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DATE: Ju	une 29, 2012	REFERENCE NO.:	240612
		PROJECT NAME:	1784 150th Avenue, San Leandro
To: Je	erry Wickham		DECEIVED
A	Alameda County Environn	nental Health	RECEIVED
_1	131 Harbor Bay Parkway,	Suite 250	3:49 pm, Jul 09, 2012
_A	Alameda, California 94502	-6577	Alameda County Environmental Health
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QUANTI		DESCRIPT	
QUANTIT 1		DESCRIPT gation Report and Work Plan	
1 As Requ	Subsurface Investi		n.
1 As Requ For You	Subsurface Investi	gation Report and Work Plan  For Review and Comment	
1 As Requ For You	Subsurface Investi	gation Report and Work Plan  For Review and Comment	n.
As Requested For Your COMMENT	Subsurface Investing Subsurfac	For Review and Comment  he content of this document,  Oil Products US (electronic content)	please contact Peter Schaefer at



Jerry Wickham Alameda County Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577 Denis L. Brown Shell Oil Products US

HSE – Environmental Services 20945 S. Wilmington Ave. Carson, CA 90810-1039 Tel (707) 865 0251 Fax (707) 865 2542 Email denis.1.brown@shell.com

Re:

Shell-branded Service Station

1784 150th Avenue San Leandro, California SAP Code 136019 Incident No. 98996068 ACEH Case No. RO0000367

#### 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 AND WORK PLAN

SHELL-BRANDED SERVICE STATION 1784 150TH AVENUE SAN LEANDRO, CALIFORNIA

SAP CODE

136019

INCIDENT NO.

98996068

AGENCY NO.

RO0000367

JULY 2, 2012 REF. NO. 240612 (28) This report is printed on recycled paper. Prepared by: Conestoga-Rovers & Associates

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CALSCIENCE ENVIRONMENTAL LABORATORIES, INC. -

ANALYTICAL REPORTS

#### **EXECUTIVE SUMMARY**

- Two shallow soil vapor probes (SVP-4A and SVP-5A) and one nested soil vapor probe (SVP-8) were installed.
- Soil vapor samples were collected from two of the new probes (SVP-4A at 2.3 fbg and SVP-8 at 2.3 fbg) and from two existing probes (SVP-4 and SVP-5). Soil vapor samples could not be collected from two of the new probes (SVP-5A and SVP-8 at 5 fbg) due to water in the sample tubing.
- All COC detections were below RWQCB ESLs for soil gas with commercial land use with the exception of 5,300,000 μg/m³ of TPHg in SVP-4A.
- Based on the TPHg detection in the sample collected from soil vapor probe SVP-4A,
   CRA recommends installing and sampling two near sub-slab soil vapor probes adjacent to the service station convenience store.

#### 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 further assess the potential for soil gas migration to indoor air. CRA followed the scope of work and procedures presented in our February 8, 2012 work plan, which was approved in Alameda County Environmental Health's (ACEH's) March 1, 2012 letter.

The site is an operating Shell-branded service station located at the southern corner of the 150th Avenue and Freedom Avenue intersection in San Leandro, California (Figure 1). The area surrounding the site is mixed commercial and residential. The site layout (Figure 2) includes a station building, two dispenser islands, and three fuel underground storage tanks (USTs). One waste oil UST was removed from the site in May 2006.

A summary of previous work performed at the site and additional background information is presented in CRA's February 8, 2012 work plan and is not repeated herein.

#### 2.0 <u>INVESTIGATION ACTIVITIES</u>

#### 2.1 PERMIT

CRA obtained a drilling permit from Alameda County Public Works Agency (ACPWA) and an encroachment permit from the City of San Leandro (Appendix A).

#### 2.2 FIELD DATES

May 14, 2012 (soil vapor probe installation) and May 30, 2012 (soil vapor probe sampling).

#### 2.3 <u>DRILLING COMPANY</u>

Vapor Tech Services.

#### 2.4 CRA PERSONNEL

Staff scientist Cristina Arganbright directed the probe installation working under the supervision of California Professional Geologist Peter Schaefer.

#### 2.5 DRILLING METHOD

Water-knife.

#### 2.6 NUMBER OF PROBES

CRA installed two shallow soil vapor probes (SVP-4A and SVP-5A) and one nested soil vapor probe (SVP-8). 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

CRA constructed the vapor probes 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.

#### 2.8 SCREENED INTERVALS

SVP-4A and SVP-5A: 2.3 feet below grade (fbg), SVP-8: 2.3 and 5 fbg.

#### 2.9 SOIL VAPOR SAMPLING PROCEDURE

Prior to sampling, CRA purged at least three tubing volumes of air from each vapor probe using a vacuum pump. 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) 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

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

#### 3.0 FINDINGS

#### 3.1 SOIL VAPOR

The soil vapor chemical analytical data are summarized in Table 1, and TPHg and BTEX analytical results are presented on Figure 2. The laboratory analytical report is presented in Appendix C.

#### 3.2 LEAK TESTING

CRA performed leak testing as described above, and as shown in the following table, up to 0.0559 percent by volume [%v]) helium was detected in the samples, which is less

than 10% of the concentration detected in the shroud, and the samples are considered valid.

Probe ID	Depth (fbg)	Helium concentration in sample (%v)	Helium detected in shroud (%v)	Maximum acceptable helium concentration in sample (%v)
SVP-4	5	0.0559	55	5.5
SVP-4A	2.3	0.0174	55	5.5
SVP-5	5	0.0400	64	6.4
SVP-8	2.3	0.0157	74	7.4

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

#### 4.0 CONCLUSIONS

All constituent of concern detections were below San Francisco Bay Regional Water Quality Control Board environmental screening levels<sup>1</sup> for commercial land use during the May 2012 sampling event with the exception of 5,300,000 micrograms per cubic meter of TPHg in soil vapor probe SVP-4A.

#### 5.0 <u>RECOMMENDATIONS</u>

Based on the TPHg detection in the sample collected from soil vapor probe SVP-4A, CRA recommends installing and sampling two near sub-slab soil vapor probes adjacent to the service station convenience store. A work plan for installing and sampling the probes is presented below.

#### 6.0 WORK PLAN

CRA proposes to install two near sub-slab soil vapor probes to assess soil vapor concentrations beneath the station building at the locations shown on Figure 2. Specific tasks are described below.

#### 6.1 PERMIT

ACPWA does not require a permit to install near sub-slab soil vapor probes.

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

#### 6.2 HEALTH AND SAFETY PLAN (HASP)

CRA will prepare a HASP to protect site workers. The plan will be kept on site during field activities and will be reviewed and signed by each site worker.

#### 6.3 UTILITY CLEARANCE

CRA will mark the proposed probe locations, and the locations will be cleared by Underground Service Alert and a private utility locating service prior to drilling.

#### 6.4 SOIL VAPOR PROBE INSTALLATION

CRA proposes to install two near sub-slab soil vapor probes (SVP-9 and SVP-10) into the concrete slab adjacent to the station building (Figure 2).

Assuming the absence of subsurface obstructions, a rotary hammer drill will be used to drill a "shallow" (approximately 1-inch deep) outer borehole (approximately 7/8-inch diameter) that partially penetrates the slab. Cuttings will be removed using a towel moistened with distilled water or a portable vacuum cleaner.

The rotary hammer drill will then be used to drill a smaller diameter inner borehole within the center of the outer borehole (approximately 3/8-inch diameter) through the slab material and approximately 3 inches into the sub-slab bedding material to create an open cavity. The outer borehole will be cleaned a second time with a moistened towel or a portable vacuum cleaner.

Stainless steel tubing will be cut to a length that allows the probe to float within the slab thickness to avoid obstruction of the probe with sub-slab bedding material. The tubing will be approximately 1/4-inch diameter. Where necessary, the compression fittings will be stainless steel (approximately 1/4-inch outside diameter and 1/8-inch National Pipe Thread) Swagelok® female thread connectors. The probes will be constructed prior to drilling to minimize exposure time, or venting, of the sub-slab bedding material through the open borehole.

Each sub-slab soil vapor probe will be placed in the borehole so that the top of the probe is flush with the top of the slab. The top of the probe will have a recessed stainless steel plug. A quick-drying, Portland cement slurry will be injected or pushed into the

annular space between the probe and the outer borehole. The cement will be allowed to dry for at least 24 hours prior to sampling.

CRA will perform this work under the supervision of a professional geologist or engineer.

#### 6.5 SOIL VAPOR PROBE SAMPLING

At least 2 weeks following probe installation, CRA will collect soil vapor samples from near sub-slab soil vapor probes SVP-9 and SVP-10 and from existing soil vapor probes SVP-4A, SVP-5A, and SVP-8 at 5 fbg. Sampling is affected by rain. CRA's standard procedure is to allow 2 days or more after a heavy rain event prior to collecting soil vapor samples.

CRA will sample the soil vapor probes using a vacuum pump and Tedlar® bags. Prior to sampling, CRA will purge at least three tubing volumes of air from the probes using a vacuum pump. Then CRA will attach a sealed "lung sampler" containing a 1-liter Tedlar® bag to the probe and attach the vacuum pump to the box. The vacuum pump will lower the pressure in the "lung sampler" and draw air from the probe into the Tedlar® bag. To avoid breakage, CRA will fill the bags no more than two-thirds full. Each sample will be labeled, entered onto a chain-of-custody, and placed into a protective box at room temperature for transport to a State of California-certified laboratory for analysis within 72 hours.

#### 6.6 <u>LEAK TESTING</u>

To check the system for leaks, CRA will cover the soil gas probe surface casing and sampling equipment with a containment unit (or shroud). Prior to soil gas probe purging, CRA will introduce helium into the containment unit to obtain a minimum 50% helium content level. CRA will confirm the helium content within the containment unit using a helium meter and will record the helium meter readings in our field notes. Helium will continue to be introduced to the containment unit during soil gas probe purging and sampling.

All samples will be analyzed in a laboratory for helium. In the event that the soil vapor samples contain a helium content of greater than 10% of the source concentration (i.e., 10% of the helium content measured within the containment unit), the soil gas sample will be considered invalid.

#### 6.7 <u>CHEMICAL ANALYSES</u>

Vapor samples will be analyzed for TPHg, BTEX, and MTBE by EPA Method 8260B; for oxygen and argon, carbon dioxide, and methane by ASTM D-1946; and for helium by ASTM D-1946 (M).

#### 6.8 REPORT PREPARATION

Following receipt of the analytical results from the laboratory, CRA will prepare a written report, which will include field procedures, tabulated analytical data, boring logs, and analytical laboratory reports.

#### 7.0 SCHEDULE

CRA will implement the soil vapor probe installations upon receiving ACEH's written approval of this work plan.

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

Peter Schaefer, CEG, CHG

ter Schaefer, CEG, CHG

PETER L SCHAEFER NO. 5612

Aubrey K. Cool, PG

**FIGURES** 

**Shell-branded Service Station** 

1784 150th Avenue San Leandro, California

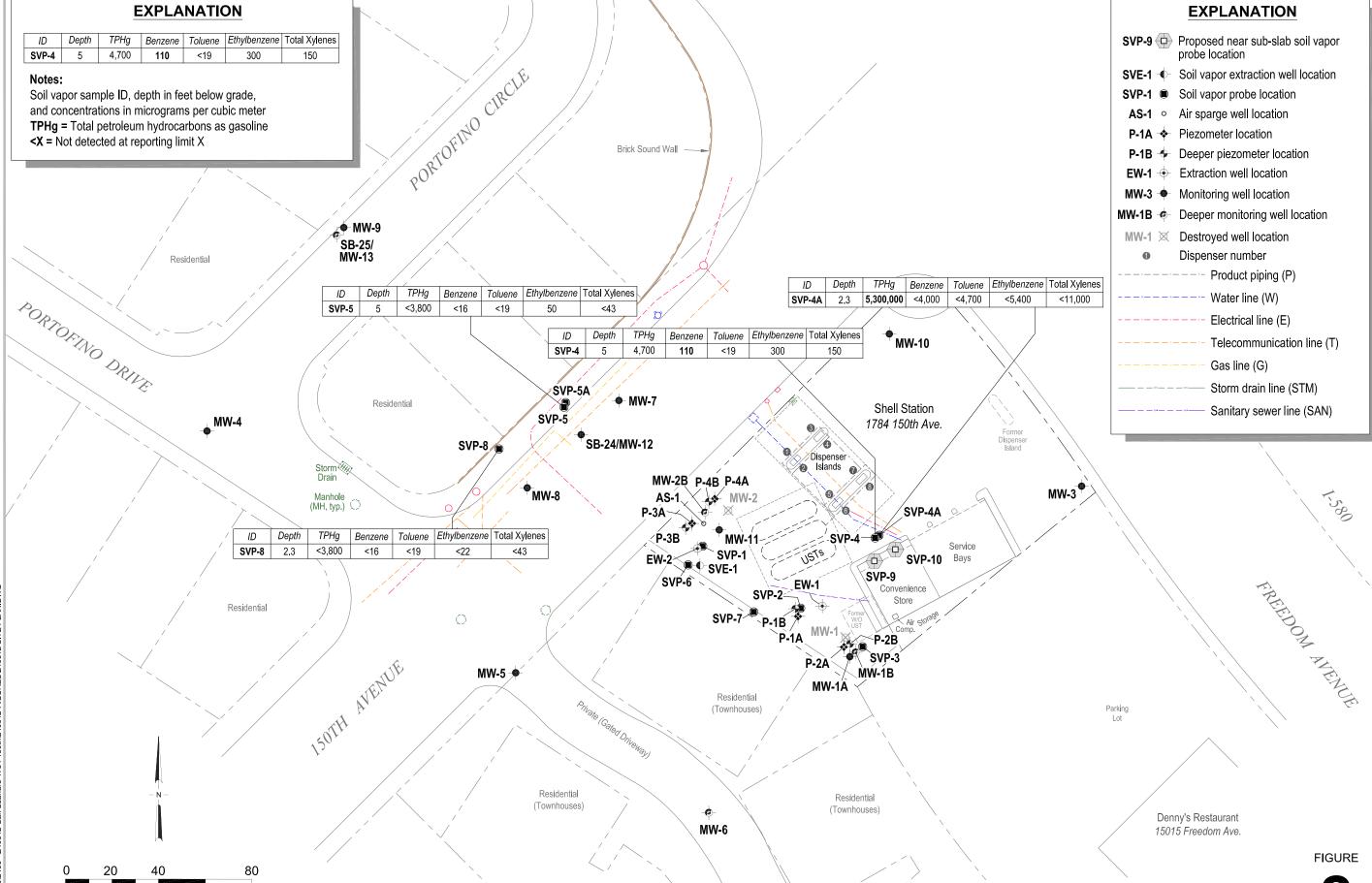


**Vicinity Map** 

Service Shell-branded 1784 150th Avenue

San Leandro, California





Scale (ft)

TABLE

HISTORICAL SOIL VAPOR ANALYTICAL DATA SHELL-BRANDED SERVICE STATION 1784 150TH AVENUE, SAN LEANDRO, CALIFORNIA

TABLE 1

Sample ID	Date	Depth (fbg)	TPHg (µg/m³)	В (µg/m³)	Τ (μg/m³)	Ε (μg/m³)	Χ (μg/m³)	MTBE (μg/m³)	Butane (µg/m³)	Isobutane (μg/m³)	Propane (µg/m³)	Methane (%v)	Carbon Dioxide (%v)	Oxygen + Argon (%v)	Helium (%v)
SVP-1	9/25/2007	5	12,000	<17	7,000	120	300	<19	67 a	ND	ND				
SVP-1	3/5/2008	5	<17,000	8.2	1,300	41	95	<10	ND	70.12 a	ND				
SVP-1 DUP <sup>c</sup>	3/5/2008	5	<18,000	7.9	400	32	65	<11	ND	62.99 a	ND				
SVP-1	5/20/2008	5	620	<3.9	<4.6	<5.2	<5.2	<4.4	ND	ND	ND				
SVP-1	9/17/2008	5	<270	<4.2	5. <b>7</b>	<5.7	<5.7	<4.8	ND	ND	ND				
SVP-1	1/17/2009	5	<9,800	<2.7	<3.2	<3.7	<15	<12	<20	<20	< <b>4</b> 6				
SVP-1	5/6/2011	5	<7,000	<16	<19	68	99	<36				<0.500	1.61	12.3	0.0191
SVP-2	9/25/2007	5	760	11	90	14	56	24	ND	ND	ND				
SVP-2	3/5/2008	5	<19,000	<2.7	<3.1	<3.6	<7.3	<12	ND	ND	ND				
SVP-2	5/20/2008	5	830	<6.4	<7.6	<8.8	<8.8	<7.3	ND	ND	ND				
SVP-2	9/17/2008	5	<240	<3.8	<4.5	<5.2	<5.2	<4.3	ND	ND	ND				
SVP-2 DUP <sup>c</sup>	9/17/2008	5	<230	<3.6	<4.3	< 5.0	<5.0	<4.1	ND	ND	ND				
SVP-2	1/17/2009	5	<9,400	<2.6	<3.1	<3.6	<14	<12	<19	25	<44				
SVP-2	5/6/2011	5	<7,000	<16	<19	160	220	<36				<0.500	6.73	12.7	<0.0100
SVP-3	9/25/2007	5	300	<4.4	<5.2	<6.0	<6.0	<5.0	ND	ND	ND				
SVP-3 DUP °	9/25/2007	5	<260	<4.1	<4.9	<5.6	< 5.6	<4.6	ND	ND	ND				
SVP-3	3/5/2008	5	<20,000	3.9	32	7.8	38	13	ND	ND	ND				
SVP-3	5/20/2008	5	380	<3.9	<4.6	<5.4	<5.4	<4.4	ND	ND	ND				
SVP-3	9/17/2008	5	<340	<5.4	<6.3	<7.3	<7.3	<6.1	ND	ND	ND				
SVP-3	1/17/2009	5	<9,200	<2.6	<3.0	<3.5	<14	<12	<19	60	<43				
SVP-3	5/6/2011	5	<7,000	<16	<19	49	59	<36	subsubsubh.			<0.500	2.40	19.7	<0.0100
SVP-4	9/25/2007	5	12,000	<3.9	13	6.3	31	<4.4	713 a	ND	ND				
SVP-4	5/30/2012	5	4,700	110 d	<19 d	300 d	150 d	<36 d				< 0.500	<0.500	22.1	0.0559
SVP-4A	5/30/2012	2.3	5,300,000	<4,000 <b>d</b>	<4,700 d	<5,400 d	<11,000 d	<9,000 d				0.708	6.50	2.77	0.0174
SVP-5	9/25/2007	5	70,000	<56	<66	<76	<76	<63	ND	ND	ND			námárnáh	
SVP-5	3/5/2008	5	<17,000	<2.3	2.7	<3.1	<6.3	<10	ND	22.11 a	ND				
SVP-5	9/17/2008	5	280,000	260	780	14,000	48,000	290	8,600 b	880 b	ND				
SVP-5 (200 ml/min flow)	1/17/2009	5	<9,100	<2.5	<3.0	<3.4	<14	36	<19	<19	<43				
SVP-5 (100 ml/min flow)	1/17/2009	5	<9,100	<2.5	<3.0	<3.4	<14	51	<19	<19	<43				

CRA 240612 (28)

TABLE 1

#### HISTORICAL SOIL VAPOR ANALYTICAL DATA SHELL-BRANDED SERVICE STATION 1784 150TH AVENUE, SAN LEANDRO, CALIFORNIA

Sample ID	Date	Depth (fbg)	TPHg (µg/m³)	В (µg/m³)	Τ (μg/m³)	Ε (μg/m³)	Χ (μg/m³)	MTBE (μg/m³)	Butane (µg/m³)	Isobutane (μg/m³)	Propane (µg/m³)	Methane (%v)		20	_	
SVP-5 DUP <sup>c</sup> (200 ml/min	1/17/2009	5	<9,000	<2.5	<3.0	<3.4	<14	59	<19	<19	<42					
SVP-5	10/1/2009	5		4.6	<19	17	<8.7								< 0.0100	
SVP-5	5/30/2012	5	<3,800	<16 d	<19 d	50 đ	<43 d	<36 d				<0.500	<0.500	22.1	0.0400	
SVP-6	11/2/2010	5	<7,000	<16	<19	<22	<43					<0.500	1.45	20.3	<0.0100	
SVP-6	5/6/2011	5	<7,000	<16	<19	140	200	<36				< 0.500	2.58	6.21	0.0259	
SVP-6	8/24/2011	5	<3,800	<16 d	<19 d	<22 d	<43 d	<36 d				<0.500	3.72	9.05	<0.0100	
SVP-7	11/2/2010	5	<7,000	<16	<19	<22	<43					<0.500	<0.500	21.1	<0.0100	
SVP-7	5/6/2011	5	<7,000	<16	<19	110	170	<36				< 0.500	0.656	21.2	< 0.0100	
SVP-7	8/24/2011	5	<3,800	<16 d	<19 d	<22 d	<43 d	<36 d				<0.500	<0.500	21.6	<0.0100	
SVP-8	5/30/2012	2.3	<3,800	<16 d	<19 d	<22 d	<43 d	<36 d				<0.500	1.49	16.9	0.0157	
Residential Land Use ESL <sup>e</sup> :			10,000	84	63,000	980	21,000	9,400	NA	NA	NA	NA	NA	NA	NA	
Commercial/Industrial Land U	lse ESL <sup>e</sup> :		29,000	280	180,000	3,300	58,000	31,000	NA	NA	NA	NA	NA	NA	NA	

#### Notes:

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

BTEX = Benzene, toluene, ethylbenzene and total xylenes analyzed by modified EPA Method TO-15 GC/FID Full Scan unless otherwise noted

MTBE = Methyl tertiary-butyl ether by modified EPA Method TO-15 GC/FID Full Scan unless otherwise noted

Butane, isobutane, and propane by modified EPA Method TO-15 GC/FID Full Scan

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

ND = Not detected; no reporting limit provided.

--- = Not analyzed

ESL = Environmental screening level

NA = No applicable ESL

Results in bold equal or exceed ESL.

#### TABLE 1

#### HISTORICAL SOIL VAPOR ANALYTICAL DATA SHELL-BRANDED SERVICE STATION 1784 150TH AVENUE, SAN LEANDRO, CALIFORNIA

Carbon Oxygen Butane Isobutane Propane Methane Dioxide + Argon Helium Sample ID **TPHg** X MTBE Date Depth  $(\mu g/m^3)$  $(\mu g/m^3)$  $(\mu g/m^3)$   $(\mu g/m^3)$   $(\mu g/m^3)$   $(\mu g/m^3)$   $(\mu g/m^3)$  $(\mu g/m^3)$  $(\mu g/m^3)$ (fbg) (%v) (%v) (%v) (%v)

a = Detected quantities estimated by laboratory

b = The identification is based on presumptive evidence; estimated value

c = Field duplicate

d = Analyzed by EPA 8260B (M)

e = San Francisco Bay Regional Water Quality Control Board ESLs for shallow soil gas (Table E of 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: 04/25/2012 By jamesy

Permit Numbers: W2012-0278

Permits Valid from 05/14/2012 to 05/15/2012

Application Id:

1334339933610

Site Location:

1784 150th Ave, San Leandro, CA

Shell Branded Service Station

**Project Start Date:** 

05/14/2012

Completion Date: 05/15/2012

City of Project Site: San Leandro

Assigned Inspector:

Contact Vicky Hamlin at (510) 670-5443 or vickyh@acpwa.org

Conestoga-Rovers and Associates - Cristina

Arganbright

Phone: 707-933-2377

**Property Owner:** 

Bansal Inc

19449 Riverside Drive, Sonoma, CA 95476

1784 150th Ave, San Leandro, CA 94577

Client:

Applicant:

Shell Oil Products US

Phone: --

Phone: --

20945 S Wilmington Ave, Carson, CA 90815 Contact: Cristina Arganbright

Phone: 707-933-2377

Cell: 707-758-1660

Total Due:

Total Amount Paid:

\$265.00

Receipt Number: WR2012-0119 Payer Name: Conestoga-Rovers and Paid By: CHECK

**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	Hole Diam.	Casing Diam.	Seal Depth	Max. Depth
W2012- 0278	04/25/2012	08/12/2012	SVP-4A	4.00 in.	0.75 in.	0.50 ft	2.50 ft
W2012- 0278	04/25/2012	08/12/2012	SVP-5A	4.00 in.	0.75 in.	0.50 ft	2.50 ft
W2012- 0278	04/25/2012	08/12/2012	SVP-8	4.00 in.	0.75 in.	0.50 ft	5.00 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.
- 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.

#### Alameda County Public Works Agency - Water Resources Well Permit

- 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.



#### City of San Leandro Engineering and Transportation Department 835 East 14th Street San Leandro, California 94577 (510) 577-3428



#### ENCROACHMENT PERMIT

Permit Type

Environmental

 $\mathbf{JL}$ 

Permit Number: ENC2012-00210 Job Address: 1700 1749 150th Av

Issued: 5/1/2012

Project Name: CONESTOGA-ROVERS & ASSO, INC.

Description of Work:

1784 150th Ave., Installing 2 Vapor monitoring wells in the sidewalk along 150th

Ave., 4" diameter (SVP-5A-2.5') (SVP-8.5')

Customer # 23759

Planned Start Date: May 14, 2012

Planned Completion Date: July 14, 2012

USA Tag No.

**Emergency Contact** 

Peter Scheafer

Contact Phone Number

510-385-0212

Applicant:

Owner:

CONESTOGA-ROVERS & ASSOCIATES

5900 HOLLIS STREET SUITE A

**EMERIVILLE CA 94706** 

CITY OF SAN LEANDRO

Contractor:

Agent:

CONESTOGA-ROVERS & ASSOCIATES 5900 HOLLIS ST., SUITE A

**EMERIVILL CA 94608** 

CRISTINA ARGANBRIGHT 19449 RIVERSIDE DR. SUITE 230 SONOMA CA 95476

**Associated Permits:** 

PERMIT FEE: PLAN CHECKER

Hrs

**Utility /Job Number** 

**Building Permit No.** 

Oro Loma Permit No.

Cal State Permit No. Ala County Permit No. W2012-0278

To CN#

Post Video

Grading Permit No.

23759

RESTORE/INSPECT DEPOSIT

STREET CUT FEE

To Acet #3304

TOTAL:

**Method of Repair** 

**Backfill Required** 

**Pavement Section Requir** 

All work shall be per City Standard Provisions. Pedestrian safety and access shall be maintained at all times.

Section 1 Section 2

Section 3

Consent Form

Pre Video

Min Depth of Cover

#### PLEASE CALL (510) 577-3308 FOR INSPECTIONS 24 HOURS PRIOR TO WORK

By the application and acceptance of this permit, the undersigned intending to be legally bound does hereby agree that all work performed will be in accordance with all applicable provisions of this permit and all regulations, provisions, and specifications as adopted by the City. Further, the undersigned agrees that this permit is to serve as a guaranty for payment for all permit and/or inspection charges as billed by the City. Any misrepresentation of information requested from the applicant on this form shall make this permit null and vold.

Signature:

(On File

Print Name: CRISTINA ARGANBRIGHT

Date: 5/1/2012 9:51:20AM

#### GENERAL PROVISIONS 1

- ENC2012-00210
- (a) All work must be performed in accordance with City of San Leandro Standard Plans, Specifications, and Title V Chapter 1 of the Municipal Code.
- (b) Twenty four hours notice required prior to start and/or requests for inspection. All work must be completed between the hours of 8:00AM to 4:00PM. No work is permitted on Saturday, Sunday, City holidays, or Furlough days. The City website has a schedule of holidays and furlough days: <a href="http://www.sanleandro.org/holidayschedule.html">http://www.sanleandro.org/holidayschedule.html</a>
- (c) Clty to be notified next working day (by permit application) of all emergency work performed.
- (d) Permittee shall be responsible for all liability imposed by law for personal injury or property damage proximately caused by failure on permittee's part to perform his obligations under said permit respect to maintenance. If any claim of such liability is made against the City of San Leandro or its officers or employees, permittee shall defend, indemnify and hold each of them harmless from such claim.
- (e) No utility contractor or subcontractor shall park their construction equipment, including personal vehicles, entirely or partially in the sidewalk area. Per Section 5610 of the Streets and Highways Code, the permittee shall be responsible for the repair of any damaged sidewalk where utility contractor's or subcontractor's vehicles or equipment are parked whether or not the damage was preexisting.
- (f) Cost of emergency work required to restore unsatisfactorily construction that becomes hazardous will be charged to permittee.
- (g) Permit void 90 days from issue date unless otherwise noted. Extension time may be granted when requested in writing.
- (h) Permit must be readily available at work site. Permit is not assignable.
- Section 6500 of the Labor Code requires permit from the State Division of Industrial Safety (CAL OSHA) prior to an excavation five feet or deeper.
- (j) Prior to digging or drilling, permittee shall request Undergrounding Service Alert (USA) markings, phone #800-227-2600.
- (k) Trenches are to be inspected prior to backfilling. Backfill compaction tests may be required.
- (I) All tunneling prohibited. Pipe must be bored or jacked or open trenched including under curb, gutter and/or sidewalk.
- (m) Forms for concrete work must be inspected prior to placing concrete.
- (n) All concrete, including concrete pavement (overlayed with A.C. or not), must be sawcut prior to breakout. Concrete sections to be replaced shall be no smaller than 30 inches in either length or width. All sawcuts must be along scorelines, 1.5" minimum depth (special conditions for concrete pavements). If a sawcut falls within 30 inches of a construction joint, expansion joint, or edge, the concrete shall be removed to the joint or edge. Forms for concrete work must be inspected prior to placing concrete.
- (o) Temporary paving is required in all street and sidewalk areas and is to be placed the same day work is performed. From through April 15 only A.C. paving is to be used. Temporary paving is to be maintained by applicant.
- (p) Permanent paying or sidewalk is to be replaced withi30 days. Permittee shall notify City before placing surfacing.
- (q) Permittee shall provide, erect, and/or maintain such lights, barriers, warning signs, patrols, watchmen and other safeguards as are necessary to protect the traveling public in accordance with the current State "Manual of Warning Signs, Lights, end Devices for Use in Performance of Work Upon Highways"
- (r) Before any work is begun that will interrupt the normal flow of public traffic, proposed lane closures or advanced warning light, sign, and barricade with flashing light details and layout plans shall be submitted to the City. If flagmen are required copies of certifications must be provided prior to issuance of a permit.
- (s) Open trench one lane at a time, with necessary traffic control, to keep traffic moving in both directions during working hours. If at the end of the work day backfilling operations have not been completed, steel bridging shall be required to make the entire traveled way available to the public traffic.
- (t) Pedestrian safety shall be maintained at all times.
- (u) Permittee shall contact City for final inspection and approval of completed work.

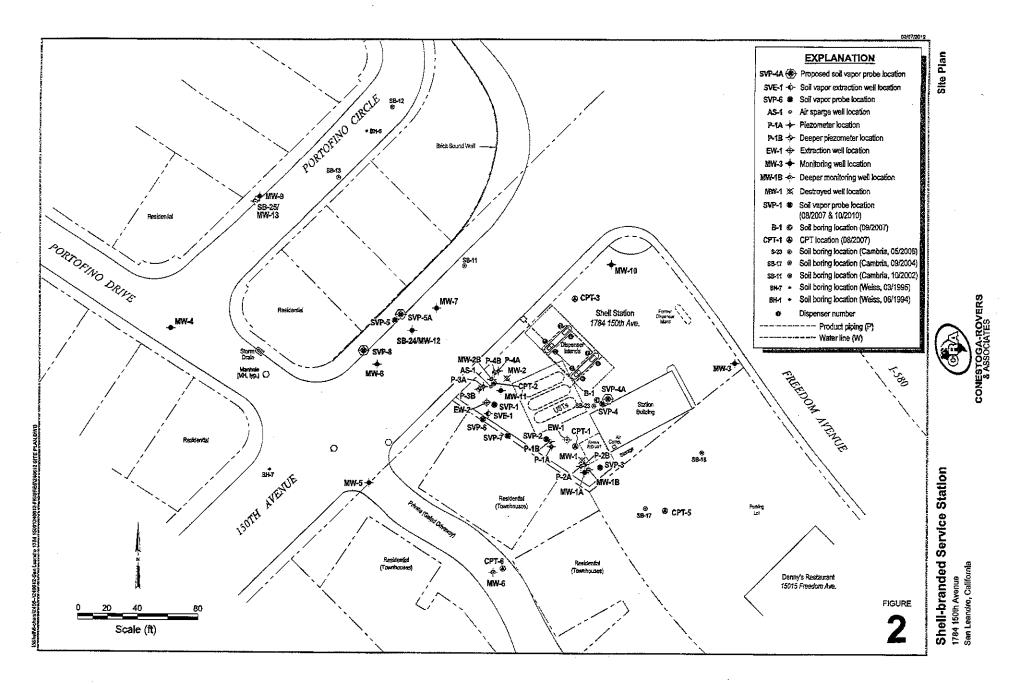
ART • Arterial

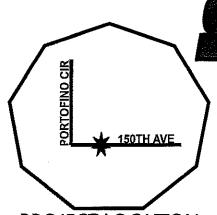
Col . Collector

Res - Residential

#### INSPECTION RECORD

Inspected Date	Comments	Inspector	Hours Charged	Date Charged
4/30/12	Review T.C.P	D.H.	0.5	
		Cubtotal		
		Subtotal		





PROJECT LOCATION

THIS PROJECT IS LOCATED ON ISOTH AVE NEAR PORTOFIND AVE IN SAN LEANDRO, CA. THIS PLAN WILL BE USED TO WORK IN THE SDEWALK AND STREET TO INSTALL TWO VAPOR PROBES. WORK HOURS WILL BE SAM TO 4PM MONDAY THRU FRIDAY. CONTRACTOR WILL COMPLY WITH THE CITY OF SAN LEANDRO STANDARD SPECIFICATIONS.

CONTRACTOR WILL COMPLY WITH THE STATE OF CALIFORNIA STANDARD SPECIFICATIONS GRITICLE 10, CONTRACT SPECIAL SPECIAL SPECIFICATIONS, TRAFFIC CONTROL PLAN SUPPLEMENT AND CALTRANS SPECIFICATIONS, M.U.T.C.D 2012 EDITION. THIS PLAN MAY BE MODIFIED BY THE ENGINEER AT ANY TIME TO ELIMINATE OR AVOID TRAFFIC CONDITIONS THAT ARE HAZARDOUS TO THE SAFETY OF THE PUBLIC.

CONTINUAL MONITORING AND MAINTENANCE OF THE TRAFFIC CONTROL ZONE, EMERGENCY ACCESS, ACCOMMODATION FOR PEDESTRIANS, BICYCLE TRAFFIC AND THE DISABLED, PROPER TRAINING OF FLAGGERS, PROPER DEVICES AND DEVICE USAGE AND APPROPRIATE NOTIFICATIONS SHALL BE USED ON THIS PROJECT.



# TRAFFIC SAFETY & SIGNS

CONTRACTOR: CRA CONTACT: CRISTINA ARGANBRIGHT 707-933-2377

# TRAFFIC CONTROL PLANS CRA

1784 150TH AVE 240612-95-12.05

#### NOTES:

- I SIGN SPACING, CONE SPACING AND TAPER LENGTHS REFER TO TABLE.
- 2. THE LOCATION OF THE SIGNS AS SHOWN ON THE PLANS ARE GUIDELINES AND ACTUAL LOCATIONS WILL DEPEND UPON ALIGNMENT, GRADE, LOCATION OF STREET INTERSECTIONS, POSTED SPEED LIMITS, AND 85TH % TILE.
- 3. ALL HIGH LEVEL WARNING DEVICES WILL BE EQUIPPED WITH FLAGS FOR DAY CLOSURES.
- 4. IF THE WORK AREA ENCROACHES UPON A SIDEWALK OR WALKWAY, "SIDEWALK CLOSED, USE OTHER SIDE" SIGNS
  WILL BE USED TO GUIDE PEDESTRIANS TO CROSS TO ANOTHER MARKER CROSSWALK, PEDESTRIANS MAY NOT BE GUIDED ONTO
  PRIVATE PROPERTY OR THE TRAVELED WAY.
- 5. TRAFFIC LANES SHALL BE A MINIMUM OF TEN FEET IN WIDTH MIN CLR.

6. WHENEVER FEASIBLE AN ADDITIONAL 5 FEET SHALL BE PROVIDED FOR A BICYCLE LANE IF IT IS NOT FEASIBLE TO PROVIDE A SEPARATE BICYCLE LANE, THE CONTRACTOR SHALL POST SIGNAGE BEFORE THE CONSTRUCTION AREA STATING: "SHARE the Road with Bicyclists". WHEN THE LANE IS SHARED, THE CONTRACTOR SHALL POST SIGNAGE FOR A MAXIMUM SPEED LIMIT OF 25 MPH IN THE SHARED LANE.

- 7. MONITOR AND MAINTAIN TRAFFIC CONTROL ZONE AT ALL TIMES.
- & MAINTAIN ACCESS FOR EMERGENCY VEHICLES.
- 9. ASSURE SAFE PASSAGE OF PEDESTRIANS & BICYCLISTS INCLUDING PERSONS WITH DISABILITIES IN ACCORDANCE WITH THE AMERICANS WITH DISABILITIES ACT OF 1990 (ADA), TITLE II, PARAGRAPH 35,130.
- 10. ALL DEVICES TO CONFORM TO CALTRAN'S STANDARDS.
- 11. DEVICE PLACEMENT TO CONFORM TO CALTRAN'S GUIDELINES.
- 12. FLAGGERS TO BE TRAINED PER TITLE 8 CCR.

NOTE: 1.CONTRACTOR WILL ASSIST ALL ADA, PED FOOT TRAFFIC AS NEEDED THROUGH WORK AREA. (MIN 5')

2 MAINTAIN ACCESS TO BUSINESS & RESIDENTS AT ALL TIMES.

3.NOTIFY AND COORDINATE WITH REGIONAL TRANSIT RELOCATION, CLOSURE OR MAINTAIN ACCESS TO BUS STOPS.

4.NO PARKING SIGNS WILL BE PLACED 24HRSBEFORE WORK BEGINS.

5.SIGNS SHALL BE 48X48".

THIS TRAFFIC CONTROL PLAN (TCP) IS PRODUCED IN ACCORDANCE WITH THE GUIDELINES OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), DATED SEPTEMBER 2010 AS PURSUANT TO SECTION 21400 OF THE STATE OF CALIFORNIA VEHICLE CODE AND IN ACCORDANCE WITH CHAPTER SA OF THE MULT.CD.—"SHALL PROVIDE SUFFICIENT FLEXIBILITY IN THE APPLICATION OF TIC TEMPORARY TRAFFIC CONTROL) TO MEET THE NEEDS OF CHANGING CONDITIONS IN THE TIC ZONE."

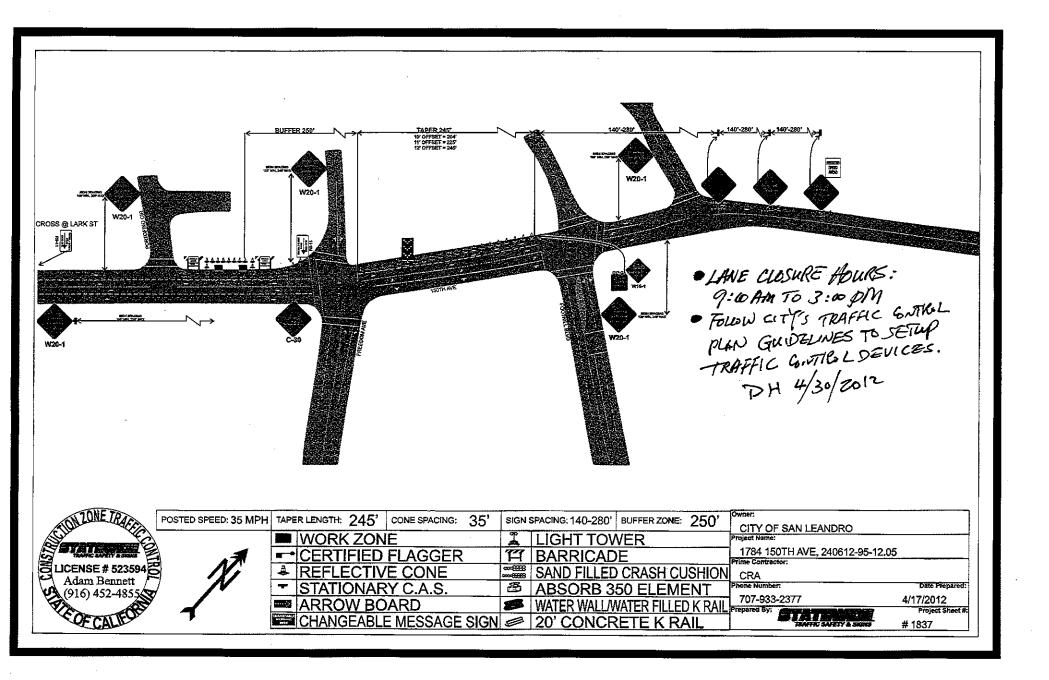
BOTH ARE BASED ON.

1.) 85TH % TILE OR IF NOT AVAILABLE, THEN USE
2.) POSTED SPEED LIMIT (PSL)

L = TAPER LENGTH
S = SPEED
W = WIDTH (OFFST FROM PATH OF TRAVEL

\*CONES SHOWN ON THIS PLAN ARE ILLUSTRATION PURPOSE ONLY, EXACT NUMBER OF COMES REQUIRED SHALL BE BASED ON CONE SPACING, TAPER LENGTHS, ACTUAL FIELD, ACTUAL FIELD CONDITIONS, ECT...

		<   ≤			1.	MINNIMUM TAPER LENGTH							}
POSTED	_≦			10' OFFSE			11' OFFSE	ī		12" OFFSE	Ĭ.	MAX	
SPEED	FORMUL	BUFFER	L MERGE	1/2 L SH)FT	¥ SHOULDE 1/3 L	L MERGE	1/2 L 5H/FT	1/3 L SHOULDE R	L MÉRGE	1/21 SHIFT	1/3 L SHOULDE R	CONE SPACING	SIGN SPACING
25		155'	104"	52'	351	115	57"	38"	125'	631	42'	251	100-200
30	i=	200'	150	75'	50'	155°	B3,	55'	180"	90"	60'	30"	120-240
35	(WS)(WS)	250"	204	102	68'	Z25°	112	75	245*	123'	82'	35	140-280
40	50	3051	267	123'	89'	293	347	98'	3201	150	107	40'	160-330
45		36¢*	450'	225†	150'	495	248*	165*	540'	270	180	48'	350-500'
50		425	50'	250	157	550'	275	183	600'	300	200"	50'	525'
55	L= (WS)	495'	550'	275'	<b>X</b>	605'	303,	505,	660'	330	220'	50 <sup>4</sup>	550"
- 50	22 [1.0]	570"	600'	300,	200'	660'	330'	220"	720'	350"	240°	50'	575
63		64S'	650".	325'	217'	715'	358*	780	780'	390"	260'	50'	500"
70		730"	700	3504	233'	770'	325'	840"	840'	420	280,	50'	550



### CITY OF SAN LEANDRO

835 EAST 14th STREET . SAN LEANDRO, CALIFORNIA 94577

RECEIPT NO. 90948

Taxpayer ID# 94-

94-6000421

RECEIVED CITY OF SAN LEANDRO

APR 3 0 2012

ENG / TRANS.  Date 4/30 20 /2
Received From Conestoga-Rovers & Associates Inc. 1730 00
Address 2055 Niagara Falls Blod Suite 3. Niagara Falls For 1784 150 th Ave ENCO12-00210 N. 9 14304
For 1784 150 Ave EN(2012-002/0 N.Y 14304
\$ 65.00 3306.
# 1665,00 C,N# 23759
1730 Check # 309590
Account No. 23759 Rv Janelo.
NOT VALID UNTIL RECEIPTED BY CASHIER

APPENDIX B

BORING LOGS

#### **Boring/Well Log Legend**

#### **KEY TO SYMBOLS/ABBREVIATIONS**

First encountered groundwater

Static groundwater

Soils logged by hand-auger or air-knife cuttings

Soils logged by drill cuttings or disturbed sample

Undisturbed soil sample interval

Soil sample retained for submittal to analytical laboratory

No recovery within interval

Hydropunch or vapor sample screen interval

PID =Photo-ionization detector or organic vapor meter reading in parts per million (ppm)

fbg = Feet below grade

Blow Counts = Number of blows required to drive a

California-modified split-spoon sampler using a 140-pound hammer falling freely 30 inches, recorded per 6-inch interval of a total 18-inch

sample interval

(10YR 4/4) =Soil color according to Munsell Soil Color Charts

msl = Mean sea level

Soils logged according to the USCS.

#### UNIFIED SOILS CLASSIFICATION SYSTEM (USCS) SUMMARY

	Major Divisions		Graphic	Group Symbol	Typical Description
		Clean Gravels		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
	Gravel and	(≤5% fines)		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
Coarse-Grained Soils (>50% Sands and/or Gravels)	Gravelly Soils	Gravels with Fines		GM	Silty gravels, gravel-sand-silt mixtures
		( ≥15% fines)		GC	Clayey gravels, gravel-sand-clay mixtures
		Clean Sands		SW	Well-graded sands, gravelly sands, little or no fines
	Sand and Sandy Soils	(≤5% fines)		SP	Poorly-graded sands, gravelly sand, little or no fines
		Sands with Fines		SM	Silty sands, sand-silt mixtures
		( ≥15% fines)		sc	Clayey sands, sand-clay mixtures
				ML	Inorganic silts, very fine sands, silty or clayey fine sands, clayey silts with slight plasticity
Fine-Grained	Silts ar	nd Clays		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
Soils (>50% Silts				OL	Organic silts and organic silty clays of low plasticity
and/or Clays)				МН	Inorganic silts, micaceous or diatomaceous fine sand or silty soils
	Silts a	nd Clays		СН	Inorganic clays of high plasticity
			ОН	Organic clays of medium to high plasticity, organic silts	
Hig	ghly Organic Soils	3	7	PT	Peat, humus, swamp soils with high organic contents





#### **BORING/WELL LOG**

PAGE 1 OF 1

Conestoga-Rovers and Associates 5900 Hollis Street, Suite A Emeryville, California, 94608 Telephone: (510) 420-0700 Fax: (510) 420-9170

CLIENT NAME _	Shell Oil Products US	BORING/WELL NAME SVP-4A
JOB/SITE NAME	Shell-branded Service Station	DRILLING STARTED 14-May-12
LOCATION _	1784 150th Avenue, San Leandro, California	DRILLING COMPLETED 14-May-12
PROJECT NUMBER _	240612	WELL DEVELOPMENT DATE (YIELD) NA
DRILLER	Vapor Tech Services	GROUND SURFACE ELEVATION 49.12 ft above msl
DRILLING METHOD _	Water-knife	TOP OF CASING ELEVATION NA
BORING DIAMETER _	3,5"	SCREENED INTERVAL 2,3 to 2.4 fbg
LOGGED BY	C. Arganbright	DEPTH TO WATER (First Encountered) NA $\nabla$
REVIEWED BY	P. Schaefer PG 5612	DEPTH TO WATER (Static) NA
REMARKS		

PID (ppm) SAMPLE ID CONTACT DEPTH (fbg) BLOW COUNTS GRAPHIC LOG U.S.C.S. DEPTH (fbg) EXTENT SOIL DESCRIPTION WELL DIAGRAM CONCRETE; 3.5" of pea gravel Bentonite Sturry with Pellet Base 1.0 0.7 Sandy SILT (ML); dark olive brown (2.5Y 3/3); moist; 70% silt, 20% fine sand, 10% fine gravel. ML 1/4" diam. Teflon Tubing @ 2'- SILT with Sand (ML) ; very dark gray (2.5Y 3/1); 10% clay, 75% sllt, 15% fine to coarse sand; low plasticity. ■ Monterey Sand #2/12 1" - Polyethylene Vapor Implant 2,1 2.5 Bottom of Boring @ 2.5 ft WELL LOG (PID) CADOCUMENTS AND SETTINGSICARGANBRIGHTDESKTOP/240612 GINT (1) GPJ DEFAULT GDT 6/29/12 5



LOCATION

DRILLER

#### Conestoga-Rovers and Associates 5900 Hollis Street, Suite A Emeryville, California, 94608

#### **BORING/WELL LOG**

44.43 ft above ms

PAGE 1 OF

Telephone: (510) 420-0700 Fax: (510) 420-9170 CLIENT NAME Shell Oil Products US BORING/WELL NAME SVP-5A JOBISITE NAME Shell-branded Service Station DRILLING STARTED \_\_\_14-May-12 1784 150th Avenue, San Leandro, California DRILLING COMPLETED \_\_\_14-May-12 PROJECT NUMBER 240612 WELL DEVELOPMENT DATE (YIELD) NA

**GROUND SURFACE ELEVATION** 

DRILLING METHOD Water-knife TOP OF CASING ELEVATION NA BORING DIAMETER \_\_\_ 3,5"

Vapor Tech Services

SCREENED INTERVAL 2.3 to 2.4 fbg LOGGED BY C. Arganbright DEPTH TO WATER (First Encountered) NA

REVIEWED BY P. Schaefer PG 5612 **DEPTH TO WATER (Static)** \_\_ NA

REMARKS GRAPHIC LOG CONTACT DEPTH (fbg) (bbm) BLOW EXTENT DEPTH (fbg) U.S.C.S. SAMPLE SOIL DESCRIPTION WELL DIAGRAM 믑 CONCRETE 0.4 Gravelly SILT with Sand (ML); strong brown (7.5YR 4/6); moist; 5% clay, 45% silt, 20% fine to coarse sand, 30% fine to coarse gravel; low plasticity. ■ Bentonite Slurry with Pellet Base ML 1/4" diam. Teflon Tubing @ 2' - SILT with Sand (ML) ; very dark gray (2.5Y 3/1 ) ; moist ; 20% clay, 65% silt, 15% fine to coarse sand; Monterey Sand #2/12 1" - Polyethylene Vapor Implant 0.4 2.5 medium plasticity. CADOCUMENTS AND SETTINGSICARGANBRIGHTNDESKTOPA240612 GINT (1), GPJ DEFAULT.GDT 6/29/12 Bottom of Boring @ 2.5 ft 5 10



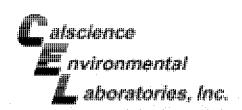
# Conestoga-Rovers and Associates 5900 Hollis Street, Suite A Emeryville, California, 94608 Telephone: (510) 420-0700 Fax: (510) 420-9170

#### **BORING/WELL LOG**

CLIENT NAME	Shell Oil Products US	BORING/WELL NAME SVP-8	
JOB/SITE NAME	Shell-branded Service Station	DRILLING STARTED 14-May-12	
LOCATION	1784 150th Avenue, San Leandro, California	DRILLING COMPLETED 14-May-12	
PROJECT NUMBER _	240612	WELL DEVELOPMENT DATE (YIELD) NA	
DRILLER	Vapor Tech Services	GROUND SURFACE ELEVATION 43.75 ft above msi	
DRILLING METHOD _	Water-knife	TOP OF CASING ELEVATION Not Surveyed	
BORING DIAMETER	3,5"	SCREENED INTERVAL 2.3 to 2.4 fbg; 4.8 to 4.9 fb	a
LOGGED BY	C. Arganbright	DEPTH TO WATER (First Encountered) NA	$\nabla$
REVIEWED BY	P. Schaefer PG 5612	DEPTH TO WATER (Static) NA	y
DEMARKS			

PID (ppm)	COUNTS	SAMPLE ID	EXTENT	(6g) H1430	U.S.C.S.	GRAPHIC LOG	SOIL DESCRIPTION	CONTACT DEPTH (fbg)	WELL DIAGRAM
0.4				5	ML		Gravelly SILT with Sand (ML); strong brown (7.5YR 4/6); moist; 50% slit, 20% fine to coarse sand, 30% fine gravel.  @ 2' -SILT with Gravel (ML); very dark gray (7.5YR 3/1); moist; 15% clay, 70% slit, 5% coarse sand, 10% fine gravel; low plasticity.  @ 4.9' - SILT (ML); 20% clay, 80% slit; medium plasticity.	0.4	Bentonite Sturry with Pellet Base  Monterey Sand #2/12 1" - Polyethylene Vapor Implant  Bentonite Sturry with Pellet Base  Monterey Sand #2/12 1" - Polyethylene Vapor Implant Bottom of Boring ② 5 ft

# APPENDIX C CALSCIENCE ENVIRONMENTAL LABORATORIES, INC. - ANALYTICAL REPORTS

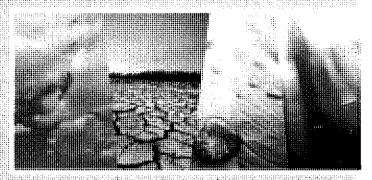




# CALSCIENCE

WORK ORDER NUMBER: 12-05-2040

The difference is service



PARTER ANALYSIS CARBOLIST P

Analytical Report For

Client: Conestoga-Rovers & Associates

Client Project Name: 1784 150th Ave., San Leandro, CA

Attention: Peter Schaefer

5900 Hollis Street, Suite A Emeryville, CA 94608-2008

Approved for release on 08/7/2012 the Xian Dang

Papel Mirae

Cabine use the movement of Laberatories, Irv.: Cabine use contribus that the test repuls personed as the personal in 1916. Congular months for parameters for which accombination is required or mediable. For manifolding to Market requirement are notify in the constraint. The engine injurities address reactives seg. Fany, is attained to this report. The treats in this typint are brothed sufficiently besid and any reproductive report respective made into enterty. The Dant in recipions of this based to specifically probabbed from making material changes to said agond and, to the second that such changes are made, Catacheres in had magamalah, lagady si adharwita. Dia chara sa nacipiani ngrain na indumenty Calindarca tar ang dafaran ta any kagadan artist i nay artist



# **Contents**

Client Project Name: 1784 150th Ave., San Leandro, CA

Work Order Number: 12-05-2040

1	Case Narrative(s)	3
2	Detections Summary	4
3	Client Sample Data	5 5 6 7 9
4	Quality Control Sample Data	10 10 11
5	Glossary of Terms and Qualifiers	15
6	Chain of Custody/Sample Receipt Form	16





### **Case Narrative**

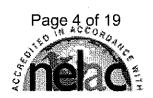
### Work Order # 12-05-2040 Modified EPA 8260 in Air

This method is used to determine the concentration of BTEX/Oxygenates/Naphthalene having a vapor pressure greater than 10<sup>-1</sup> 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

s 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:

Attn:

Conestoga-Rovers & Associates

5900 Hollis Street, Suite A

Emeryville, CA 94608-2008

Peter Schaefer

Work Order:

12-05-2040

Project name: 1784 150th Ave., San Leandro, CA

Received: 05/3

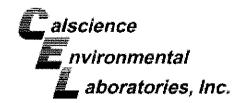
05/31/12 09:30

### **DETECTIONS SUMMARY**

Client Sample ID	D#	0 85	Reporting			
Analyte	Result	Qualifiers	Limit	Units	Method	Extraction
SVP-4 (12-05-2040-1)						
Oxygen + Argon	22.1		0.500	%v	ASTM D-1946	N/A
Helium	0.0559		0.0100	%v	ASTM D-1946 (M)	N/A
Benzene	110		16	ug/m3	EPA 8260B (M)	N/A
Ethylbenzene	300		22	ug/m3	EPA 8260B (M)	N/A
Xylenes (total)	150		43	ug/m3	EPA 8260B (M)	N/A
Gasoline Range Organics (C6-C12)	4700		3800	ug/m3	ЕРА ТО-3М	N/A
SVP-4A (12-05-2040-2)						
Methane	0.708		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	6.50		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	2.77		0.500	%v	ASTM D-1946	N/A
Helium	0.0174		0.0100	%v	ASTM D-1946 (M)	N/A
Gasoline Range Organics (C6-C12)	5300000		19000	ug/m3	EPA TO-3M	N/A
SVP-5 (12-05-2040-3)						
Oxygen + Argon	22.1		0.500	%v	ASTM D-1946	N/A
Helium	0.0400		0.0100	%v	ASTM D-1946 (M)	N/A
Ethylbenzene	50		22	ug/m3	EPA 8260B (M)	N/A
SVP-8-2' (12-05-2040-4)						
Carbon Dioxide	1.49		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	16.9		0.500	%v	ASTM D-1946	N/A
Helium	0.0157		0.0100	%v	ASTM D-1946 (M)	N/A

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

\*MDL is shown.





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

Date Received: Work Order No: Preparation: Method: Units: 05/31/12 12-05-2040 N/A

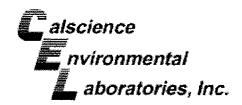
od:

ASTM D-1946 %v

Project: 1784 150th Ave., San Leandro, CA

Page 1 of 1

Client Sample Number				ab Sample Number	Date/Time Collected Mat	trix Instrument	Date Prepared	Date/1 Analy		QC Batch ID
SVP-4			12-05-	2040-1-A	05/30/12 A 08:46	ir GC 34	N/A	05/31 12:2		120531L01
Parameter Methane	<u>Result</u> ND	<u>RL</u> 0.500	<u>DF</u> 1	<u>Qual</u>	Parameter Oxygen + Argon		Result 22.1	<u>RL</u> 0.500	<u>DF</u> 1	<u>Qual</u>
Carbon Dioxide	ND	0.500	1		,,,					
SVP-4A			12-05-	2040-2-A	05/30/12 Ai 09:30	ir GC 34	N/A	05/31 12:		120531L01
Parameter	Result	RL	<u>D</u> F	<u>Qual</u>	Parameter		Result	RL	DF	Qual
Methane Carbon Dioxide	0.708 6.50	0.500 0.500	1 1		Oxygen + Argon		2.77	0.500	1	
SVP-5			12-05-	2040-3-A	05/30/12 A 11:37	ir GC 34	N/A	05/31 13:2		120531L01
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	Parameter		Result	RL	DF	Qual
Methane Carbon Dioxide	ND ND	0.500 0.500	1 1		Oxygen + Argon		22.1	0.500	1	
Autoparativitatura estantuscial del milionero como tras general a como de la cidade del							24 - 20 - 20 - 20 - 20 - 20 - 20 - 20 -			75
SVP-8-2'			12-05-	2040-4-A	05/30/12 A 12:08	ir GC 34	N/A	05/31 14:		120531L01
SVP-8-2'	Result	RL	<b>12-05-</b> DF	2040-4-A Qual	12:08	ir GC 34	N/A Result			120531L01 Qual
The state of the s	Result ND 1.49	RL 0.500 0.500				jr. GC 34		14:	04	
Parameter Methane	ND	0.500	DF 1 1		12:08  Parameter Oxygen + Argon		Result	14: RL	DF 1	





Conestoga-Rovers & Associates 5900 Hollis Street, Suite A

Date Received:

05/31/12

Work Order No:

12-05-2040

Emeryville, CA 94608-2008

Preparation:

N/A

Method:

ASTM D-1946 (M)

Project: 1784 150th Ave., San Leandro, CA

Page 1 of 1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-4		12-05-2040-1-A	05/30/12 08:46	Air	GC 55	N/A	05/31/12 11:17	120531L01
Parameter	<u>Result</u> 0.0559	<u>RL</u> 0.0100	<u>DF</u> 1	Qual	<u>Units</u> %v			
Helium	0.0009						05/31/12	
SVP-4A		12-05-2040-2-A	05/30/12 09:30	Air	GC 55	N/A	11:49	120531L01
<u>Parameter</u> Helium	<u>Result</u> 0.0174	<u>RL</u> 0.0100	<u>DF</u> 1	<u>Qual</u>	<u>Units</u> %v			
			varmi Cala averse e		70 00 40 00 00 00 00 00		05/31/12	
SVP-5		12-05-2040-3-A	05/30/12 11:37	Air	GC 55	NA	12:16	120531L01
<u>Parameter</u>	<u>Result</u> 0.0400	<u>RL</u> 0.0100	<u>DF</u> 1	Qual	<u>Units</u> %v			
Helium	0.0400			re occio a de primer su	876 221 231 0 001 001 001 001 001 001 001 001 001	o, control in the last	05/24/45	
SVP-8-2'		12-05-2040-4-A	05/30/12 12:0B	Air	GC 55	N/A	05/31/12 12:40	120531L01
Parameter	Result	RL	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Helium	0.0157	0.0100	1	t to a vertical or	%v	Nauro I North Chonada		
Method Blank		099-12-872-276	N/A	Air	GC 55	N/A	05/31/12 10:52	120531L01
<u>Parameter</u>	Result	RL	<u>DF</u>	Qual	<u>Units</u>			
Helium	ND	0.0100	1		%v			





Conestoga-Rovers & Associates 5900 Hollis Street, Suite A Emeryville, CA 94608-2008 Date Received: Work Order No: Preparation: Method: Units: 05/31/12 12-05-2040

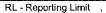
N/A

EPA 8260B (M) ug/m3

Project: 1784 150th Ave., San Leandro, CA

Page 1 of 2

Client Sample Number	<del> </del>			Sample lumber	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/1 Analy		QC Batch ID
SVP-4			12-05-2	040-1-A	05/30/12 08:46	Air	GC/MSK	N/A	06/01 04:2		120531L01
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Parameter</u>			Result	<u>RL</u>	<u>DF</u>	Qual
Benzene	110	16	1		Xylenes (total)			150	43	1	
Toluene	ND	19	1		Methyl-t-Butyl	Ether (MTI	3E)	ND	36	1	
Ethylbenzene	300	22	1								
Surrogates:	REC (%)	Control Limits	<u>Qual</u>		Surrogates:			REC (%)	Control Limits	<u>Q</u> ı	<u>ual</u>
1,4-Bromofluorobenzene	93	47-156			1,2-Dichloroeth	nan <del>e-</del> d4		86	47-156		
Toluene-d8	95	47-156									
SVP-4A			12-05-2	040-2-A	05/30/12 09:30	Air	GC/MSK	N/A	06/01 05:		120531L01
Comment(s): -Reporting limit is ele	evated due to h	nigh levels	of non-ta	rget hydro	carbons.						
<u>Parameter</u>	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Parameter</u>			<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>
Benzene	ND	4000	250		Xylenes (total)			ND	11000	250	
Toluene	ND	4700	250		Methyl-t-Butyl	Ether (MT	BE)	ND	9000	250	
Ethylbenzene	ND	5400	250								
Surrogates:	<u>REC (%)</u>	<u>Limits</u>	Qua	[	Surrogates:			<u>REC (%)</u>	<u>Limits</u>	Q	<u>ual</u>
1,4-Bromofluorobenzene	92	47-156			1,2-Dichloroeth	nane-d4		88	47-156		
Toluene-d8	74	47-156									
SVP-5			12-05-2	040-3-A	05/30/12 11:37	Air	GC/MS K	N/A	06/01 06:1		120531L01
Parameter Parame	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	Parameter			Result	RL	DF	<u>Qual</u>
Benzene	ND	16	1		Xylenes (total)			ND	43	1	
Toluene	ND	19	1		Methyl-t-Butyl	Ether (MT	BE)	ND	36	1	
Ethylbenzene	50	22	1								
Surrogates:	REC (%)	Control Limits	Qua	!	Surrogates:			RE <b>C</b> (%)	Control Limits	Q	ual
1,4-Bromofluorobenzene	95	47-156			1,2-Dichloroetl	nane-d4		88	47-156		
Toluene-d8	94	47-156									
SVP-8-2'			12-05-2	040-4-A	05/30/12 12:08	Air	GC/MS K	N/A	06/01 06:		120531L01
Parameter	Result	<u>RL</u>	<u>DF</u>	<u>Quai</u>	<u>Parameter</u>			Result	RL	DF	<u>Qual</u>
Benzene	ND	16	1		Xylenes (total)			ND	43	1	
Toluene	ND	19	1		Methyl-t-Butyl	Ether (MT	BE)	ND	36	1	
Ethylbenzene	ND	22	1								
Surrogates:	REC (%)	Control Limits	<u>Qua</u>	<u>l</u>	Surrogates:			REC (%)	Control Limits	Q	<u>ual</u>
1,4-Bromofluorobenzene	91	47-156			1,2-Dichloroetl	nane-d4		89	47-156		



DF - Dilution Factor ,

Qual - Qualifiers





Conestoga-Rovers & Associates

5900 Hollis Street, Suite A Emeryville, CA 94608-2008 Date Received:

Work Order No:

Preparation:

Method: Units: 05/31/12

03/3 1/12

12-05-2040 N/A

EPA 8260B (M)

ug/m3

Project: 1784 150th Ave., San Leandro, CA

Page 2 of 2

Client Sample Number		·		b Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/T Analy		QC Batch ID
Method Blank				-041-883	N/A	Air	GC/MS K	N/A	05/31 15:1		120531L01
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	Parameter			Result	RL	DF	Qual
Benzene	ND	16	1		Xylenes (total)			ND	43	1	
Toluene	ND	19	1		Methyl-t-Butyl I	Ether (MTB	E)	ND	36	1	
Ethylbenzene	ND	22	1								
Surrogates:	REC (%)	Control Limits	<u>Qu</u>	<u>al</u>	Surrogates:			REC (%)	Control Limits	<u>C</u>	<u>}ual</u>
1,4-Bromofluorobenzene	103	47-156			1,2-Dichloroeth	nane-d4		93	47-156		
Toluene-d8	98	47-156									





Conestoga-Rovers & Associates 5900 Hollis Street, Suite A Emeryville, CA 94608-2008 Date Received: Work Order No: Preparation: 05/31/12 12-05-2040 N/A

Method:

EPA TO-3M

Project: 1784 150th Ave., San Leandro, CA

Page 1 of 1

Client Sample Number		Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVP-4		12-05-2040-1-A	05/30/12 08:46	Air	GC 38	N/A	05/31/12 12:11	120531L02
Parameter Parameter	Result	<u>RL</u>	DF	Qual	<u>Units</u>			
Gasoline Range Organics (C6-C12)	4700	3800	1		ug/m3			
SVP-4A		12-05-2040-2-A	05/30/12 09:30	Air	GC 38	N/A	05/31/12 17:49	120531L02
Parameter	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Gasoline Range Organics (C6-C12)	5300000	19000	5		ug/m3			
SVP-5		12-05-2040-3-A	05/30/12 11:37	Air	GC 38	N/A	05/31/12 12:57	120531L02
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	DF	Qual	<u>Units</u>			
Gasoline Range Organics (C6-C12)	ND	3800	1		ug/m3			
SVP-8-2'		12-05-2040-4-A	05/30/12 12:08	Aìr	GC 38	N/A	05/31/12 17:08	120531L02
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>			
Gasoline Range Organics (C6-C12)	ND	3800	1		ug/m3			
Method Blank		099-14-431-53	N/A	Air	GC 38	N/A	05/31/12 10:49	120531L02
Parameter	Result	<u>RL</u>	<u>DF</u>	Qual	<u>Units</u>			
Gasoline Range Organics (C6-C12)	ND	3800	1		ug/m3			



### **Quality Control - Duplicate**



Conestoga-Rovers & Associates 5900 Hollis Street, Suite A Emeryville, CA 94608-2008 Date Received: Work Order No: Preparation: Method: 05/31/12 12-05-2040 N/A

EPA TO-3M

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
SVP-4A	Air	GC 38	N/A	05/31/12	120531D02
<u>Parameter</u>	Sample Conc	DUP Conc	<u>RPD</u>	RPD CL	Qualifiers
Gasoline Range Organics (C6-C12)	5328000	5786000	8	0-20	



### **Quality Control - LCS/LCS Duplicate**



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

Date Received: Work Order No: Preparation: Method: N/A 12-05-2040 N/A ASTM D-1946

Quality Control Sample ID	Matrix		Instrument		ate pared	Date Analyzed	l	LCS/LCSD Batch Number	
099-03-002-1,568	Air		GC 34	N	ľΑ	05/31/12		120531L01	
Parameter	SPIKE ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Methane	10.12	9.363	93	9.012	89	80-120	4	0-30	
Carbon Dioxide	10.07	10.52	104	10.08	100	80-120	4	0-30	
Carbon Monoxide	9.930	10.97	110	10.51	106	80-120	4	0-30	
Oxygen + Argon	3.500	3.573	102	3.550	101	80-120	1	0-30	
Nitrogen	10.02	10.01	100	10.02	100	80-120	0	0-30	



### **Quality Control - LCS/LCS Duplicate**



Conestoga-Rovers & Associates 5900 Hollis Street, Suite A Emeryville, CA 94608-2008 Date Received: Work Order No: Preparation: Method:

N/A 12-05-2040 N/A ASTM D-1946 (M)

Quality Control Sample ID	Matrix		Instrument	Pre	ate pared	Date Analyzed		CS/LCSD Bate Number	ch
099-12-872-276	Air	Athlebay	GC 55	adistration N	I/A	05/31/12		120531L01	
Parameter	<u>SPIKE</u> ADDED	LCS CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	<u>RPD</u>	RPD CL	Qualifiers
Helium	1.000	0.9664	97	0.9545	95	80-120	1	0-30	
Hydrogen	1.000	1.069	107	1.056	106	80-120	1	0-30	



### **Quality Control - LCS/LCS Duplicate**



Conestoga-Rovers & Associates 5900 Hollis Street, Suite A Emeryville, CA 94608-2008 Date Received: Work Order No: Preparation: Method:

N/A 12-05-2040 N/A EPA 8260B (M)

Project: 1784 150th Ave., San Leandro, CA

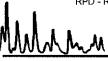
Quality Control Sample ID		Matrix Instrument		t	Date Prepared		ate llyzed	LCS/LCSD Batch Number		1
099-13-041-883	, i	Air	GC/MS K		N/A	05/31	1/12		120531L01	
Parameter	SPIKE ADDED	<u>LCS</u> CONC	LCS %REC	LCSD CONC	LCSD %REC	%REC CL	ME_CL	RPD	RPD CL	Qualifiers
Benzene	79.87	85.24	107	86.48	108	60-156	44-172	1	0-40	
Toluene	94.21	105.0	111	104.8	111	56-146	41-161	0	0-43	
Ethylbenzene	108.6	116.4	107	115.6	106	52-154	35-171	1	0-38	
Xylenes (total)	325.7	345.8	106	344.2	106	42-156	23-175	0	0-41	
Methyl-t-Butyl Ether (MTBE)	90.13	96.86	107	97.40	108	45-147	28-164	1	0-25	
Tert-Butyl Alcohol (TBA)	151.6	174.4	115	169.8	112	60-140	47-153	3	0-35	
Diisopropyl Ether (DIPE)	104.5	104,4	100	104.1	100	60-140	47-153	0	0-35	
Ethyl-t-Butyl Ether (ETBE)	104.5	111.6	107	112.8	108	60-140	47-153	1	0-35	
Tert-Amyl-Methyl Ether (TAME)	104.5	110.3	106	111.7	107	60-140	47-153	1	0-35	
Naphthalene	131.1	193.0	147	183.5	140	60-140	47-153	5	0-30	ME
Ethanol	188.4	226.2	120	218.7	116	47-137	32-152	3	0-35	
1,1-Difluoroethane	67.54	79.26	117	78.28	116	78-156	65-169	1	0-35	
Isopropanoi	61.45	69.01	112	66.95	109	78-156	65-169	3	0-35	

Total number of LCS compounds: 13

Total number of ME compounds: 1

Total number of ME compounds allowed:

LCS ME CL validation result: Pass







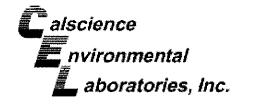
Conestoga-Rovers & Associates 5900 Hollis Street, Suite A Emeryville, CA 94608-2008 Date Received: Work Order No: Preparation:

Method:

12-05-2040 N/A EPA TO-3M

Quality Control Sample ID Matrix		Instrument	Date Analyzed	Lab File ID	LCS Bato	h Number
099-14-431-53	Air	GC 38	05/31/12	12053102	1205	31L02
<u>Parameter</u>	<u>Co</u>	nc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Gasoline Range Organics (C6-0	C12) 3	82400	422800	111	80-120	





### **Glossary of Terms and Qualifiers**



Work Order Number: 12-05-2040

Qualifier	<u>Definition</u>
*	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
7	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.
В	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
Е	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
ME	laboratory method detection limit. Reported value is estimated.
IVIC	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.
Χ	% 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

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Page 1 of 1

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<WebShip>>>>>

800-322-5555 www.gso.com

*Ship From:* ALAN KEMP

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:

CRA, CARDNO ERI, STANTEC

Delivery Instructions:

Signature Type: SIGNATURE REQUIRED Tracking #: 519225294

ORC

**GARDEN GROVE** 

D92841A



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Print Date: 05/30/12 16:23 PM

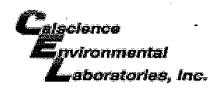
**NPS** 

Package 1 of 1



WORK ORDER #: 12-05- 2 2 4 0

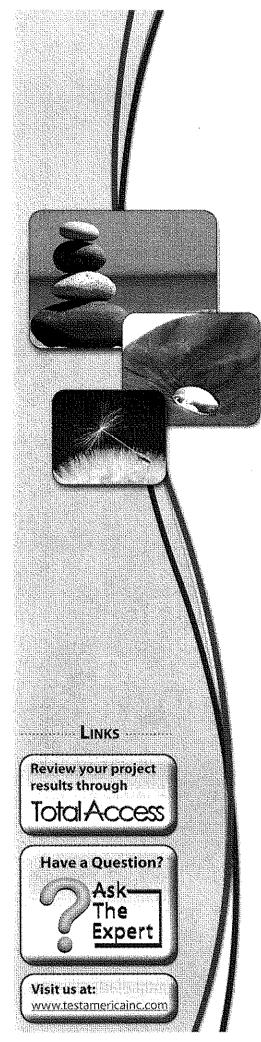
SAMPLE RECEIP	<b>T FORM</b>	Box ⊥ of ⊥
CLIENT: CRA	DATE:	05/31/12
TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0 °C – 6.0 °C, no  Temperature °C - 0.3 °C (CF) = °C  Sample(s) outside temperature criteria (PM/APM contacted by:  Sample(s) outside temperature criteria but received on ice/chilled on	□ Blank ). same day of sampl	☐ Sample ing.
☐ Received at ambient temperature, placed on ice for transport  Ambient Temperature: ☑ Air ☐ Filter	by Courier.	Initial: <u>VC</u>
CUSTODY SEALS INTACT:		_
☑ Box □ □ No (Not Intact) □ Not Pr □ Sample □ □ No (Not Intact) ☑ Not Pr		Initial: <u>VC</u> Initial: <u>VC</u>
SAMPLE CONDITION: Chain-Of-Custody (COC) document(s) received with samples  COC document(s) received complete		No N/A
☐ No analysis requested. ☐ Not relinquished. ☐ No date/time relinquish  Sampler's name indicated on COC	ned.	
Sample container label(s) consistent with COC		
Analyses received within holding time		
Proper preservation noted on COC or sample container		
Volatile analysis container(s) free of headspace  Tedlar bag(s) free of condensation	سـ	
CONTAINER TYPE:  Solid:   40zCGJ   80zCGJ   160zCGJ   Sleeve ()   E		
Water:       □VOA       □VOAh       □VOAna₂       □125AGB       □125AGBh       □125AGBh<	DCGBs □1PB	-
□250PB □250PBn □125PB □125PBznna □100PJ □100PJna  Air: □Tedlar® □Summa® Other: □ Trip Blank Lot#:  Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable  Preservative: h: HCL n: HNO₃ na₂:Na₂S₂O₃ na: NaOH p: H₃PO₄ s: H₂SO₄ u: Ultra-pure znna	Labeled/ Bag E: Envelope I	Reviewed by:



WORK ORDER #: 12-05- 2 0 4 0

# SAMPLE ANOMALY FORM

SAMPLES - CONTAI	NERS & L	ABELS:			Comme	ents:							
□ Sample(s) NOT RE □ Sample(s) received □ Holding time expir □ Insufficient quanti □ Improper containe □ Improper preserva □ No preservative no □ Sample labels illeg □ Sample label(s) do □ Sample ID □ Date and/or I □ Project Inform □ # of Containe	CEIVED but NOT I ed — list sarties for analytics used — tive used — ted on CO ible — note not match ime Collection	ut listed on C LISTED on C mple ID(s) an Ilysis – list te list test - list test C or label – test/contained	COC and test est list test & er type	·		ents:							
☐ Analysis ☐ Sample container(s) compromised – Note in comments													
□ Water present □ Broken □ Sample container( □ Air sample container( □ Very low in v □ Leaking (Not □ Leaking (tranucle) □ Other:	t in sample s) not labe ner(s) com plume transferred sferred int	(-5)	SVP~	8-5									
HEADSPACE - Cont	ainers wit	h Bubble >	6mm o	r ¼ inch:			•						
Sample # Container # of Vial		Container ID(s)	# of Vials Received	Sample #	Container ID(s)	# of Cont. received	Analysis						
Comments:													
*Transferred at Client's re	*Transferred at Client's request. Initial / Date: NC 05 /3 )/12												



# **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: 440-11883-1

Client Project/Site: 1784 150th Ave., San Leandro, CA

For:

Conestoga-Rovers & Associates, Inc. 5900 Hollis Street
Suite A
Emeryville, California 94608

Attn: Peter Schaefrer

Yhilp Samuel

Authorized for release by: 6/4/2012 2:49:54 PM

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

The test results in this report meet all 2003 NELAC and 2009 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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QC Sample Results	8
QC Association	15
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### **Sample Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA

TestAmerica Job ID: 440-11883-1

		· · · ·		
Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-11883-1	CRA-1A	Solid	05/14/12 13:00	05/16/12 09:50

### **Case Narrative**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA

TestAmerica Job ID: 440-11883-1

Job ID: 440-11883-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative 440-11883-1

### Comments

No additional comments.

### Receipt

The sample was received on 5/16/2012 9:50 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5° C.

### GC/MS VOA

No analytical or quality issues were noted.

### GC Semi VOA

Method(s) 8015B: Due to the level of dilution required for the following sample(s), the surrogate recoveries do not provide useful information:#5 S. Sidewall (440-11407-5).

No other analytical or quality issues were noted.

### Metals

Method(s) 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 27063 Cr and Sb were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

### Organic Prep

Method(s) CA LUFT: The following sample(s) was diluted due to the nature of the sample matrix: CRA-1A (440-11883-1). Elevated reporting limits (RLs) are provided.

No other analytical or quality issues were noted.

### VOA Prep

No analytical or quality issues were noted.

### **Client Sample Results**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA TestAmerica Job ID: 440-11883-1

Client Sample ID: CRA-1A

Date Collected: 05/14/12 13:00 Date Received: 05/16/12 09:50 Lab Sample ID: 440-11883-1

Matrix: Solid

Method: 8260B/CA_LUFTMS - V <sup>Analyte</sup>		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Volatile Fuel Hydrocarbons (C4-C12)	ND		0.099		mg/Kg			05/18/12 15:24	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
Dibromofluoromethane (Surr)	93		80 - 125					05/18/12 15:24	
4-Bromofluorobenzene (Surr)	91		80 - 120					05/18/12 15:24	
Toluene-d8 (Surr)	103		80 - 120					05/18/12 15:24	
Method: 8260B - Volatile Organi	•			4454		_			
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fa
Benzene	ND ND		0.00099		mg/Kg			05/18/12 15:24	
Ethylbenzene Toluene	ND ND		0.00099		mg/Kg			05/18/12 15:24	
Xylenes, Total	ND ND		0.00099 0.0020		mg/Kg mg/Kg			05/18/12 15:24 05/18/12 15:24	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
4-Bromofluorobenzene (Surr)	91		80 - 120					05/18/12 15:24	
Dibromofluoromethane (Surr)	93		80 - 125					05/18/12 15:24	
Toluene-d8 (Surr)	103		80 - 120					05/18/12 15:24	
Method: 8015B - Diesel Range C	Organics (DRO)	(GC)							
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
DRO (C10-C28)	ND		30		mg/Kg		05/22/12 11:14	05/23/12 03:41	
ORO (C29-C40)	ND		30		mg/Kg		05/22/12 11:14	05/23/12 03:41	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
n-Octacosane	77		40 - 140				05/22/12 11:14	05/23/12 03:41	
Method: 6010B - Metals (ICP) Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Antimony	ND	-	9.8		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Arsenic	ND	•	2.0		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Barium	53		0.98		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Beryllium	ND		0.49		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Cadmium	ND		0.49		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Chromium	130		0.98		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Cobalt	23		0.98		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Copper	48		2.0		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Lead	3.4		2.0		mg/Kg		05/18/12 09:04	05/22/12 16:10	
Molybdenum	ND		2.0		mg/Kg		05/18/12 09:04	05/22/12 15:48	•
Nickel	74		2.0		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Selenium	ND		2.0		mg/Kg		05/18/12 09:04	05/22/12 16:10	
Thallium	ND	•	9.8		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Vanadium	51		0.98		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Zinc	27		4.9		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Silver	1.2		0.98		mg/Kg		05/18/12 09:04	05/22/12 15:48	
Method: 6010B - Metals (ICP) - 1	TCLP								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Chromium	ND		0,10		mg/L		05/30/12 23:38	06/01/12 20:05	
Method: 6010B - Metals (ICP) - \$	STLC Citrate								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
			0.10						

### **Client Sample Results**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA TestAmerica Job ID: 440-11883-1

Client Sample ID: CRA-1A

Date Collected: 05/14/12 13:00 Date Received: 05/16/12 09:50

Lab Sample ID: 440-11883-1

Matrix: Solid

Method: 7471A - Mercury (CVAA) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Mercury 0.020 0.042 mg/Kg 05/23/12 14:26 05/23/12 20:13

### Lab Chronicle

TestAmerica Job 1D: 440-11883-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA

Client Sample ID: CRA-1A

Date Collected: 05/14/12 13:00 Date Received: 05/16/12 09:50 Lab Sample ID: 440-11883-1

Matrix: Solid

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	27016	05/18/12 15:24	RM	TAL IRV
Total/NA	Analysis	8260B/CA_LUFTMS		1	27017	05/18/12 15:24	RM	TAL IRV
Total/NA	Prep	CA LUFT			27840	05/22/12 11:14	TM	TAL IRV
Total/NA	Analysis	8015B		1	28040	05/23/12 03:41	ES	TAL IRV
Totał/NA	Prep	3050B			27063	05/18/12 09:04	DT	TAL IRV
Total/NA	Analysis	6010B		5	27959	05/22/12 16:10	TK	TAL IRV
Total/NA	Analysis	6010B		5	27989	05/22/12 15:48	VS	TAL IRV
Total/NA	Prep	7471A			28198	05/23/12 14:26	SN	TAL IRV
Total/NA	Analysis	7471A		1	28309	05/23/12 20:13	DB	TAL IRV
TCLP	Leach	1311			29339	05/29/12 20:06	СН	TAL IRV
TCLP	Prep	3010A			29669	05/30/12 23:38	СН	TAL IRV
TCLP	Analysis	6010B		1	30243	06/01/12 20:05	VS	TAL IRV
STLC Citrate	Leach	CA WET Citrate			29660	05/30/12 22:28	СН	TAL IRV
STLC Citrate	Analysis	6010B		20	30367	06/03/12 15:02	TK	TAL IRV

### Laboratory References:

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

Client: Conestoga-Rovers & Associates, Inc.

Project/Site: 1784 150th Ave., San Leandro, CA

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

Lab Sample ID: MB 440-27016/7

Matrix: Solid

Analysis Batch: 27016

Client Sample ID: Method Blank

Prep Type: Total/NA

МВ	MB							
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ND		0,0010		mg/Kg			05/18/12 10:26	1
ND		0.0010		mg/Kg			05/18/12 10:26	1
ND		0.0010		mg/Kg			05/18/12 10:26	1
ND		0.0020		mg/Kg			05/18/12 10:26	1
	Result ND ND ND	Result Qualifier ND ND ND	Result         Qualifier         RL           ND         0.0010           ND         0.0010           ND         0.0010	Result         Qualifier         RL         MDL           ND         0.0010           ND         0.0010           ND         0.0010	Result         Qualifier         RL         MDL         Unit           ND         0.0010         mg/Kg           ND         0.0010         mg/Kg           ND         0.0010         mg/Kg	Result         Qualifier         RL         MDL         Unit         D           ND         0.0010         mg/Kg           ND         0.0010         mg/Kg           ND         0.0010         mg/Kg	Result         Qualifier         RL         MDL         Unit         D         Prepared           ND         0.0010         mg/Kg           ND         0.0010         mg/Kg           ND         0.0010         mg/Kg	Result         Qualifier         RL         MDL         Unit         D         Prepared         Analyzed           ND         0.0010         mg/Kg         05/18/12 10:26           ND         0.0010         mg/Kg         05/18/12 10:26           ND         0.0010         mg/Kg         05/18/12 10:26

		MB	MB				
	Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
	4-Bromofluorobenzene (Surr)	94		80 - 120		05/18/12 10:26	1
ļ	Dibromofluoromethane (Surr)	. 87		80 - 125		05/18/12 10:26	1
An-Lind	Toluene-d8 (Surr)	102		80 - 120		05/18/12 10:26	1

Lab Sample ID: LCS 440-27016/8

Matrix: Solid

Analysis Batch: 27016

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

1		Spike	LUS	LUS				%Rec.	
	Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1	Benzene	0.0500	0.0492	-	mg/Kg		98	65 - 120	
	Ethylbenzene	0.0500	0.0498		mg/Kg		100	70 - 125	
	m,p-Xylene	0.100	0.110		mg/Kg		110	70 - 125	
	o-Xylene	0,0500	0.0563		mg/Kg		113	70 - 125	
	Toluene	0.0500	0.0529		mg/Kg		106	70 - 125	

80 ~ 120

LCS LCS %Recovery Qualifier Limits 80 - 120 96 87 80 - 125

104

Lab Sample ID: 440-11410-B-7 MS

Matrix: Solid

Toluene-d8 (Surr)

Surrogate

Analysis Batch: 27016

4-Bromofluorobenzene (Surr)

Dibromofluoromethane (Surr)

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

Client Sample ID: Matrix Spike Duplicate

	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Benzene	ND		0,229	0,224		mg/Kg		98	65 - 130	
Ethylbenzene	ND		0.229	0.218		mg/Kg		95	70 - 135	
m,p-Xylene	ND		0.459	0.485		mg/Kg		106	70 - 130	
o-Xylene	ND		0.229	0.252	•	mg/Kg		110	65 _ 130	
Toluene	ND		0.229	0.236		mg/Kg		103	70 - 130	

	Ma	MO	
Surrogate	%Recovery	Qualifier	Limits
4-Bromofluorobenzene (Surr)	94		80 - 120
Dibromofluoromethane (Surr)	91		80 125
Toluene-d8 (Surr)	102		80 - 120

Lab Sample ID: 440-11410-B-7 MSD

Matrix: Solid

Analysis Batch: 27016

Alialysis Datell. 21010											
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Benzene	ND		 0.245	0.247		mg/Kg		101	65 - 130	10	20
Ethylbenzene	ND		0.245	0.234		mg/Kg		95	70 - 135	7	25

TestAmerica Irvine 6/4/2012

Prep Type: Total/NA

TestAmerica Job ID: 440-11883-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA

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

Lab Sample ID: 440-11410-E Matrix: Solid	3-7 MSD					(	Client Sa	ample IC	: Matrix Sp Prep T	oike Dup ype: Tot	
Analysis Batch: 27016										,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPE
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limi
m,p-Xylene	ND		0.490	0.521		mg/Kg		106	70 - 130	7	2
o-Xylene	ND		0.245	0.271		mg/Kg		111	65 - 130	7	2
Toluene	ND		0.245	0.261		mg/Kg		107	70 - 130	10	20
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
4-Bromofluorobenzene (Surr)	92		80 - 120								
Dibromofluoromethane (Surr)	92		80 - 125					•			
Toluene-d8 (Surr)	102		80 <sub>-</sub> 120								

Lab Sample ID: MB 440-27017/7 Matrix: Solid							Client Sa	ample ID: Metho Prep Type: T	
Analysis Batch: 27017									
	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Volatile Fuel Hydrocarbons (C4-C12)	ND		0.10		mg/Kg			05/18/12 10:26	1
	мв	мв							
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	87		80 - 125			-		05/18/12 10:26	
4-Bromofluorobenzene (Surr)	94		80 - 120					05/18/12 10:26	1
Toluene-d8 (Surr)	102		80 - 120					05/18/12 10:26	1

Toluene-d8 (Surr)	102	80 - 120	05/18/12 10:26 1
Lab Sample ID: LCS 440-27017/9			Client Sample ID: Lab Control Sample
Matrix: Solid			Pren Tyne: Total/NA

Analysis Batch: 27017

	Spike	LUS	LUS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Volatile Fuel Hydrocarbons	1.00	1.09		mg/Kg	_	109	60 - 135	 
(C4-C12)								

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	87		80 - 125
4-Bromofluorobenzene (Surr)	96		80 - 120
Toluene-d8 (Surr)	106		80 - 120

<u> </u>	
Lab Sample ID: 440-11410-B-7 MS	Client Sample ID: Matrix Spike
Matrix: Solid	Prep Type: Total/NA
Analysis Batch: 27017	

	Sample	Samp <del>le</del>	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Volatile Fuel Hydrocarbons	ND		15.8	11.4		mg/Kg		72	55 - 140	
(C4-C12)										

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Dibromofluoromethane (Surr)	91		80 - 125
4-Bromofluorobenzene (Surr)	94		80 _ 120
Toluene-d8 (Surr)	102		80 - 120

Client Sample ID: Method Blank

Prep Type: Total/NA

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA

	The state of the s		
Method: 8260B/CA	LUFTMS - Volatile C	rganic Compounds by	/ GC/MS (Continued)

Lab Sample ID: 440-11410-E Matrix: Solid	J-7 1113D					OI.	ieiit 3	ilihie ir	Matrix Sp: (Matrix Sp Prep T	ype: To	
Analysis Batch: 27017										,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
•	Sample	Sample	Spike	MSD	MSD				%Rec.		RPE
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limi
Volatile Fuel Hydrocarbons	ND		16.9	12.8		mg/Kg		76	55 - 140	12	25
(C4-C12)											
	MSD	MSD									
Surrogate	%Recovery	Qualifier	Limits								
Dibromofluoromethane (Surr)	92		80 - 125								
4-Bromofluorobenzene (Surr)	92		80 - 120								
Toluene-d8 (Surr)	102		80 - 120								

Lab Sample ID: MB 440-27840/1-A

Matrix: Solid

Analysis Batch: 28040

Analyte

DRO (C10-C28)

Analysis Batch: 28040											Prep Batch	: 27840
	MB N											
		Qualifier	RL		MDL	Unit	· .	D		epared	Analyzed	Dil Fa
DRO (C10-C28)	ND		5.0			mg/Kg				2/12 11:14	05/22/12 23:48	
DRO (C29-C40)	ND		5.0			mg/Kg			05/22	2/12 11:14	05/22/12 23:48	
	MB N	ИВ										
Surrogate %Reco	very C	Qualifier	Limits						Pi	epared	Analyzed	Dil Fa
n-Octacosane	73		40 - 140						05/2	2/12 11:14	05/22/12 23:48	
Lab Sample ID: LCS 440-27840/2-A								CI	lient	Sample	ID: Lab Control	Sample
Matrix: Solid										-	Prep Type: 1	otal/N/
Analysis Batch: 28040											Prep Batch	: 2784
			Spike	LCS	LCS						%Rec.	
Analyte			Added	Result	Qua	lifier	Unit		D	%Rec	Limits	
DRO (C10-C28)			33,3	22.3			mg/Kg		_	67	45 _ 115	
LCS	LCS											
Surrogate %Recovery	Qualifi	ier	Limits									
n-Octacosane 69												
TO CLUGGOGGING			40 - 140									
			40 - 140							Client S	Sample ID: Matr	ix Spiki
Lab Sample ID: 440-11407-A-5-C MS			40 - 140							Client S	Sample ID: Matr Prep Type: 1	
Lab Sample ID: 440-11407-A-5-C MS Matrix: Solid			40 - 140							Client S	•	otal/N/
Lab Sample ID: 440-11407-A-5-C MS Matrix: Solid	Sample	le	40 - 140 Spike	мs	MS					Client S	Prep Type: 1	otal/N/
Lab Sample ID: 440-11407-A-5-C MS Matrix: Solid Analysis Batch: 28040 Sample	-			MS Result		lifier	Unit		D	Client S	Prep Type: 1 Prep Batcl	otal/N/
Lab Sample ID: 440-11407-A-5-C MS Matrix: Solid Analysis Batch: 28040 Sample Analyte Result	-		Spike		Qua	lifier	Unit mg/Kg		D		Prep Type: 1 Prep Batcl %Rec.	otal/N/
Lab Sample ID: 440-11407-A-5-C MS Matrix: Solid Analysis Batch: 28040 Sample Analyte Result	Qualifi		Spike Added	Result	Qua	lifier			D	%Rec	Prep Type: 1 Prep Batcl %Rec. Limits	otal/N/
Lab Sample ID: 440-11407-A-5-C MS Matrix: Solid Analysis Batch: 28040  Sample Analyte Result DRO (C10-C28) 420	Qualifi MS	ier	Spike Added	Result	Qua	lifier			D	%Rec	Prep Type: 1 Prep Batcl %Rec. Limits	otal/N/

Prep Batch: 27840

RPD

6

RPD

Limit

30

MSD MSD

280 E.4

Result Qualifier

Unit

mg/Kg

D

%Rec

-426

Limits

40 - 120

Spike

Added

33,3

Sample Sample

420

Result Qualifier

### QC Sample Results

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA TestAmerica Job ID: 440-11883-1

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

Lab Sample ID: 440-11407-A-5-D MSD

Matrix: Solid

Analysis Batch: 28040

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 27840

MSD MSD

Surrogate

%Recovery Qualifier Limits

n-Octacosane 40 - 140

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-27063/1-A ^5

Matrix: Solid

Analysis Batch: 27889

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 27063

	МВ	мв							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	· ND		9,9		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Arsenic	ND		2.0		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Barium	ND		0.99		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Beryllium	ND		0.49		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Cadmium	ND		0.49		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Chromium	ND		0.99		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Cobalt	ND		0.99		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Copper	ND		2.0		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Lead	ND		2.0		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Molybdenum	ND		2.0		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Nickel	ND		2.0		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Thallium	ND		9,9		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Vanadium	ND		0.99		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Zinc	ND		4.9		mg/Kg		05/18/12 09:04	05/22/12 11:00	5
Silver	ND		0.99		mg/Kg		05/18/12 09:04	05/22/12 11:00	5

Lab Sample ID: MB 440-27063/1-A ^5

Matrix: Solid

Analysis Batch: 27959

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 27063

MB MB Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Selenium ND 2.0 mg/Kg 05/18/12 09:04 05/22/12 16:05

Lab Sample ID: LCS 440-27063/2-A ^5

Matrix: Solid

Analysis Batch: 27889

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

Prep Batch: 27063

Spike	LCS	LCS				%Rec.
Added	Result	Qualifier	Unit	D	%Rec	Limits
49.3	52,4		mg/Kg		106	80 - 120
49.3	50.9		mg/Kg		103	80 _ 120
49.3	51.8		mg/Kg		105	80 - 120
49.3	49.9		mg/Kg		101	80 - 120
49.3	51.2		mg/Kg		104	80 - 120
49.3	52.0		mg/Kg		105	80 - 120
49.3	50.5		mg/Kg		102	80 _ 120
49,3	50.1		mg/Kg		102	80 - 120
49.3	51.5		mg/Kg		105	80 . 120
49.3	48.6		mg/Kg		99	80 - 120
49.3	50.8		mg/Kg		103	80 - 120
49.3	50.7		mg/Kg		103	80 - 120
49.3	50,9		mg/Kg		103	80 _ 120
	49.3 49.3 49.3 49.3 49.3 49.3 49.3 49.3	Added         Result           49.3         52.4           49.3         50.9           49.3         51.8           49.3         49.9           49.3         51.2           49.3         52.0           49.3         50.5           49.3         50.1           49.3         51.5           49.3         48.6           49.3         50.8           49.3         50.7	Added         Result         Qualifier           49.3         52.4           49.3         50.9           49.3         51.8           49.3         49.9           49.3         51.2           49.3         52.0           49.3         50.5           49.3         50.1           49.3         51.5           49.3         48.6           49.3         50.8           49.3         50.7	Added         Result         Qualifier         Unit           49.3         52.4         mg/Kg           49.3         50.9         mg/Kg           49.3         51.8         mg/Kg           49.3         49.9         mg/Kg           49.3         51.2         mg/Kg           49.3         52.0         mg/Kg           49.3         50.5         mg/Kg           49.3         50.1         mg/Kg           49.3         51.5         mg/Kg           49.3         48.6         mg/Kg           49.3         50.8         mg/Kg           49.3         50.8         mg/Kg           49.3         50.7         mg/Kg	Added         Result         Qualifier         Unit         D           49.3         52.4         mg/Kg           49.3         50.9         mg/Kg           49.3         51.8         mg/Kg           49.3         49.9         mg/Kg           49.3         51.2         mg/Kg           49.3         52.0         mg/Kg           49.3         50.5         mg/Kg           49.3         50.1         mg/Kg           49.3         51.5         mg/Kg           49.3         48.6         mg/Kg           49.3         50.8         mg/Kg           49.3         50.7         mg/Kg	Added         Result         Qualifier         Unit         D         %Rec           49.3         52.4         mg/Kg         106           49.3         50.9         mg/Kg         103           49.3         51.8         mg/Kg         105           49.3         49.9         mg/Kg         101           49.3         51.2         mg/Kg         104           49.3         52.0         mg/Kg         105           49.3         50.5         mg/Kg         102           49.3         50.1         mg/Kg         105           49.3         51.5         mg/Kg         105           49.3         48.6         mg/Kg         99           49.3         50.8         mg/Kg         103           49.3         50.8         mg/Kg         103           49.3         50.7         mg/Kg         103

Client Sample ID: CRA-1A

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA

Lab Sample ID: 440-11883-1 MS

Lab Sample ID: LCS 440-27063/2-A ^5 Matrix: Solid Analysis Batch: 27889	Spike	LCS	LCS		Client	Sample	e ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 27063 %Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Zinc	49,3	48.7		mg/Kg		99	80 - 120
Silver	24.6	25.1		mg/Kg		102	80 - 120
 Lab Sample ID: LCS 440-27063/2-A ^5					Client	Sample	ID: Lab Control Sample
Matrix: Solid							Prep Type: Total/NA
Analysis Batch: 27959							Prep Batch: 27063
	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
Selenium	49.3	45.4		mg/Kg		92	80 - 120

Matrix: Solid					•				Prep Type	: Total/NA
Analysis Batch: 27989									Prep Ba	tch: 27063
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Antimony	ND		49.3	22.5	F	mg/Kg		46	75 - 125	
Arsenic	ND		49,3	47.6		mg/Kg		97	75 - 125	
Barium	53		49.3	98.8		mg/Kg		93	75 <sub>-</sub> 125	
Beryllium	ND		49.3	47.0		mg/Kg		95	75 - 125	
Cadmium	ND		49.3	44.7		mg/Kg		90	75 - 125	
Chromium	130		49.3	193	F	mg/Kg		127	75 <sub>-</sub> 125	
Cobalt	23		49.3	65.3		mg/Kg		85	75 <sub>-</sub> 125	
Соррег	48		49.3	105		mg/Kg		116	75 - 125	
Molybdenum	ND		49.3	41.9		mg/Kg		85	75 - 125	
Nickel	74		49.3	121		mg/Kg		95	75 - 125	
Thallium	ND		49.3	48.2		mg/Kg		90	75 _ 125	
Vanadium	51		49.3	112		mg/Kg		123	75 - 125	
Zinc	27		49.3	72.6	•	mg/Kg		92	75 <sub>-</sub> 125	
Silver	1.2		24.6	24.7		mg/Kg		95	75 - 125	

Lab Sample ID: 440-11883-1 M: Matrix: Solid Analysis Batch: 27959	5							С	Prep 1	ole ID: CRA-1A Type: Total/NA o Batch: 27063
	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Lead	3.4		49.3	49.0		mg/Kg		93	75 - 125	
Selenium	ND		49.3	41.7		mg/Kg		85	75 - 125	

Lab Sample ID: 440-11883-1 I Matrix: Solid	MSD							С	lient Samp Prep T	le ID: CF ype: Tol	
Analysis Batch: 27989									Prep	Batch:	27063
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Antimony	ND		50,5	23,5	F	mg/Kg		47	75 - 125	4	20
Arsenic	ND		50.5	48.4		mg/Kg		96	75 - 125	2	20
Barium	53		50.5	97,7		mg/Kg		89	75 . 125	1	20
Beryllium	ND		50.5	48.5		mg/Kg		96	75 - 125	3	20
Cadmium	ND		50.5	45.6		mg/Kg		89	75 - 125	2	20
Chromium	130		50.5	199	F	mg/Kg		137	75 - 125	3	20
Cobalt	23		50.5	64.1		mg/Kg		81	75 - 125	2	20
Copper	48		50.5	104		mg/Kg		110	75 - 125	1	20

TestAmerica Job ID: 440-11883-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA

Analyte

Chromium

Lab Sample ID: 440-11883-1 N	<b>IS</b> D								Cli	ient Sampl		
Matrix: Solid										Prep Ty	-	
Analysis Batch: 27989		_								-	Batch:	
	Sample	•	Spike		MSD					%Rec.		RPD
Analyte		Qualifier	Added		Qualifier	Unit		D	%Rec	Limits	RPD	Limit
Molybdenum 	ND		50.5	43.0		mg/Kg			85	75 - 125	3	20
lickel	74		50.5	118		mg/Kg			89	75 - 125	2	20
hallium	ND		50.5	49.3		mg/Kg			90	75 - 125	2	20
/anadium	51		50.5	108		mg/Kg			113	75 - 125	3	20
linc	27		50.5	74.3		mg/Kg			93	75 - 125	2	20
Silver	1.2		25.3	25.4		mg/Kg			96	75 - 125	3	20
ab Sample ID: 440-11883-1 N	MSD								CI	ient Sampl	e ID: C	RA-1A
Matrix: Solid										Prep Ty		
Analysis Batch: 27959											Batch:	
•	Sample	Sample	Spike	MSD	MSD					%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit		D	%Rec	Limits	RPD	Limit
ead	3.4		50.5	52,4		mg/Kg			97	75 - 125	7	20
Selenium	ND		50.5	45.8		mg/Kg			91	75 - 125	10	20
ab Sample ID: MB 440-29339	14 D								Olio w4 C.	In ID: 1	لد ما 4 ما	Disale
.ab Sample เม: พเฮ 440-2553: Matrix: Solid	)/  -D								Chent S	ample ID: I	иенюа э Туре:	
Analysis Batch: 30243		мв мв								Prep	Batch:	29003
nalyte	ь	esult Qualifier		RL	MDL Unit		D	<b>D</b>	roparod	Analyz	ad.	Dil Esc
Chromium		ND Qualifier		0.10	mg/L				repared 0/12 23:38	06/01/12 1		Dil Fac
ab Sample ID: LCS 440-2933	9/2-B						Cli	ent	Sample	ID: Lab Co		7
Matrix: Solid											Type:	
Analysis Batch: 30243			0-11							-	Batch:	29669
			Spike		LCS			_	0/ 5	%Rec.		
Analyte Chromium			Added 2,00	1.99	Qualifier	Unit		D —	%Rec	80 - 120		
·			2.00	1.99		mg/L			100	80 120		
ab Sample ID: 440-11883-1 N	<b>AS</b>								CI	ient Sampl	e ID: C	RA-1A
//atrix: Solid										Pre	Type:	TCLP
Analysis Batch: 30243											Batch:	
	Sample	Sample	Spike	MS	MS					%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit		D	%Rec	Limits		
Chromium	ND		2.00	2.02		mg/L		_	101	75 - 125		
ab Sample ID: MB 440-29660	)/1-A ^20								Client S:	ample ID: I	Method	Blank
Matrix: Solid										Prep Type:		
Analysis Batch: 30367										10p 13p0.	0.20	J 1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (1 (
analysis batom sees.		мв мв										
Analyte	R	esult Qualifier		RL	MDL Unit		D	Р	repared	Analyz	ed	Dil Fac
Chromium		ND TO THE RESERVE TO		0.10	mg/L					06/03/12 1		20
ah Camula ID: 1 00 440 0000	000 A 600						٥.,	• - ، - •	Ó	ID. Late C	4	
Lab Sample ID: LCS 440-2966	0/2-A ^20						Cli	ent	=	ID: Lab Co		-
Matrix: Solid									ı	Prep Type:	SILC	Uitrate
Analysis Batch: 30367			Spike	1.00	LCS					%Rec.		
				LUB	LUG					ARTS POLE		

Result Qualifier

19.5

Unit

mg/L

%Rec

98

Limits

80 \_ 120

Added

20.0

### **QC Sample Results**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA

Mercury

TestAmerica Job ID: 440-11883-1

Lab Sample ID: 440-11883-1 MS											lient Sampl		
Matrix: Solid											Prep Type:	STLC	Citrate
Analysis Batch: 30367	Comple	Sample	C=:k=		MS						9/ D		
Analyte		Qualifier	Spike Added			พอ Qualifier	Unit		D	%Rec	%Rec.		
Chromium	0.28	Qualifier	20.0		19.7	Quanner	mg/L		_	% <b>Rec</b> 97	75 - 125		
Shorinarii	0.20		20.0		19.7		mg/L			97	75 - 125		
Lab Sample ID: 440-11883-1 MSD										C	lient Sampl	e ID: CI	RA-14
Matrix: Solid											Prep Type:		
Analysis Batch: 30367					-								
•	Sample	Sample	Spike		MSD	MSD					%Rec.		RPE
Analyte	Result	Qualifier	Added		Result	Qualifier	Unit		D	%Rec	Limits	RPD	Limi
Chromium	0.28		20.0		20.4		mg/L		_	101	75 - 125	3	20
lethod: 7471A - Mercury (CVA	<b>(A)</b>												
Lab Sample ID: MB 440-28198/1-A										Client S	ample ID: N	fethod.	Riani
Matrix: Solid											Prep Ty		
Analysis Batch: 28309												Batch:	
, 5.5		МВ МВ									ПОР	Dutom	
Analyte	R	esult Qualifier		RL		MDL Unit		D	Pr	epared	Analyze	ed	Dil Fa
Mercury		ND		0.020		mg/Kg	)	_ (	)5/23	3/12 14:26	05/23/12 2	0:00	
Lab Sample ID: LCS 440-28198/2-A								Cli	ent	Sample	ID: Lab Co	ntrol S	amnla
Matrix: Solid								0		oup.c	Prep Ty		-
Analysis Batch: 28309												Batch:	
			Spike		LCS	LCS					%Rec.		
									D	%Rec	Limits		
Analyte			Added		Result	Qualifier	Unit						
			0.800		<b>Result</b> 0.746	Qualitier	mg/Kg			93	80 _ 120		
Mercury						Qualifier						Matrix	Spike
Mercury  Lab Sample ID: 440-12297-A-1-E M						Qualifier					Sample ID:		-
Analyte  Mercury  Lab Sample ID: 440-12297-A-1-E M:  Matrix: Solid  Analysis Batch: 28309	<b>S</b>	***************************************				Qualifier					Sample ID: Prep T <sub>)</sub>	pe: To	tal/NA
Mercury Lab Sample ID: 440-12297-A-1-E M Matrix: Solid		Sample			0.746	<u>Qualifier</u>					Sample ID: Prep T <sub>)</sub>		tal/NA
Mercury Lab Sample ID: 440-12297-A-1-E M Matrix: Solid	Sample	Sample Qualifier	0.800		0.746 MS				D		Sample ID: Prep Ty Prep	pe: To	tal/NA
Mercury Lab Sample ID: 440-12297-A-1-E M Matrix: Solid Analysis Batch: 28309 Analyte	Sample		0.800 Spike		0.746 MS	MS	mg/Kg			Client	Sample ID: Prep Ty Prep %Rec.	pe: To	tal/NA
Mercury  Lab Sample ID: 440-12297-A-1-E M: Matrix: Solid Analysis Batch: 28309  Analyte  Mercury	Sample Result ND		0.800 Spike Added		0.746 MS Result	MS	mg/Kg  Unit mg/Kg	Clien	D	Client  %Rec 77	Sample ID: Prep Ty Prep %Rec. Limits	pe: To Batch:	tal/NA 28198
Mercury  Lab Sample ID: 440-12297-A-1-E M: Matrix: Solid Analysis Batch: 28309  Analyte Mercury  Lab Sample ID: 440-12297-A-1-F M:	Sample Result ND		0.800 Spike Added		0.746 MS Result	MS	mg/Kg  Unit mg/Kg	Clien	D	Client  %Rec 77	Sample ID: Prep Ty Prep %Rec. Limits 70 - 130	pe: To Batch:	tal/NA 28198
Mercury  Lab Sample ID: 440-12297-A-1-E M: Matrix: Solid Analysis Batch: 28309  Analyte Mercury  Lab Sample ID: 440-12297-A-1-F M: Matrix: Solid	Sample Result ND		0.800 Spike Added		0.746 MS Result	MS	mg/Kg  Unit mg/Kg	Clien	D	Client  %Rec 77	Sample ID: Prep Ty Prep %Rec. Limits 70 - 130  P: Matrix Sp Prep Ty	/pe: To Batch: ike Duj /pe: To	tal/NA 28198 
Mercury  Lab Sample ID: 440-12297-A-1-E M: Matrix: Solid Analysis Batch: 28309  Analyte Mercury  Lab Sample ID: 440-12297-A-1-F M:	Sample Result ND		0.800 Spike Added		0.746  MS  Result  0.631	MS	mg/Kg  Unit mg/Kg	Clien	D	Client  %Rec 77	Sample ID: Prep Ty Prep %Rec. Limits 70 - 130  P: Matrix Sp Prep Ty	pe: To Batch:	tal/NA 28198 

70 - 130

0.816

mg/Kg

ND

### **QC Association Summary**

TestAmerica Job ID: 440-11883-1

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA

Project/Site: 1784	150th Ave.,	San Leandro,	CF

GC/MS VC	)A	

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-11410-B-7 MS	Matrix Spike	Total/NA	Solid	8260B	
440-11410-B-7 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	
440-11883-1	CRA-1A	Total/NA	Solid	8260B	
LCS 440-27016/8	Lab Control Sample	Total/NA	Solid	8260B	
MB 440-27016/7	Method Blank	Total/NA	Solid	8260B	

### Analysis Batch: 27017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Pro	ep Batch
440-11410-B-7 MS	Matrix Spike	Total/NA	Solid	8260B/CA_LUFT	
				MS	
440-11410-B-7 MSD	Matrix Spike Duplicate	Total/NA	Solid *	8260B/CA_LUFT	
				MS	
440-11883-1	CRA-1A	Total/NA	Solid	8260B/CA_LUFT	
				MS	
LCS 440-27017/9	Lab Control Sample	Total/NA	Solid	8260B/CA_LUFT	
				MS	
MB 440-27017/7	Method Blank	Total/NA	Solid	8260B/CA_LUFT	
				MS	

### GC Semi VOA

### Prep Batch: 27840

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-11407-A-5-C MS	Matrix Spike	Total/NA	Solid	CA LUFT	
440-11407-A-5-D MSD	Matrix Spike Duplicate	Total/NA	Solid	CA LUFT	
440-11883-1	CRA-1A	Total/NA	Solid	CA LUFT	
LCS 440-27840/2-A	Lab Control Sample	Total/NA	Solid	CA LUFT	•
MB 440-27840/1-A	Method Blank	Total/NA	Solid	CA LUFT	
L					

### Analysis Batch: 28040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-11407-A-5-C MS	Matrix Spike	Total/NA	Solid	8015B	27840
440-11407-A-5-D MSD	Matrix Spike Duplicate	Total/ <b>N</b> A	Solid	8015B	27840
440-11883-1	CRA-1A	Total/ <b>N</b> A	Solid	8015B	27840
LCS 440-27840/2-A	Lab Control Sample	Total/NA	Solid	8015B	27840
MB 440-27840/1-A	Method Blank	Total/NA	Solid	8015B	27840

### Metals

### Prep Batch: 27063

_					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-11883-1	CRA-1A	Total/NA	Solid	3050B	
440-11883-1 MS	CRA-1A	Total/NA	Solid	3050B	
440-11883-1 MSD	CRA-1A	Total/NA	Solid	3050B	
LCS 440-27063/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
MB 440-27063/1-A ^5	Method Blank	Total/NA	Solid	3050B	

### Analysis Batch: 27889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-27063/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	27063
MB 440-27063/1-A ^5	Method Blank	Total/NA	Solid	6010B	27063

### **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA TestAmerica Job ID: 440-11883-1

Metals (Continued)
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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-11883-1	CRA-1A	Total/NA	Solid	6010B	27063
440-11883-1 MS	CRA-1A	Total/NA	Solid	6010B	27063
440-11883-1 MSD	CRA-1A	Total/NA	Solid	6010B	27063
LCS 440-27063/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	27063
MB 440-27063/1-A ^5	Method Blank	Total/NA	Solid	6010B	27063

### Analysis Batch: 27989

	Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
į	440-11883-1	CRA-1A	Total/NA	Solid	6010B	27063
- Constant	440-11883-1 MS	CRA-1A	Total/NA	Solid	6010B	27063
-	440-11883-1 MSD	CRA-1A	Total/NA	Solid	6010B	27063

### Prep Batch: 28198

– Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-11883-1	CRA-1A	Total/NA	Solid	7471A	
440-12297-A-1-E MS	Matrix Spike	Total/NA	Solid	7471A	
440-12297-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	
LCS 440-28198/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 440-28198/1-A	Method Blank	Total/NA	Solid	7471A	

### Analysis Batch: 28309

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-11883-1	CRA-1A	Total/NA	Solid	7471A	28198
440-12297-A-1-E MS	Matrix Spike	Total/NA	Solid	7471A	28198
440-12297-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	28198
LC\$ 440-28198/2-A	Lab Control Sample	Total/NA	Solid	7471A	28198
MB 440-28198/1-A	Method Blank	Total/NA	Solid	7471A	28198

### Leach Batch: 29339

– Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method Prep Batch
440-11883-1	CRA-1A	TCLP	Solid	1311
440-11883-1 MS	CRA-1A	TCLP	Solid	1311
LCS 440-29339/2-B	Lab Control Sample	TCLP	Solid	1311
MB 440-29339/1-B	Method Blank	TCLP	Solid	1311

### Leach Batch: 29660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-11883-1	CRA-1A	STLC Citrate	Solid	CA WET Citrate	-
440-11883-1 MS	CRA-1A	STLC Citrate	Solid	CA WET Citrate	
440-11883-1 MSD	CRA-1A	STLC Citrate	Solid	CA WET Citrate	
LC\$ 440-29660/2-A ^20	Lab Control Sample	STLC Citrate	Solid	CA WET Citrate	
MB 440-29660/1-A ^20	Method Blank	STLC Citrate	Solid	CA WET Citrate	

### Prep Batch: 29669

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-11883-1	CRA-1A	TCLP	Solid	3010A	29339
440-11883-1 MS	CRA-1A	TCLP	Solid	3010A	29339
LCS 440-29339/2-B	Lab Control Sample	TCLP	Solid	3010A	29339
MB 440-29339/1-B	Method Blank	TCLP	Solid	3010A	29339

### **QC Association Summary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA

TestAmerica Job ID: 440-11883-1

### Metals (Continued)

Analy	ysis	Batc	h:	30	243
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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-11883-1	CRA-1A	TCLP	Solid	6010B	29669
440-11883-1 MS	CRA-1A	TCLP	Solid	6010B	29669
LCS 440-29339/2-B	Lab Control Sample	TCLP	Solid	6010B	29669
MB 440-29339/1-B	Method Blank	TCLP	Solid	6010B	29669

### Analysis Batch: 30367

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Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-11883-1	CRA-1A	STLC Citrate	Solid	6010B	
440-11883-1 MS	CRA-1A	STLC Citrate	Solid	6010B	
440-11883-1 MSD	CRA-1A	STLC Citrate	Solid	6010B	
LCS 440-29660/2-A ^20	Lab Control Sample	STLC Citrate	Solid	6010B	
MB 440-29660/1-A ^20	Method Blank	STLC Citrate	Solid	6010B	

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### **Definitions/Glossary**

Client: Conestoga-Rovers & Associates, Inc. Project/Site: 1784 150th Ave., San Leandro, CA TestAmerica Job ID: 440-11883-1

### Qualifiers

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OC Sellik V	<del>0</del> 4
Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.
Х	Surrogate is outside control limits
Metals	
Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
<del>*</del>	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
DL, RA, RE, IN	Indicates a Dilution, Reanalysis, Re-extraction, or additional Initial metals/anion analysis of the sample
EDL	Estimated Detection Limit
EPA	United States Environmental Protection Agency
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
RL	Reporting Limit
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: 1784 150th Ave., San Leandro, CA

TestAmerica Job ID: 440-11883-1

Laboratory	Authority	Program	EPA Region	Certification ID				
TestAmerica Irvine	Arizona	State Program	9	AZ0671				
TestAmerica Irvine	California	LA Cty Sanitation Districts	9	10256				
TestAmerica Irvine	California	NELAC	9	1108CA				
TestAmerica Irvine	California	State Program	9	2706				
TestAmerica Irvine	Guam	State Program	9	Cert. No. 12,002r				
TestAmerica Irvine	Hawaii	State Program	9	N/A				
TestAmerica Irvine	Nevada	State Program	9	CA015312007A				
TestAmerica Irvine	New Mexico	State Program	6	N/A				
TestAmerica Irvine	Northern Mariana Islands	State Program	9	MP0002				
TestAmerica Irvine	Oregon	NELAC	10	4005				
TestAmerica Irvine	USDA	Federal		P330-09-00080				

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

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cc: Derek Eisman, Deisman@craworld.co	m and S	hell.Lab	.Billing@c	rawor		OM RESERVA	THE			ã	TEC	80B	afe	309Z	(9)	30B)	909	909 (628	(B)	626	8	8	Weta	3270	99	(28			
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Field Sample Identification  CRA-1A	DATE	TIME	MATRIX	HCE.	HNO3	H2SO4	NONE	OTHER	CONT.	TPH - Purgeable (8260B)	TPH - Extractable	BTEX (8260B)	5 Oxygenafes	MTBE (8260B)	TBA (8260B)	DIPE (8260B)	TAME (8260B)	ETBE (8260B) 1,2 DCA (6280B)	EDB (8260B)	Ethanof (6260B)	Methanol (8015M)	TPH - MO (8015M)	CAM 17 Metals	SVOCs (8279C)	VOCs (8260)	PCBs (8082)			or Laboratory Notes
CRA-1A	5/14	1500	so						1	х	Х	х										х	Х						Please call
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## Contingent analyses

- Organic lead required if TTLC lead ≥ 13 mg/kg
- Aquatic bioassay required if any TPH (gasoline, diesel, or motor oil) ≥ 5,000 mg/kg
- TCLP benzene required if benzene ≥ 10 mg/kg
- TCLP and STLC required for metals per table below

	TP-11 1	
Metal	Trigger level	7
1710141	TTLC	Requirement
A	(mg/kg)	
Antimony	150	STLC required if TTLC ≥ 150 mg/kg
		STLC required if TTLC ≥ 50 mg/kg:
Arsenic	50/100	STLC and TCLP required if TTLC > 100 mg/kg
		STLC required if TTLC > 1.000 mg/kg
Barium	1,000/2,000	STLC and TCLP required if TTLC > 2.000 mg/kg
Beryllium	7.5	STLC required if TTLC ≥ 7.5 mg/kg
0.1.		STLC required if TTLC ≥ 10 mg/kg;
Cadmium	10/20	STLC and TCLP required if TTLC ≥ 20 mg/kg
City		STLC required if TTLC ≥ 50 mg/kg:
Chromium	50/100	STLC and 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
• ·		STLC required if TTLC ≥ 50 mg/kg;
Lead	50/100	STLC and TCLP required if TTLC > 100 mg/kg
X #		STLC required if TTLC ≥ 2 mg/kg;
Mercury	2/4	STLC and TCLP required if TTLC ≥ 4 mg/kg
Molybdenum	350	STLC required if TTLC ≥ 350 mg/kg
Nickel	200	STLC required if TTLC ≥ 200 mg/kg
		STLC required if TTLC ≥ 10 mg/kg;
Selenium	10/20	STLC and TCLP required if TTLC > 20 mg/kg
A.11		STLC required if TTLC $\geq$ 50 mg/kg;
Silver	50/100	STLC and 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

### Login Sample Receipt Checklist

Client: Conestoga-Rovers & Associates, Inc.

Job Number: 440-11883-1

Login Number: 11883

List Number: 1

Creator: Escalante, Maria

List Source: TestAmerica Irvine

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	N/A	
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	
There are no discrepancies between the sample IDs on the containers 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	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	N/A	
Residual Chlorine Checked.	N/A	