Air

Requirement	Calscience TO-15(M)	Calscience EPA 8260(M) in Air
BFB Acceptance Criteria	SW846 Protocol	SW846 Protocol
Initial Calibration	Allowable % RSD for each Target Analyte <= 30%, 10% of analytes allowed <=40%	Allowable % RSD for each Target Analyte <= 30%, 10% of analytes allowed <= 40%
Initial Calibration Verification (ICV) - Second Source Standard (LCS)	Analytes contained in the LCS standard evaluated against historical control limits for the LCS	BTEX and MTBE only - <= 30%D
Daily Calibration Verification (CCV)	**Full List Analysis:** Allowable % Difference for each CCC analyte is <= 30%	BTEX and MTBE only - <= 30%D
	Target List Analysis: Allowable % Difference for each target analytes is <= 30%	
Daily Calibration Verification (CCV) - Internal Standard Area Response	Allowable +/- 50% (Range: 50% to 150%)	Allowable +/- 50% (Range: 50% to 150%)
Method Blank, Laboratory Control Sample and Sample - Internal Standard Area Response	Allowable +/- 50% of the mean area response of most recent Calibration Verification (Range: 50% to 150%)	Allowable +/- 50% of the mean area response of the most recent Calibration Verification (Range: 50% to 150%)
Surrogates	1,4-Bromoflurobenzene, 1,2-Dichloroethane-d4 and Toluene-d8 - % Recoveries based upon historical control limits +/-3S	1,4-Bromoflurobenzene, 1,2-Dichloroethane-d4 and Toluene-d8 - % Recoveries based upon historical control limits +/-3S

Calscience Environmental Laboratories, Inc.

ACCREDITED IN ACCORDANCE WITH nelac

Client:	Conestoga-Rovers & Associates	Work Order:	12-12-1496
	5900 Hollis Street, Suite A	Project name:	4255 Mac Arthur Blvd., Oakland, CA
	Emeryville, CA 94608-2008	Received:	12/21/12 11:45
Attn:	Peter Schaefer		

DETECTIONS SUMMARY

Client Sample ID Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
SVP-2-3 (12-12-1496-1)						
Oxygen + Argon	**21.8**		0.500	%v	ASTM D-1946	N/A
Gasoline Range Organics (C6-C12)	**8000**		3800	ug/m3	EPA TO-3M	N/A

Subcontracted analyses, if any, are not included in this summary.

*MDL is shown.

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 12/21/12
Work Order No: 12-12-1496
Preparation: N/A
Method: ASTM D-1946
Units: %v

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-2-3	**12-12-1496-1-A**	**12/20/12 08:00**	**Air**	**GC 34**	**N/A**	**12/21/12 19:21**	**121221L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	21.8	0.500	1	
Carbon Dioxide	ND	0.500	1						

Method Blank	**099-03-002-1,710**	**N/A**	**Air**	**GC 34**	**N/A**	**12/21/12 14:34**	**121221L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	ND	0.500	1	
Carbon Dioxide	ND	0.500	1						

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Conestoga-Rovers & Associates		Date Received:	12/21/12
5900 Hollis Street, Suite A		Work Order No:	12-12-1496
Emeryville, CA 94608-2008		Preparation:	N/A
		Method:	ASTM D-1946 (M)

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-2-3	**12-12-1496-1-A**	**12/20/12 08:00**	**Air**	**GC 55**	**N/A**	**12/21/12 21:18**	**121221L01**

Parameter	Result	RL	DF	Qual	Units
Helium	ND	0.0250	1		%v

Method Blank	099-12-872-363	N/A	Air	GC 55	N/A	12/21/12 16:43	121221L01

Parameter	Result	RL	DF	Qual	Units
Helium	ND	0.0250	1		%v
Hydrogen	ND	0.0250	1		%v

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 12/21/12
Work Order No: 12-12-1496
Preparation: N/A
Method: EPA 8260B (M)
Units: ug/m3

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-2-3	**12-12-1496-1-A**	**12/20/12 08:00**	**Air**	**GC/MS YY**	**N/A**	**12/22/12 02:47**	**121221L01**

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)	ND	43	1	
Toluene	ND	19	1		Naphthalene	ND	52	1	
Ethylbenzene	ND	22	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	108	47-156			1,2-Dichloroethane-d4	100	47-156		
Toluene-d8	98	47-156							

Method Blank	099-13-041-1,145	N/A	Air	GC/MS YY	N/A	12/21/12 13:48	121221L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)	ND	43	1	
Toluene	ND	19	1		Naphthalene	ND	52	1	
Ethylbenzene	ND	22	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	103	47-156			1,2-Dichloroethane-d4	100	47-156		
Toluene-d8	103	47-156							

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

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

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

Date Received: 12/21/12
Work Order No: 12-12-1496
Preparation: N/A
Method: EPA TO-3M

Project: 4255 Mac Arthur Blvd., Oakland, CA

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-2-3	**12-12-1496-1-A**	**12/20/12 08:00**	**Air**	**GC 38**	**N/A**	**12/21/12 18:08**	**121221L01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	8000	3800	1		ug/m3

Method Blank	**099-14-431-88**	**N/A**	**Air**	**GC 38**	**N/A**	**12/21/12 14:29**	**121221L01**

Parameter	Result	RL	DF	Qual	Units
Gasoline Range Organics (C6-C12)	ND	3800	1		ug/m3

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

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Conestoga-Rovers & Associates	Date Received:	12/21/12
5900 Hollis Street, Suite A	Work Order No:	12-12-1496
Emeryville, CA 94608-2008	Preparation:	N/A
	Method:	EPA TO-3M

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
SVP-2-3	**Air**	**GC 38**	**N/A**	**12/21/12**	**121221D01**

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	7963	8331	5	0-20	

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:	12-12-1496
Emeryville, CA 94608-2008	Preparation:	N/A
	Method:	ASTM D-1946

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-03-002-1,710	**Air**	**GC 34**	**N/A**	**12/21/12**	**121221L01**

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Methane	10.12	9.705	96	9.209	91	80-120	5	0-30	
Carbon Dioxide	10.07	10.10	100	9.531	95	80-120	6	0-30	
Carbon Monoxide	9.930	10.87	109	10.29	104	80-120	6	0-30	
Oxygen + Argon	3.500	3.527	101	3.464	99	80-120	2	0-30	
Nitrogen	10.02	9.916	99	9.821	98	80-120	1	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
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Date Received: N/A
Work Order No: 12-12-1496
Preparation: N/A
Method: ASTM D-1946 (M)

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-872-363	**Air**	**GC 55**	**N/A**	**12/21/12**	**121221L01**

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Helium	1.000	0.9209	92	0.9232	92	80-120	0	0-30	
Hydrogen	1.000	0.9766	98	0.9784	98	80-120	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
5900 Hollis Street, Suite A
Emeryville, CA 94608-2008

Date Received: N/A
Work Order No: 12-12-1496
Preparation: N/A
Method: EPA 8260B (M)

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-13-041-1,145	**Air**	**GC/MS YY**	**N/A**	**12/21/12**	**121221L01**

Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	79.87	73.77	92	74.59	93	60-156	44-172	1	0-40	
Toluene	94.21	88.67	94	89.05	95	56-146	41-161	0	0-43	
Ethylbenzene	108.6	109.8	101	109.1	100	52-154	35-171	1	0-38	
Xylenes (total)	325.7	319.0	98	320.4	98	42-156	23-175	0	0-41	
Methyl-t-Butyl Ether (MTBE)	90.13	80.36	89	84.98	94	45-147	28-164	6	0-25	
Tert-Butyl Alcohol (TBA)	151.6	142.1	94	147.0	97	60-140	47-153	3	0-35	
Diisopropyl Ether (DIPE)	104.5	101.1	97	97.93	94	60-140	47-153	3	0-35	
Ethyl-t-Butyl Ether (ETBE)	104.5	95.45	91	98.47	94	60-140	47-153	3	0-35	
Tert-Amyl-Methyl Ether (TAME)	104.5	103.4	99	102.5	98	60-140	47-153	1	0-35	
Naphthalene	131.1	161.8	123	163.3	125	60-140	47-153	1	0-30	
Ethanol	188.4	193.4	103	195.9	104	47-137	32-152	1	0-35	
1,1-Difluoroethane	67.54	61.80	92	63.34	94	78-156	65-169	2	0-35	
Isopropanol	61.45	59.07	96	60.71	99	78-156	65-169	3	0-35	

Total number of LCS compounds : 13
Total number of ME compounds : 0
Total number of ME compounds allowed : 1
LCS ME CL validation result : Pass

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Conestoga-Rovers & Associates		Date Received:	N/A
5900 Hollis Street, Suite A		Work Order No:	12-12-1496
Emeryville, CA 94608-2008		Preparation:	N/A
		Method:	EPA TO-3M

Project: 4255 Mac Arthur Blvd., Oakland, CA

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-14-431-88	**Air**	**GC 38**	**12/21/12**	**12122102**	**121221L01**

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Gasoline Range Organics (C6-C12)	382400	381200	100	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

ACCREDITED IN ACCORDANCE WITH nelac

Work Order Number: 12-12-1496

Qualifier	Definition
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
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 or PES/PESD 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 without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
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.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
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. All QC results are reported on a wet weight basis.
MPN - Most Probable Number

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

PO #:

INCIDENT # (ENV SERVICES): 98995758

SAP #: 13570 1

☐ CHECK IF NO INCIDENT # APPLIES

DATE: 12/19/2012

PAGE: _____ of _____

SAMPLING COMPANY: Conestoga-Rovers & Associates

LOG CODE: CRAW

SITE ADDRESS: Street and City: 4255 Macarthur Blvd. Oakland, CA

State: CA

GLOBAL ID NO.: TO600101261

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

EDF DELIVERABLE TO (Name, Company, Office Location): Brenda Carter, CRA, Emeryville

PHONE NO.: 510-420-3343

E-MAIL: shelledf@craworld.com

CONSULTANT PROJECT NO.: 240524-95-12.02

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

TELEPHONE: 510-420-3319

FAX: 510-420-9170

E-MAIL: pschaefer@craworld.com

SAMPLER NAME(S) (Print): Belew Yifru

ARCHIVE ONLY: 12-12-1496

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:
TPHg : Report results in range C6-C12 only
Copy final report to Shell.Lab.Billing@craworld.com

Please report results in µg/m³ for 8260B and report results in % by volume for ASTM D 1946 (M).

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

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE: HCL	HNO3	H2SO4	NONE	Ice	OTHER	NO. OF CONT.	TPHg (C_6-C_{12}) TO-3 Modified	BTEX & Naphthalele (8260B)	Oxygen, Carbon Dioxide, & Methane Method ASTM D1946	Helium ASTM D1946 (M)	Container PID Readings or Laboratory Notes
1	SVP-2-3	12/20/12	8:00	AIR							1	X	X	X	X	Tedlar Bag

TEMPERATURE ON RECEIPT C°

Relinquished by: (Signature)	Received by: (Signature)	Date	Time
	SECURE LOCATION	12/20/12	9:00
	Tom O'Malley CER	12/20/12	1345
Tom O'Malley TO 650 12/20/12 1730		12/21/12	11:45

05/2/06 Revision

GSO
GOLDEN STATE OVERNIGHT

WebShip > > > > >

800-322-5555 www.gso.com

1H96

Ship From:
ALAN KEMP
CAL SCIENCE- CONCORD
5063 COMMERCIAL CIRCLE #H
CONCORD, CA 94520

Ship To:
SAMPLE RECEIVING
CEL
7440 LINCOLN WAY
GARDEN GROVE, CA 92841

COD:
$0.00

Reference:
ERI, CRA, PARSONS

Delivery Instructions:

Signature Type:
SIGNATURE REQUIRED

Tracking #: 520719214

NPS

ORC

A

GARDEN GROVE

D92841A

7673773

Print Date : 12/20/12 15:28 PM

Package 1 of 1

Send Label To Printer | ☑ Print All | Edit Shipment | Finish

LABEL INSTRUCTIONS:

Do not copy or reprint this label for additional shipments - each package must have a unique barcode.

STEP 1 - Use the "Send Label to Printer" button on this page to print the shipping label on a laser or inkjet printer.
STEP 2 - Fold this page in half.
STEP 3 - Securely attach this label to your package, do not cover the barcode.
STEP 4 - Request an on-call pickup for your package, if you do not have scheduled daily pickup service or Drop-off your package at the nearest GSO drop box. Locate nearest GSO dropbox locations using this link.

ADDITIONAL OPTIONS:

Send Label Via Email | Create Return Label

TERMS AND CONDITIONS:

By giving us your shipment to deliver, you agree to all the service terms and conditions described in this section.
Our liability for loss or damage to any package is limited to your actual damages or $100 whichever is less, unless you pay for and declare a higher authorized value. If you declare a higher value and pay the additional charge, our liability will be the lesser of your declared value or the actual value of your loss or damage. In any event, we will not be liable for any damage, whether direct, incidental, special or consequential, in excess of the declared value of a shipment whether or not we had knowledge that such damage might be incurred including but not limited to loss of income or profit. We will not be liable for your acts or omissions, including but not limited to improper or insufficient packaging, securing, marking or addressing. Also, we will not be liable if you or the recipient violates any of the terms of our agreement. We will not be liable for loss, damage or delay caused by events we cannot control, including but not limited to acts of God, perils of the air, weather conditions, act of public enemies, war, strikes, or civil commotion. The highest declared value for our GSO Priority Letter or GSO Priority Package is $500. For other shipments the highest declared value is $10,000 unless your package contains items of "extracrdinary value", in which case the highest declared value we allow is $500. Items of "extraordinary value" include, but or not limited to, artwork, jewelry, furs, precious metals, tickets, negotiable instruments and other items with intrinsic value.

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 12-12-1496

SAMPLE RECEIPT FORM

Box 1 of 1

CLIENT: CRA DATE: 12/21/12

TEMPERATURE: Thermometer ID: SC4 (Criteria: 0.0 °C – 6.0 °C, not frozen except sediment/tissue)

Temperature ____.____ °C - 0.3 °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 Initial: JS

CUSTODY SEALS INTACT:

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

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

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.			
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquished.			
Sampler's name indicated on COC	☑	☐	☐
Sample container label(s) consistent with COC	☑	☐	☐
Sample container(s) intact and good condition	☑	☐	☐
Proper containers and sufficient volume for analyses requested	☑	☐	☐
Analyses received within holding time	☑	☐	☐
pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours	☐	☐	☑
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 ☐1PB**na** ☐500PB ☐250PB ☑250PB**n** ☐125PB ☐125PB**znna** ☐100PJ ☐100PJ**na$_2$** ☐_____ ☐_____ ☐_____

Air: ☑Tedlar® ☐Canister **Other:** ☐_____ **Trip Blank Lot#:**_____ **Labeled/Checked by:** JS

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

Preservative: h: HCL n: HNO_3 **na$_2$**:$Na_2S_2O_3$ **na:** NaOH p: H_3PO_4 s: H_2SO_4 u: Ultra-pure **znna:** $ZnAc_2$+NaOH f: Filtered **Scanned by:** JS