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## TRANSMITTAL

DATE: January 27, 2012

REFERENCE NO.:

240933

PROJECT NAME:

15275 Washington Avenue, San Leandro

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

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QUANTITY	DESCRIPTION
1	Subsurface Investigation Report

As Requested       For Review and Comment  
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### COMMENTS:

If you have any questions regarding the contents of this document, please call Peter Schaefer at  
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Copy to: Denis Brown, Shell Oil Products US (electronic copy)  
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Mike Bakaldin, City of San Leandro, 835 East 14th Street, San Leandro, CA 94577  
Johnny Vierra, Big O Tire, 2201 Washington Avenue, San Leandro, CA 94577

Completed by: Peter Schaefer      Signed: Peter Schaefer

Filing: Correspondence File



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

**Denis L. Brown**  
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Re:      Former Shell Service Station  
          15275 Washington Avenue  
          San Leandro, California  
          SAP Code 129460  
          Incident No. 97093412  
          ACEH No. RO0000372

Dear Mr. Wickham:

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

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

Sincerely,

A handwritten signature in black ink that reads "Denis L. Brown".

Denis L. Brown  
Senior Program Manager



## SUBSURFACE INVESTIGATION REPORT

**FORMER SHELL SERVICE STATION  
15275 WASHINGTON AVENUE  
SAN LEANDRO, CALIFORNIA**

**SAP CODE            129460  
INCIDENT NO.      97093412  
AGENCY NO.        RO0000372**

**Prepared by:  
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**JANUARY 27, 2012**

**REF. NO. 240933 (5)**

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## EXECUTIVE SUMMARY

- Five sets of temporary soil vapor probes (P-30 through P-34) were installed, sampled, and analyzed by an on-site laboratory to obtain a vertical profile of TPHg, BTEX, and MTBE concentrations in soil vapor.
- Surface flux measurements were made at four of the vertical profile probe locations (P-31 through P-34).
- Nine sets of permanent nested soil vapor probes (SVG-1 through SVG-9) were also sampled.
- Vertical profiles of soil vapor results from the temporary probes generally show decreasing soil vapor concentrations as depth decreases and are consistent with the surface flux measurements, which demonstrate additional attenuation at the ground surface.
- The analytical results indicate that benzene is the primary driver of potential human health risk. Based on comparing the surface flux data to ESLs, the calculated human health risk for benzene ranges from 6E-07 to 9E-07.
- We note that the houses in this mobile home park are trailers or self-propelled mobile homes which are 1 to 2 feet above the ground and have no "skirting" which could potentially accumulate soil vapors. The soil vapor evaluation was conducted assuming direct discharge of soil vapors at the surface to indoor air. Because of the considerable air circulation beneath the homes, this evaluation is extremely conservative.
- Based on the construction of the mobile homes and the risk calculation, no additional soil vapor investigation is warranted. CRA recommends continued groundwater monitoring to further assess long-term concentration trends.

## **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 temporary soil vapor probe installation and sampling, surface flux testing, and permanent soil vapor probe sampling. The purpose of the investigation was to assess the potential for soil gas migration to indoor air in the mobile home park adjacent to the site. CRA followed the scope of work and procedures presented in our July 22, 2011 work plan, which was approved by Alameda County Environmental Health (ACEH) in their September 14, 2011 letter.

The site is a former Shell service station located on the northwest corner of Washington Avenue and Lewelling Boulevard in a mixed commercial and residential area of San Leandro, California (Figure 1). The site is currently occupied by an automotive emission testing facility (Speedy Smog) and a tire sales and repair facility (Big O Tire). Sale's Mobile Home Park is located to the southwest of the site. Arco Service Station No. 0601 is located on the southwest corner of the intersection at 712 Lewelling Boulevard, San Leandro. The former Shell service station layout included a building, three dispenser islands, a waste oil tank, and a gasoline underground storage tank (UST) complex (Figure 2). In June 1987, the fuel and waste oil USTs, piping, and dispensers were removed from the site. Reports indicate that the waste oil UST was replaced at that time, and another UST was found and removed during November 1987.

A summary of previous work performed at the site and additional background information was presented in CRA's July 22, 2011 *Subsurface Investigation Work Plan* and is not repeated herein.

## **2.0 INVESTIGATION ACTIVITIES**

CRA conducted the following investigations to further evaluate the potential for soil vapor intrusion:

- Installed five sets of temporary shallow soil vapor probes (P-30 through P-34) within the upper 4 feet of the vadose zone to obtain shallow soil vapor profiles to document attenuation of soil vapor concentrations.
- Conducted surface flux testing adjacent to P-31 through P-34 to evaluate actual soil vapor discharge to ambient air. Because the mobile homes are not directly on the ground, comparisons with San Francisco Bay Regional Water Quality

Control Board's (RWQCB's) environmental screening levels<sup>1</sup> (ESLs) do not give an accurate estimation of the potential risk of vapor intrusion to the mobile homes.

- Re-sampled existing soil vapor probes (SVG-1 through SVG-9).

Per CRA's telephone conversation with ACEH on November 14, 2011, we did not drill the four soil borings proposed in our July 22, 2011 work plan, as we do not believe that it is necessary to collect vadose-zone soil samples for physical parameter analyses to further refine our vapor intrusion model at this time.

## **2.1        PERMIT**

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

## **2.2        FIELD DATES**

November 8 and 9, 2011 (temporary soil vapor probe installation and sampling), November 10, 2011 (surface flux testing), and November 16, 2011 (permanent soil vapor probe sampling).

## **2.3        DRILLING COMPANY**

TEG - Northern California, Inc. (TEG).

## **2.4        CRA PERSONNEL**

Geologist Chris Benedict directed the probe installation and sampling and surface flux testing working under the supervision of California Professional Geologist Peter Schaefer.

## **2.5        DRILLING METHOD**

Direct push.

---

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

## **2.6        NUMBER OF PROBES**

CRA installed five sets of temporary soil vapor probes (P-30 through P-34). Each set included three or four points constructed in separate borings. Due to tight soil conditions, we were unable to obtain samples from P-30 or P-32 at 2.5 feet below grade (fbg), and deeper probes were installed at locations P-33 and P-34 at 3 and 4 fbg, respectively, because samples could not be collected at 2.5 fbg. The probe locations are shown on Figure 2.

## **2.7        VAPOR PROBE MATERIALS**

CRA constructed the vapor probes using 1/8-inch-diameter Teflon® tubing attached to 1-inch-length plastic screen intervals and #2/12 Monterey sand filter pack with a bentonite slurry seal.

## **2.8        SCREEN DEPTHS**

<i>Temporary soil vapor probe</i>	<i>Screen depths (fbg)</i>
P-30	0.5, 1.5, 2.5*
P-31	0.5, 1.5, 2.5*, 4
P-32	0.5, 1.5, 2.5*
P-33	0.5, 1.5, 2.5*, 3
P-34	0.5, 1.5, 2.5

\* = Unable to obtain sample due to tight soil conditions

## **2.9        SOIL VAPOR SAMPLING PROCEDURES**

### **2.9.1      TEMPORARY SOIL VAPOR PROBES**

Prior to sampling, TEG purged at least three tubing volumes of air from each vapor probe using a syringe. Immediately after purging, TEG collected a soil vapor sample using a syringe. Each sample was labeled, documented on a chain-of-custody, and submitted to a TEG on-site laboratory for immediate analysis.

During sampling, TEG covered the sample location with an inverted bucket and injected 1,1-difluoroethane into the bucket to check for leaks. All samples were analyzed by the on-site laboratory for 1,1-difluoroethane, and CRA presents the results on Table 1.

Following sampling the probes were destroyed by removing the probe materials and backfilling with neat cement.

### **2.9.2      SURFACE FLUX CHAMBERS**

CRA used surface flux chambers to isolate the asphalt ground surface from ambient air and to collect soil vapor emanating from the subsurface at locations adjacent to four of the temporary soil vapor probes (P-31 through P-34).

The flux chambers are constructed of stainless steel and are hemispherical, measuring approximately 12 inches in diameter and approximately 6 inches tall. Paper shields constructed of cardboard were secured to the chambers to minimize extreme variations in temperature. Nominal volume of the chambers is 7,500 cubic centimeters. TEG placed the chambers on the asphalt ground surface and bedded the flange in a bentonite slurry to seal the chambers. After sealing the chambers, TEG flushed them with four volumes (30 liters) of nitrogen. A sample was collected from each chamber after flushing and analyzed to ensure the chamber was clean of contaminants at the start of the incubation. TEG allowed the chambers to incubate for 4 hours prior to sampling to average out temporal effects on fluxes (wind, barometric pressure, etc.).

Following the 4-hour deployment, TEG collected a vapor sample from each chamber through a sampling port using a gas-tight syringe connected via an on-off valve. The small-calibrated syringes allowed for careful monitoring of sample flow and volume. This procedure ensured that the chamber air was well mixed prior to collection without introducing excessive airflow, which could cause disturbance of the natural flux from the ground surface. The sample was entered onto a chain-of-custody and immediately transferred to the on-site mobile laboratory for analysis. Duplicate samples from each chamber were collected with the syringe and injected into a Tedlar® bag. Each sample was labeled, documented on a chain-of-custody, and submitted to Calscience Environmental Laboratories, Inc. (Calscience) of Garden Grove, California for analysis within 72 hours.

### **2.9.3      PERMANENT SOIL VAPOR PROBES**

Prior to sampling, CRA purged at least three tubing volumes of air from each vapor probe using a vacuum pump or syringe. 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 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 from the temporary soil vapor probes and flux chambers were analyzed for total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), methyl tertiary-butyl ether (MTBE), and 1,1-difluoroethane by modified EPA Method 8260B, and for oxygen, carbon dioxide, and methane by GC/TCD. Duplicate samples from the flux chambers were analyzed for TPHg by EPA Method TO-3M and for BTEX and MTBE by EPA Method TO-15M.

Soil vapor samples from the permanent soil vapor probes were analyzed for TPHg by EPA Method TO-3M, for BTEX and MTBE by EPA Method TO-15M, for oxygen + argon, carbon dioxide, and methane by ASTM D-1946, and for helium by ASTM D-1946 (M).

### **2.11      WASTE DISPOSAL**

No waste was generated during the investigation.

### **3.0 FINDINGS**

#### **3.1 SOIL VAPOR**

The soil vapor chemical analytical data are summarized in Table 1, and TPHg and benzene analytical results are presented on Figures 2 and 3. The laboratory analytical reports are presented in Appendix B.

#### **3.2 SURFACE FLUX**

The surface flux chemical analytical data are summarized in Table 1, and TPHg and benzene analytical results are presented on Figure 2. The laboratory analytical reports are presented in Appendix B.

#### **3.3 LEAK TESTING**

TEG performed leak testing for the temporary probes as described above, and 1,1-difluoroethane was not detected in any of the samples. CRA presents these results on Table 1.

CRA performed leak testing for the permanent probes as described above, and helium was not detected in any of the samples. As shown in the following table, the reporting limit for helium (0.0100 percent by volume [%v]) is less than 10% of the concentration detected in the shroud, and the samples are considered valid.

<i>Probe ID</i>	<i>Depth (feet)</i>	<i>Helium concentration in sample (%v)</i>	<i>Minimum Helium detected in shroud (%v)</i>	<i>Maximum acceptable helium concentration in sample (%v)</i>
SVG-1	3	<0.0100	50	5.0
SVG-1	5	<0.0100	50	5.0
SVG-1	7.5	<0.0100	50	5.0
SVG-2	3	<0.0100	50	5.0
SVG-2	5	<0.0100	50	5.0
SVG-2	7.5	<0.0100	50	5.0
SVG-3	3	<0.0100	50	5.0
SVG-3	5	<0.0100	50	5.0
SVG-4	3	<0.0100	50	5.0
SVG-4	5	<0.0100	50	5.0
SVG-5	3	<0.0100	50	5.0
SVG-5	5	<0.0100	50	5.0
SVG-6	3	<0.0100	50	5.0
SVG-6	5	<0.0100	50	5.0

<b>Probe ID</b>	<b>Depth (feet)</b>	<b>Helium concentration in sample (%v)</b>	<b>Minimum Helium detected in shroud (%v)</b>	<b>Maximum acceptable helium concentration in sample (%v)</b>
SVG-7	3	<0.0100	50	5.0
SVG-7	5	<0.0100	50	5.0
SVG-8	3	<0.0100	50	5.0
SVG-8	5	<0.0100	50	5.0
SVG-8	7.5	<0.0100	50	5.0
SVG-9	3	<0.0100	50	5.0
SVG-9	5	<0.0100	50	5.0
SVG-9	7.5	<0.0100	50	5.0

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

#### 4.0 CONCLUSIONS

Vertical profiles of soil vapor results from the temporary probes (Table 1) generally show decreasing soil vapor concentrations as depth decreases and are consistent with the surface flux measurements, which demonstrate additional attenuation at the ground surface.

CRA used flux chamber devices to assess ground surface emission rates (or “flux”) of volatile organic compounds from the subsurface (likely originating from soil or groundwater)<sup>2</sup>. Based on analytical data from the flux samples, the primary risk driver is benzene.

The emission rate of chemicals,  $ER_i$  (micrograms per minute per square meter) is calculated as:

$$ER_i = \frac{C_c \times V_c}{A_c \times T}$$

CRA calculated an equivalent room concentration from the measured chamber concentration by assuming that the flux into the chamber is the same as the flux into the room (since flux is per unit area). The equation is:

$$C_{r-e} = ER_i \frac{A_r}{Q}$$

---

<sup>2</sup> Blayne Hartman, *How to Collect Reliable Soil Gas Data for Upward Risk Assessments, Part 2, Surface Flux Chamber Method*, H & P Mobile Geochemistry, Inc., August 2003

Where:  $C_c$  = chamber concentration after incubation period (micrograms per cubic meter [ $\mu\text{g}/\text{m}^3$ ]);  
 $C_{r-e}$  = equivalent room concentration with room air exchange ( $\mu\text{g}/\text{m}^3$ );  
 $V_c$  = volume of the static chamber ( $\text{m}^3$ );  
 $T$  = the incubation time of the chamber (minutes);  
 $A_c$  = contact area of the chamber to surface soil (square meters [ $\text{m}^2$ ]);  
 $A_r$  = room area ( $\text{m}^2$ ); and  
 $Q$  = volumetric flow rate in the room (cubic meters per minute [ $\text{m}^3/\text{min}$ ]).

CRA used default values for  $A_r$  and  $Q$  from the previously referenced RWQCB ESL document in our calculations.

CRA calculated human health risk for TPHg and benzene using the following equation:

$$Risk = \frac{(C_{r-e}/C_{r-a})}{1,000,000}$$

Where:  $C_{r-e}$  = Equivalent room concentration with exchange of room air;  
 $C_{r-a}$  = allowed room concentration for 1E-06 risk from RWQCB's previously referenced ESL document; and  
 $C_{r-e}/C_{r-a}$  = Ratio of equivalent to allowed.

Based on comparing the surface flux data to residential indoor air ESLs, the calculated human health risk for benzene ranges from 6E-07 to 9E-07. Table 2 presents the flux calculations and an evaluation of human health risk based on the calculated surface emissions.

We note that the houses in this mobile home park are trailers or self-propelled mobile homes which are 1 to 2 feet above the ground and have no "skirting" which could potentially accumulate soil vapors. The soil vapor evaluation was conducted assuming direct discharge of soil vapors at the surface to indoor air. Because of the considerable air circulation beneath the homes, this evaluation is extremely conservative.

## 5.0 RECOMMENDATIONS

Based on the construction of the mobile homes and the risk calculation, no additional soil vapor investigation is warranted. CRA recommends continued groundwater monitoring to further assess long-term concentration trends.

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



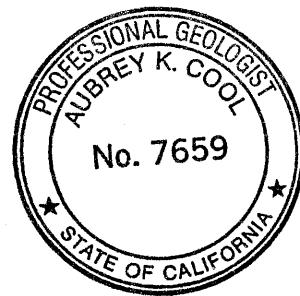
Peter Schaefer

Peter Schaefer, CEG, CHG

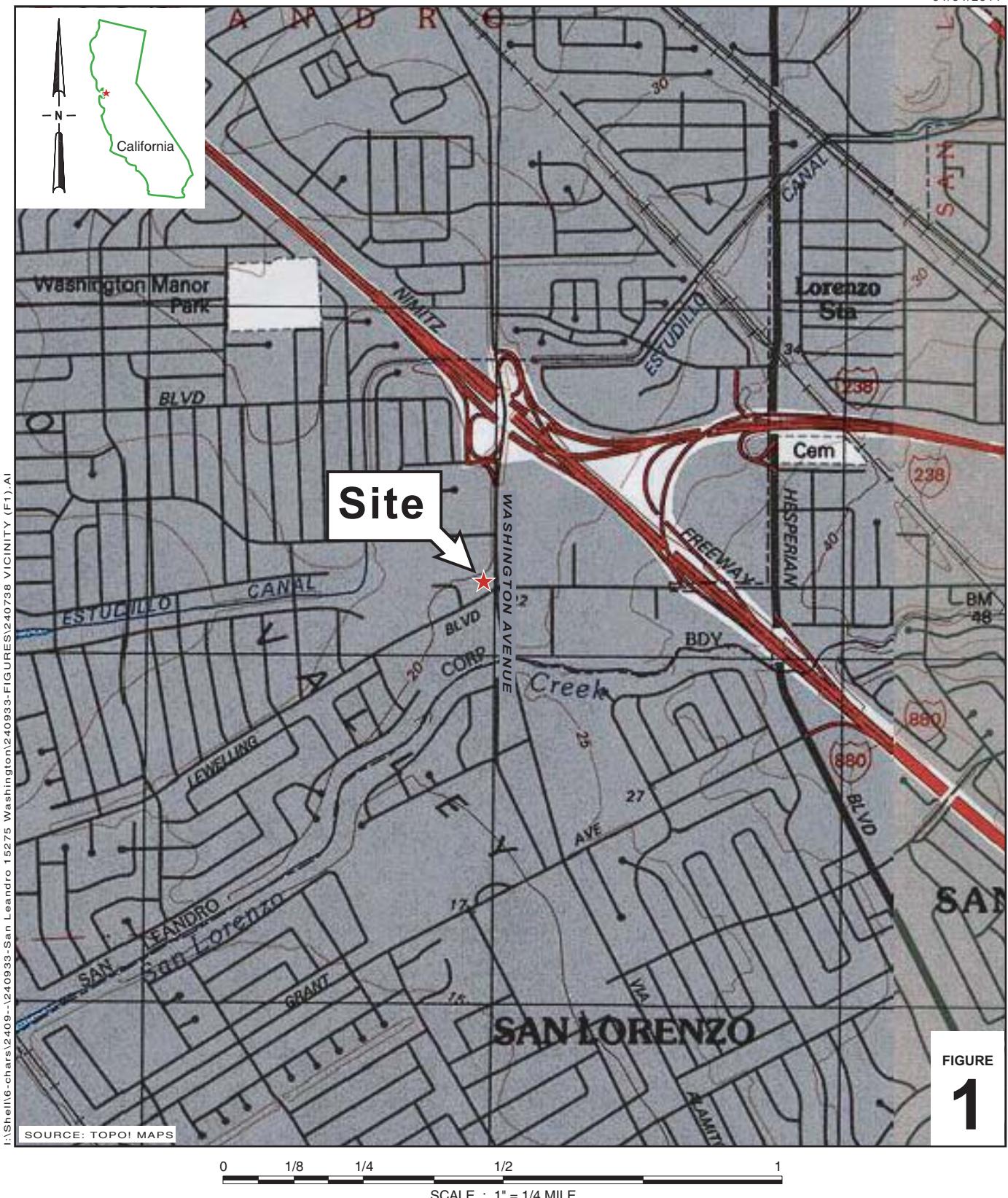


Aubrey K. Cool

Aubrey K. Cool, PG



## **FIGURES**



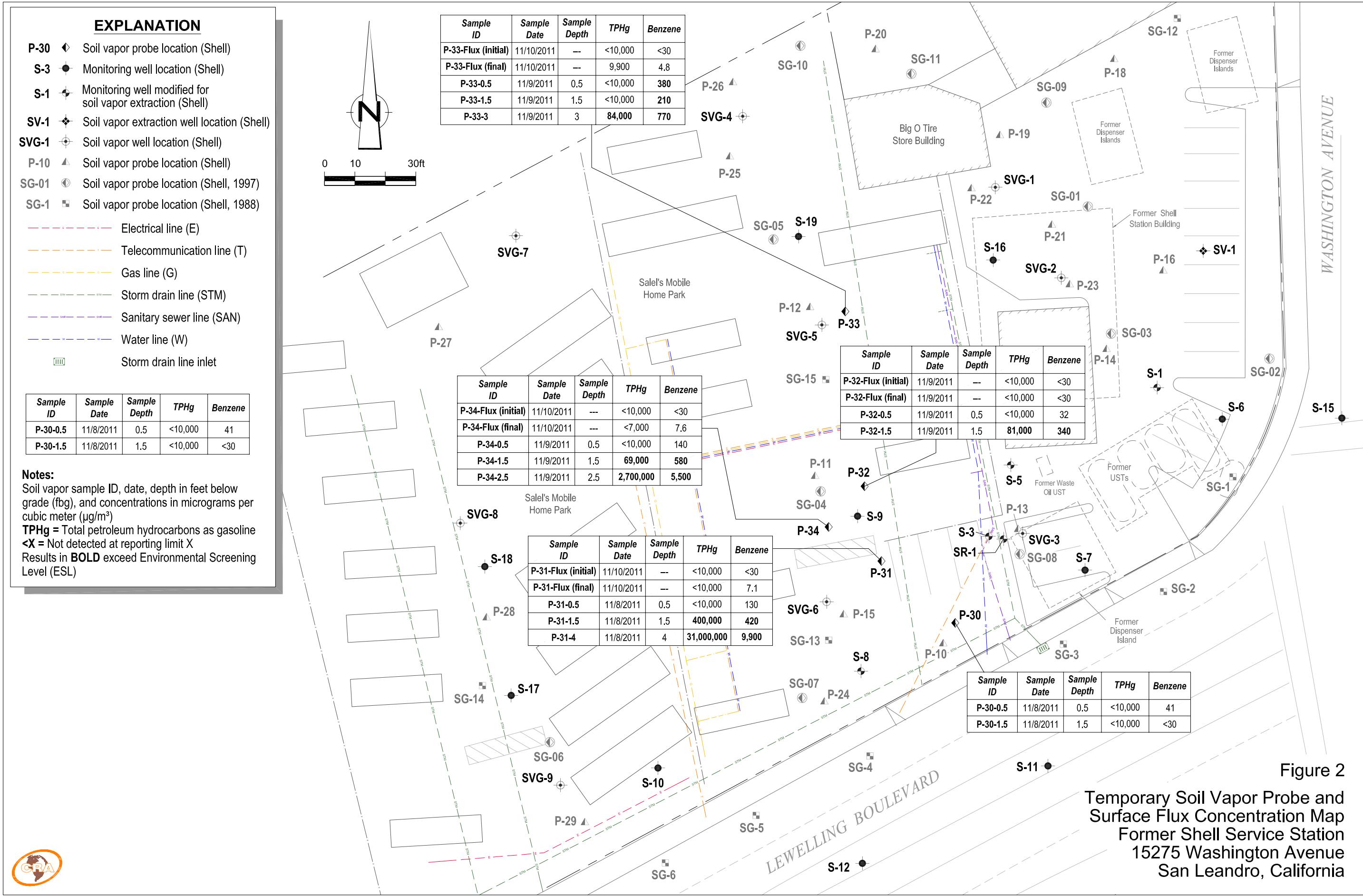
## Former Shell Service Station

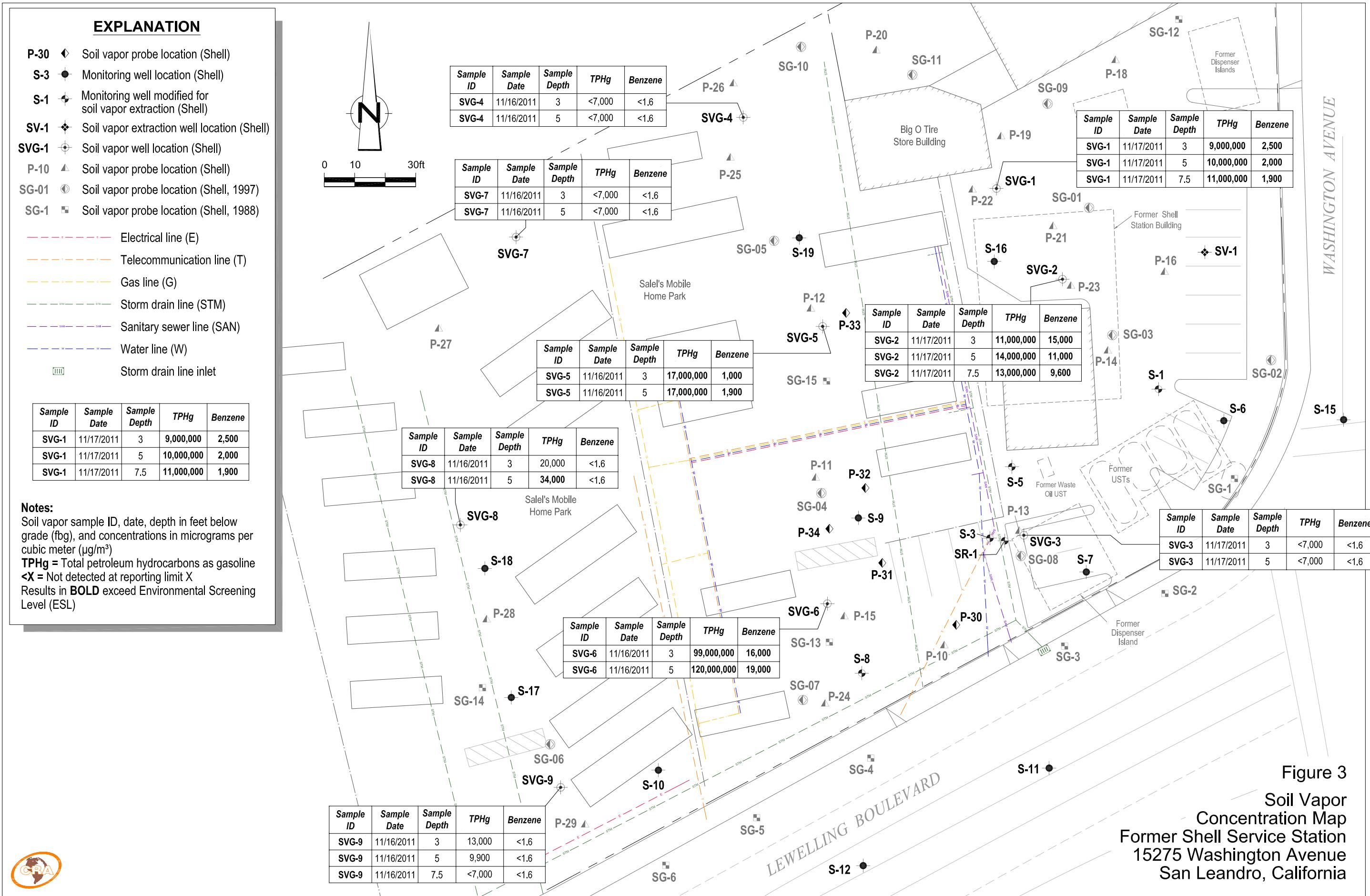
15275 Washington Avenue  
San Leandro, California



**CONESTOGA-ROVERS**  
& ASSOCIATES

## Vicinity Map





WASHINGTON AVENUE

Figure 3

Soil Vapor  
Concentration Map  
Former Shell Service Station  
15275 Washington Avenue  
San Leandro, California



## TABLES

TABLE 1

**HISTORICAL SOIL VAPOR AND SURFACE FLUX ANALYTICAL DATA  
FORMER SHELL SERVICE STATION  
15275 WASHINGTON AVENUE, SAN LEANDRO, CALIFORNIA**

<i>Sample ID</i>	<i>Date</i>	<i>Depth</i> (fbg)	<i>TPHg</i> ( $\mu\text{g}/\text{m}^3$ )	<i>B</i> ( $\mu\text{g}/\text{m}^3$ )	<i>T</i> ( $\mu\text{g}/\text{m}^3$ )	<i>E</i> ( $\mu\text{g}/\text{m}^3$ )	<i>X</i> ( $\mu\text{g}/\text{m}^3$ )	<i>MTBE</i> ( $\mu\text{g}/\text{m}^3$ )	<i>TBA</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Methane</i> (%v)	<i>Carbon Dioxide</i> (%v)	<i>Oxygen + Argon</i> (%v)	<i>Nitrogen</i> (%v)	<i>1,1-Difluoroethane</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Isopropanol</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Helium</i> (%v)
SG-01	10/4/1988	UNK	460,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-02	10/4/1988	UNK	90,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-03	10/4/1988	UNK	45,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-04	10/4/1988	UNK	2,400,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-05	10/4/1988	UNK	1,800,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-06	10/4/1988	UNK	820,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-07	10/4/1988	UNK	690,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-08	10/4/1988	UNK	5,800,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-09	10/4/1988	UNK	3,700,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-10	10/4/1988	UNK	5,600,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-11	10/4/1988	UNK	22,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-12	10/4/1988	UNK	810,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-13	10/4/1988	UNK	1,100,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-14	10/4/1988	UNK	630 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-15	10/4/1988	UNK	2,000,000 a	—	—	—	—	—	—	—	—	—	—	—	—	—
SG-1	5/5/1997	4	100,000,000	750,000 b	280,000 b	370,000 b	1,300,000 b	700,000 b	—	—	—	—	—	—	—	—
SG-1 c	5/5/1997	4	76,000,000	910,000	110,000	70,000	200,000	—	—	7.8	19.7	3.9	68.6	—	—	—
SG-2	5/5/1997	2	46,000	250 b	96 b	250 b	880 b	73 b	—	—	—	—	—	—	—	—
SG-2 c	5/5/1997	2	<5,000	<1,000	<1,000	<1,000	<2,000	—	—	<0.1	9.2	11.3	79.5	—	—	—
SG-3	5/5/1997	2	54,000,000	390,000 b	190,000 b	370,000 b	310,000 b	260,000 b	—	—	—	—	—	—	—	—
SG-3 c	5/5/1997	2	20,000,000	280,000	57,000	44,000	49,000	—	—	1.6	15.8	3.8	78.9	—	—	—
SG-3	5/5/1997	4	33,000,000	230,000 b	110,000 b	210,000 b	330,000 b	150,000 b	—	—	—	—	—	—	—	—
SG-3 c	5/5/1997	4	3,700,000	49,000	12,000	7,400	4,300	—	—	<0.1	1.6	18.1	80.3	—	—	—
SG-3	5/5/1997	6	5,000,000	39,000 b	18,000 b	71,000 b	190,000 b	16,000 b	—	—	—	—	—	—	—	—
SG-3 c	5/5/1997	6	44,000,000	79,000	88,000	400,000	247,000	—	—	<0.1	4.7	16.4	78.9	—	—	—
SG-4	5/5/1997	2	220,000	420 b	150 b	1,700 b	3,200 b	310 b	—	—	—	—	—	—	—	—
SG-4 c	5/5/1997	2	110,000	1,600	<1,000	<1,000	<12,000	—	—	<0.1	0.7	19.8	79.4	—	—	—
SG-4	5/5/1997	4	350,000	1,000 b	2,300 b	2,600 b	4,400 b	550 b	—	—	—	—	—	—	—	—
SG-4 c	5/5/1997	4	370,000	2,900	<1,000	25,000	2,000	—	—	<0.1	1.4	19.2	79.4	—	—	—

TABLE 1

**HISTORICAL SOIL VAPOR AND SURFACE FLUX ANALYTICAL DATA  
FORMER SHELL SERVICE STATION  
15275 WASHINGTON AVENUE, SAN LEANDRO, CALIFORNIA**

<i>Sample ID</i>	<i>Date</i>	<i>Depth</i> (ftg)	<i>TPHg</i> ( $\mu\text{g}/\text{m}^3$ )	<i>B</i> ( $\mu\text{g}/\text{m}^3$ )	<i>T</i> ( $\mu\text{g}/\text{m}^3$ )	<i>E</i> ( $\mu\text{g}/\text{m}^3$ )	<i>X</i> ( $\mu\text{g}/\text{m}^3$ )	<i>MTBE</i> ( $\mu\text{g}/\text{m}^3$ )	<i>TBA</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Methane</i> (%v)	<i>Carbon Dioxide</i> (%v)	<i>Oxygen + Argon</i> (%v)	<i>Nitrogen</i> (%v)	<i>1,1-Difluoroethane</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Isopropanol</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Helium</i> (%v)
SG-4	5/5/1997	6	310,000	1,000 b	2,200 b	4,000 b	4,800 b	200 b	—	—	—	—	—	—	—	—
SG-4 c	5/5/1997	6	490,000	2,800	3,400	7,100	9,400	—	—	<0.1	1.2	19.5	79.3	—	—	—
SG-4 k, c	5/5/1997	6	500,000	3,000	4,000	7,200	7,500	—	—	<0.1	1.0	19.2	79.8	—	—	—
SG-5	5/5/1997	4	8,700,000	20,000 b	42,000 b	75,000 b	13,000 b	6,200 b	—	—	—	—	—	—	—	—
SG-5 c	5/5/1997	4	26,000	<1,000	<1,000	<1,000	<2,000	—	—	<0.1	0.3	20.3	79.4	—	—	—
SG-6	5/5/1997	4	66,000	8 b	150 b	380 b	790 b	22 b	—	—	—	—	—	—	—	—
SG-6 c	5/5/1997	4	<5,000	<1,000	<1,000	<1,000	<2,000	—	—	<0.1	0.5	19.9	79.6	—	—	—
SG-7	5/5/1997	2	62,000,000	220,000 b	210,000 b	230,000 b	110,000 b	330,000 b	—	—	—	—	—	—	—	—
SG-7 c	5/5/1997	2	700,000	38,000	1,400	14,000	<2,000	—	—	<0.1	0.9	19.7	79.4	—	—	—
SG-7	5/5/1997	4	130,000,000	450,000 b	420,000 b	440,000 b	180,000 b	510,000 b	—	—	—	—	—	—	—	—
SG-7 c	5/5/1997	4	38,000,000	18,000	40,000	43,000	17,000	—	—	9.3	13.4	9.5	67.9	—	—	—
SG-7	5/5/1997	6	3,000,000	19,000 b	6,500 b	20,000 b	6,600 b	17,000 b	—	—	—	—	—	—	—	—
SG-7 c	5/5/1997	6	2,000,000	13,000	7,400	<10,000	<20,000	—	—	1.0	1.9	18.7	78.5	—	—	—
SG-7 k	5/4/1993	6	3,400,000	21,000 b	7,300 b	22,000 b	7,500 b	19,000 b	—	—	—	—	—	—	—	—
SG-8	5/6/1997	2	15,000	10 b	38 b	190 b	220 b	22 b	—	—	—	—	—	—	—	—
SG-8 c	5/6/1997	2	<5,000	<1,000	<1,000	<1,000	<2,000	—	—	<0.1	0.1	20.6	79.3	—	—	—
SG-8	5/6/1997	4	7,100,000	15,000 b	46,000 b	44,000 b	62,000 b	3,000 b	—	—	—	—	—	—	—	—
SG-8 c	5/6/1997	4	2,400,000	<1,000	64,000	7,400	14,300	—	—	<0.1	12.6	4.8	82.7	—	—	—
SG-8	5/6/1997	6	20,000,000	49,000 b	130,000 b	140,000 b	290,000 b	8,400 b	—	—	—	—	—	—	—	—
SG-8 c	5/6/1997	6	1,000,000	<1,000	35,000	3,500	10,800	—	—	<0.1	0.3	20.0	79.7	—	—	—
SG-8 k, c	5/6/1997	6	1,100,000	<1,000	36,000	4,000	11,500	—	—	<0.1	0.2	20.0	79.8	—	—	—
SG-9	5/5/1997	4	540,000	18,000 b	610 b	17,000 b	15,000 b	1,600 b	—	—	—	—	—	—	—	—
SG-9 c	5/5/1997	4	1,800,000	87,000	10,000	28,000	21,300	—	—	<0.1	0.9	20.0	79.1	—	—	—
SG-10	7/31/1997	4	1,700 d	<7.0 e	11 e	<9.5 e	22 e	11 e	—	—	—	—	—	—	—	—
SG-11	7/31/1997	4	660 d	<6.7 e	<7.9 e	<9.0 e	<9.0 e	<7.5 e	—	—	—	—	—	—	—	—
SG-12	7/31/1997	4	5,000 d	16 e	8.3 e	13 e	22 e	29 e	—	—	—	—	—	—	—	—

TABLE 1

**HISTORICAL SOIL VAPOR AND SURFACE FLUX ANALYTICAL DATA  
FORMER SHELL SERVICE STATION  
15275 WASHINGTON AVENUE, SAN LEANDRO, CALIFORNIA**

<i>Sample ID</i>	<i>Date</i>	<i>Depth (ftg)</i>	<i>TPHg (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>B (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>T (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>E (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>X (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>MTBE (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>TBA (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>Methane (%v)</i>	<i>Carbon Dioxide (%v)</i>	<i>Oxygen + Argon (%v)</i>	<i>Nitrogen (%v)</i>	<i>1,1-Difluoroethane (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>Isopropanol (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>Helium (%v)</i>
SG-13	7/31/1997	4	5,000 d	<71 e	<84 e	<97 e	<97 e	<81 e	—	—	—	—	—	—	—	—
P-10 f	6/11/2008	5.5	100,000	<2.7	14	3.9	12	<3.0	43	—	—	—	—	—	<8.2	—
P-11 f	6/11/2008	5.5	8,000,000	1,100	240	<180	<180	<150	<520	—	—	—	—	—	<420	—
P-12 f	6/11/2008	5.5	7,800,000	810	<630	<730	<730	<600	<5,100	—	—	—	—	—	<1,600	—
P-13 f	6/11/2008	5.5	5,300	<2.5	5.6	<3.4	3.6	<2.8	<24	—	—	—	—	—	<7.8	—
P-14 f	6/11/2008	5.5	2,100,000	1,400	<130	4,700	280	<120	<1,000	—	—	—	—	—	<340	—
P-15 f	6/11/2008	5.5	160,000	<54	<63	<73	<73	<60	<150	—	—	—	—	—	<160	—
P-16 f	6/11/2008	5.5	130,000	<13	<15	26	<17	<14	<120	—	—	—	—	—	<120	—
P-17 f	6/11/2008	5.5	450	<2.5	5.4	<3.4	3.6	<2.8	<23	—	—	—	—	—	<7.6	—
P-17 k, f	6/11/2008	5.5	1,100	<2.5	4.0	<3.4	<3.4	<2.8	<24	—	—	—	—	—	<7.8	—
P-18 f	6/11/2008	5.5	13,000	3.2	6.0	<3.6	4.0	<3.0	36	—	—	—	—	—	<8.2	—
P-19 f	6/11/2008	5.5	9,000,000	600	270	<180	<180	<510	<410	—	—	—	—	—	<410	—
P-20 f	6/11/2008	5.5	26,000	<2.5	240	<3.4	<3.4	<2.8	55	—	—	—	—	—	27	—
P-20 k, f	6/11/2008	5.5	26,000	<2.5	230	<3.4	<3.4	<2.8	52	—	—	—	—	—	29	—
P-21 f	6/11/2008	5.5	8,200,000	6,400	280	27,000	3,500	<100	<340	—	—	—	—	—	<280	—
P-22 f	6/11/2008	5.5	8,200,000	1,400	<320	14,000	<360	<300	<1,000	—	—	—	—	—	<820	—
P-23 f	6/11/2008	5.5	6,500,000	12,000	190	46,000	25,120	<56	<190	—	—	—	—	—	<150	—
P-23 k, f	6/11/2008	5.5	6,500,000	11,000	180	44,000	23,110	<56	<190	—	—	—	—	—	<150	—
P-24	9/23/2009	3	160,000	1.9 b	25 b	<2.2 b	<8.7 b	<7.2 b	<15 b	—	—	—	—	570,000	—	—
P-24	9/23/2009	5	340,000	<3.2 b	<38 b	<4.3 b	<15 b	<14 b	<30 b	—	—	—	—	1,000,000	—	—
P-24	9/23/2009	8	48,000	1.7 b	<19 b	<2.2 b	<8.7 b	<7.2 b	<15 b	—	—	—	—	3,900,000	—	—
P-25	9/23/2009	3	2,900,000	<64 b	<750 b	<87 b	<350 b	<290 b	<610 b	—	—	—	—	2,600,000	—	—
P-25	9/23/2009	5	<5,700	<1.6 b	<19 b	<2.2 b	<8.7 b	<19 b	<15 b	—	—	—	—	4,300	—	—

TABLE 1

**HISTORICAL SOIL VAPOR AND SURFACE FLUX ANALYTICAL DATA  
FORMER SHELL SERVICE STATION  
15275 WASHINGTON AVENUE, SAN LEANDRO, CALIFORNIA**

<i>Sample ID</i>	<i>Date</i>	<i>Depth (ftg)</i>	<i>TPHg (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>B (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>T (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>E (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>X (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>MTBE (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>TBA (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>Methane (%v)</i>	<i>Carbon Dioxide (%v)</i>	<i>Oxygen + Argon (%v)</i>	<i>Nitrogen (%v)</i>	<i>1,1-Difluoroethane (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>Isopropanol (<math>\mu\text{g}/\text{m}^3</math>)</i>	<i>Helium (%v)</i>
P-25	9/23/2009	8	<5,700	<1.6 b	<19 b	<2.2 b	<8.7 b	<7.2 b	<15 b	—	—	—	—	210	—	—
P-26	9/23/2009	3	<5,700	2 b	21 b	<2.2 b	<8.7 b	<7.2 b	<15 b	—	—	—	—	28	—	—
P-26	9/23/2009	5	610,000	<6.4 b	<75 b	<8.7 b	<35 b	<29 b	<61 b	—	—	—	—	1,300,000	—	—
P-26	9/23/2009	8	2,600,000	<64 b	<750 b	<87 b	<350 b	<350 b	<610 b	—	—	—	—	4,800,000	—	—
P-27	9/24/2009	3	410,000	<4 b	<47 b	<5.4 b	<22 b	<18 b	<38 b	—	—	—	—	710,000	—	—
P-27	9/24/2009	5	120,000	<1.6 b	<19 b	<2.2 b	<8.7 b	<7.2 b	<15 b	—	—	—	—	14,000	—	—
P-27	9/24/2009	8	570,000	<4 b	<47 b	<5.4 b	<22 b	<18 b	<38 b	—	—	—	—	860,000	—	—
P-28	9/24/2009	3	1,200,000	<8 b	<94 b	<11 b	<43 b	<36 b	<76 b	—	—	—	—	2,200,000	—	—
P-28	9/24/2009	5	58,000	2 b	<19 b	<2.2 b	<8.7 b	<7.2 b	<15 b	—	—	—	—	11,000	—	—
P-28	9/24/2009	8	270,000	<3.2 b	<38 b	<4.3 b	<17 b	<14 b	<30 b	—	—	—	—	42,000	—	—
P-29	9/24/2009	3	1,200,000	<8 b	<94 b	<11 b	<43 b	<36 b	<76 b	—	—	—	—	2,000,000	—	—
P-29	9/24/2009	5	660,000	<6.4 b	<75 b	<8.7 b	<35 b	<29 b	<61 b	—	—	—	—	1,300,000	—	—
P-29	9/24/2009	8	46,000	<1.6 b	<19 b	<2.2 b	<8.7 b	<7.2 b	<15 b	—	—	—	—	83,000	—	—
SVG-1	3/18/2010	3	8,700,000	<8,000	<9,400	11,000	<22,000	<18,000	<15,000	—	0.971	2.32	—	—	<6,100	—
SVG-1	9/9/2010	3	15,000,000	3,400	<2,400	<2,700	<5,400	<4,500	<3,800	—	—	—	—	—	<1,500	—
SVG-1	11/17/2011	3	9,000,000	2,500 b	<1,900 b	670 b	<870 b	<720 b	—	1.77	14.5	2.56	—	—	—	<0.0100
SVG-1	3/18/2010	5	8,200,000	<8,000	<9,400	<11,000	<22,000	<18,000	<15,000	—	4.22	2.06	—	—	<6,100	—
SVG-1	11/17/2011	5	10,000,000	2,000 b	<1,900 b	1,200 b	<870 b	<720 b	—	1.67	16.1	2.67	—	—	—	<0.0100
SVG-1	11/17/2011	7.5	11,000,000	1,900 b	<1,900 b	820 b	<870 b	<720 b	—	1.70	18.1	2.12	—	—	—	<0.0100
SVG-2	3/18/2010	3	11,000,000	21,000	<19,000	62,000	<43,000	<36,000	<30,000	—	0.519	2.31	—	—	<12,000	—
SVG-2	9/9/2010	3	17,000,000	32,000	<19,000	150,000	<43,000	<36,000	<30,000	1.33	13.9	2.66	—	—	<12,000	—
SVG-2	11/17/2011	3	11,000,000	15,000 b	<9,400 b	33,000 b	<4,300 b	<3,600 b	—	1.88	16.2	2.21	—	—	—	<0.0100
SVG-2	3/18/2010	5	7,500,000	<8,000	<9,400	54,000	<22,000	<18,000	<15,000	—	4.91	11.2	—	—	<6,100	—
SVG-2	9/9/2010	5	18,000,000	17,000	<19,000	200,000	44,000	<36,000	<30,000	1.19	16.9	2.22	—	—	<12,000	—
SVG-2	11/17/2011	5	14,000,000	11,000 b	<9,400 b	120,000 b	22,000 b	<3,600 b	—	1.79	17.1	2.50	—	—	—	<0.0100
SVG-2	11/17/2011	7.5	13,000,000	9,600 b	<9,400 b	88,000 b	<4,300 b	<3,600 b	—	1.85	17.9	2.18	—	—	—	<0.0100

TABLE 1

**HISTORICAL SOIL VAPOR AND SURFACE FLUX ANALYTICAL DATA  
FORMER SHELL SERVICE STATION  
15275 WASHINGTON AVENUE, SAN LEANDRO, CALIFORNIA**

<i>Sample ID</i>	<i>Date</i>	<i>Depth</i> (ftbg)	<i>TPHg</i> ( $\mu\text{g}/\text{m}^3$ )	<i>B</i> ( $\mu\text{g}/\text{m}^3$ )	<i>T</i> ( $\mu\text{g}/\text{m}^3$ )	<i>E</i> ( $\mu\text{g}/\text{m}^3$ )	<i>X</i> ( $\mu\text{g}/\text{m}^3$ )	<i>MTBE</i> ( $\mu\text{g}/\text{m}^3$ )	<i>TBA</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Methane</i> (%v)	<i>Carbon Dioxide</i> (%v)	<i>Oxygen + Argon</i> (%v)	<i>Nitrogen</i> (%v)	<i>1,1-Difluoroethane</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Isopropanol</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Helium</i> (%v)
SVG-3	3/18/2010	3	39,000	<51	<60	460	230	<120	<97	—	3.38	15.1	—	—	<39	—
SVG-3	9/9/2010	3	86,000	<80	<94	1,100	220	<180	<150	—	—	—	—	—	<61	—
SVG-3	11/17/2011	3	<7,000	<1.6 b	<19 b	30 b	45 b	<7.2 b	—	<0.500	7.30	13.5	—	—	—	<0.0100
SVG-3	3/18/2010	5	49,000	<64	<75	520	250	<140	<120	—	3.43	15.0	—	—	<49	—
SVG-3	11/17/2011	5	<7,000	<1.6 b	<19 b	70 b	110 b	<7.2 b	—	<0.500	7.40	13.3	—	—	—	<0.0100
SVG-4	3/18/2010	3	28,000	<16	<19	420	250	<36	<30	—	7.63	6.75	—	—	100	—
SVG-4	9/9/2010	3	50,000	<16	<19	610	160	<36	<30	—	—	—	—	—	<12	—
SVG-4	11/16/2011	3	<7,000	<1.6 b	<19 b	54 b	85 b	<7.2 b	—	<0.500	9.08	7.27	—	—	—	<0.0100
SVG-4	11/16/2011	5	<7,000	<1.6 b	<19 b	16 b	30 b	<7.2 b	—	<0.500	9.35	7.32	—	—	—	<0.0100
SVG-5	3/18/2010	3	27,000,000	<32,000	<38,000	<43,000	<87,000	<72,000	<61,000	—	2.22	2.74	—	—	<25,000	—
SVG-5	9/9/2010	3	37,000,000	2,700	<2,400	9,300	<5,400	<4,500	<3,800	1.20	7.63	2.28	—	—	<1,500	—
SVG-5	11/16/2011	3	17,000,000	1,000 b	<3,800 b	1,700 b	<1,700 b	<1,400 b	—	1.42	10.2	2.50	—	—	—	<0.0100
SVG-5	3/18/2010	5	13,000,000	<16,000	<19,000	<22,000	<43,000	<36,000	<30,000	—	<0.500	21.5	—	—	<12,000	—
SVG-5	9/9/2010	5	32,000,000	<4,800	<5,700	<6,500	<13,000	<11,000	<9,100	1.11	16.5	1.97	—	—	<3,700	—
SVG-5	11/17/2011	5	17,000,000	1,900 b	<3,800 b	2,700 b	3,100 b	<1,400 b	—	1.44	12.1	1.88	—	—	—	<0.0100
SVG-6	3/18/2010	3	110,000,000	<130,000	<150,000	<170,000	<350,000	<290,000	<240,000	—	3.64	2.36	—	—	<98,000	—
SVG-6	9/9/2010	3	140,000,000	44,000	<30,000	<35,000	<69,000	<58,000	<49,000	1.89	8.57	2.11	—	—	<20,000	—
SVG-6	11/16/2011	3	99,000,000	16,000 b	<19,000 b	7,900 b	<8,700 b	<7,200 b	—	2.23	6.05	2.44	—	—	—	<0.0100
SVG-6	3/18/2010	5	75,000,000	<8,000	<94,000	<11,000	<22,000	<18,000	<15,000	—	6.36	2.27	—	—	<6,100	—
SVG-6	9/9/2010	5	160,000,000	46,000	<30,000	<35,000	<69,000	<58,000	<49,000	1.87	9.09	2.43	—	—	<20,000	—
SVG-6	11/16/2011	5	120,000,000	19,000 b	<19,000 b	6,700 b	<8,700 b	<7,200 b	—	2.11	6.49	2.23	—	—	—	<0.0100
SVG-7	3/18/2010	3	170,000	<160	<190	<220	<430	<360	<300	—	0.816	16.7	—	—	<120	—
SVG-7	9/9/2010	3	97,000	<80	<94	300	<220	<180	<150	—	—	—	—	—	<61	—
SVG-7	11/16/2011	3	<7,000	<1.6 b	<19 b	<2.2 b	<8.7 b	<7.2 b	—	<0.500	2.52	13.4	—	—	—	<0.0100
SVG-7	11/16/2011	5	<7,000	<1.6 b	<19 b	<2.2 b	<8.7 b	<7.2 b	—	<0.500	2.64	13.6	—	—	—	<0.0100
SVG-8	3/18/2010	3	70,000	<80	<94	170	<220	<180	<150	—	8.28	2.12	—	—	<61	—
SVG-8	9/9/2010	3	100,000	<80	<94	300	<220	<180	<150	<0.500	12.4	1.97	—	—	<61	—
SVG-8	11/16/2011	3	20,000	<1.6 b	<19 b	3.0 b	<8.7 b	<7.2 b	—	<0.500	8.81	2.40	—	—	—	<0.0100

TABLE 1

**HISTORICAL SOIL VAPOR AND SURFACE FLUX ANALYTICAL DATA  
FORMER SHELL SERVICE STATION  
15275 WASHINGTON AVENUE, SAN LEANDRO, CALIFORNIA**

<i>Sample ID</i>	<i>Date</i>	<i>Depth</i> (fbg)	<i>TPHg</i> ( $\mu\text{g}/\text{m}^3$ )	<i>B</i> ( $\mu\text{g}/\text{m}^3$ )	<i>T</i> ( $\mu\text{g}/\text{m}^3$ )	<i>E</i> ( $\mu\text{g}/\text{m}^3$ )	<i>X</i> ( $\mu\text{g}/\text{m}^3$ )	<i>MTBE</i> ( $\mu\text{g}/\text{m}^3$ )	<i>TBA</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Methane</i> (%v)	<i>Carbon Dioxide</i> (%v)	<i>Oxygen + Argon</i> (%v)	<i>Nitrogen</i> (%v)	<i>1,1-Difluoroethane</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Isopropanol</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Helium</i> (%v)
SVG-8	3/18/2010	5	140,000	<80	<94	300	<220	<180	<150	—	7.93	2.45	—	—	210	—
SVG-8	9/9/2010	5	81,000	<80	<94	240	<220	<180	<150	<0.500	12.6	1.97	—	—	<61	—
SVG-8	11/16/2011	5	34,000	<1.6 b	<19 b	<2.2 b	<8.7 b	<7.2 b	—	<0.500	9.61	2.28	—	—	—	<0.0100
SVG-8	9/9/2010	7.5	62,000	<51	<60	230	<140	<120	<97	<0.500	12.5	1.97	—	—	<39	—
SVG-9	3/18/2010	3	67,000	<80	<94	300	<220	<180	<150	—	10.7	4.25	—	—	<61	—
SVG-9	9/9/2010	3	57,000	<51	<60	230	<140	<120	<97	<0.500	15.1	7.01	—	—	<39	—
SVG-9	11/16/2011	3	13,000	<1.6 b	<19 b	<2.2 b	<8.7 b	<7.2 b	—	<0.500	12.3	5.76	—	—	—	<0.0100
SVG-9	3/18/2010	5	55,000	<64	<75	220	<170	<140	<120	—	10.4	4.27	—	—	<49	—
SVG-9	9/9/2010	5	7,900	<16	32	32	<43	<36	<30	<0.500	1.54	20.4	—	—	99	—
SVG-9	11/16/2011	5	9,900	<1.6 b	<19 b	<2.2 b	<8.7 b	<7.2 b	—	<0.500	13.8	5.04	—	—	—	<0.0100
SVG-9	9/9/2010	7.5	36,000	<64	<75	95	<170	<140	<120	<0.500	16.8	5.52	—	—	<49	—
SVG-9	11/16/2011	7.5	<7,000	<1.6 b	<19 b	<2.2 b	<8.7 b	<7.2 b	—	<0.500	15.2	4.14	—	—	—	<0.0100
P-30-0.5	11/8/2011	0.5	<10,000 g	41	<200	<100	<200	<100	—	<1,000	2.7	161	—	<10,000 g	—	—
P-30-1.5	11/8/2011	1.5	<10,000 g	<30	<200	<100	<200	<100	—	<1,000	2.4	161	—	<10,000 g	—	—
P-31-Flux (initial)	11/10/2011	—	<10,000 g	<30	<200	<100	<200	<100	—	<1,000	<1.0	2.41	—	—	—	—
P-31-Flux (final)	11/10/2011	—	<10,000 g	<30	<200	<100	<200	<100	—	<1,000	<1.0	6.21	—	—	—	—
P-31-Flux (final) k	11/10/2011	—	<7,000	7.1 b	41 b	6.4 b	36 b	<7.2 b	—	—	—	—	—	—	—	—
P-31-0.5	11/8/2011	0.5	<10,000 g	120	<200	<100	<200	<100	—	<1,000	<1.0	201	—	<10,000 g	—	—
P-31-0.5 k	11/8/2011	0.5	<10,000 g	130	<200	<100	<200	<100	—	<1,000	<1.0	191	—	<10,000 g	—	—
P-31-1.5	11/8/2011	1.5	400,000 g	420	<200	460	<200	<100	—	<1,000	<1.0	191	—	<10,000 g	—	—
P-31-4	11/8/2011	4 i	23,000,000 g	7,700	<500	770	<500	<250	—	46,000	4.3	2.61	—	<25,000 g	—	—
P-31-4	11/8/2011	4	31,000,000 g	9,900	<500	990	<500	<250	—	48,000	5.0	2.71	—	<25,000 g	—	—
P-31-4	11/8/2011	4 j	39,000,000 g	13,000	670	2,000	<500	<250	—	49,000	5.6	2.21	—	<25,000 g	—	—
P-32-Flux (initial)	11/9/2011	—	<10,000 g	<30	<200	<100	<200	<100	—	<1,000	<1.0	3.11	—	—	—	—
P-32-Flux (final)	11/9/2011	—	<10,000 g	<30	<200	<100	<200	<100	—	<1,000	<1.0	7.01	—	—	—	—
P-32-0.5	11/9/2011	0.5	<10,000 g	32	<200	<100	<200	<100	—	<1,000	<1.0	211	—	<10,000 g	—	—
P-32-1.5	11/9/2011	1.5	81,000 g	340	<200	190	<200	<100	—	<1,000	<1.0	201	—	<10,000 g	—	—
P-33-Flux (initial)	11/10/2011	—	<10,000 g	<30	<200	<100	<200	<100	—	<1,000	—	—	—	—	—	—
P-33-Flux (final)	11/10/2011	—	<10,000 g	<30	<200	<100	<200	<100	—	<1,000	<1.0	3.71	—	—	—	—

TABLE 1

**HISTORICAL SOIL VAPOR AND SURFACE FLUX ANALYTICAL DATA  
FORMER SHELL SERVICE STATION  
15275 WASHINGTON AVENUE, SAN LEANDRO, CALIFORNIA**

<i>Sample ID</i>	<i>Date</i>	<i>Depth</i> (fbg)	<i>TPHg</i> ( $\mu\text{g}/\text{m}^3$ )	<i>B</i> ( $\mu\text{g}/\text{m}^3$ )	<i>T</i> ( $\mu\text{g}/\text{m}^3$ )	<i>E</i> ( $\mu\text{g}/\text{m}^3$ )	<i>X</i> ( $\mu\text{g}/\text{m}^3$ )	<i>MTBE</i> ( $\mu\text{g}/\text{m}^3$ )	<i>TBA</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Methane</i> (%v)	<i>Carbon Dioxide</i> (%v)	<i>Oxygen + Argon</i> (%v)	<i>Nitrogen</i> (%v)	<i>1,1- Difluoroethane</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Isopropanol</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Helium</i> (%v)
P-33-Flux (final) k	11/10/2011	—	9,900	4.8 b	28 b	4.4 b	25 b	<7.2 b	—	—	—	—	—	—	—	—
P-33-0.5	11/9/2011	0.5	<10,000 g	<b>380</b>	<200	<100	<200	<100	—	<1,000	<1.0	201	—	<10,000 g	—	—
P-33-1.5	11/9/2011	1.5	<10,000 g	<b>210</b>	<200	120	<200	<100	—	<1,000	<1.0	191	—	<10,000 g	—	—
P-33-1.5	11/9/2011	3	<b>84,000 g</b>	<b>770</b>	<500	290	<500	<250	—	<2,500	2.8	141	—	<25,000 g	—	—
P-34-Flux (initial)	11/10/2011	—	<10,000 g	<30	<200	<100	<200	<100	—	<1,000	<1.0	2.41	—	—	—	—
P-34-Flux (final)	11/10/2011	—	<10,000 g	<30	<200	<100	<200	<100	—	<1,000	<1.0	5.01	—	—	—	—
P-34-Flux (final) k	11/10/2011	—	<7,000	7.6 b	42 b	6.6 b	37 b	<7.2 b	—	—	—	—	—	—	—	—
P-34-0.5	11/9/2011	0.5	<10,000 g	<b>140</b>	<200	<100	<200	<100	—	<1,000	<1.0	191	—	<10,000 g	—	—
P-34-1.5	11/9/2011	1.5	<b>67,000 g</b>	<b>540</b>	<200	150	<200	<100	—	<1,000	<1.0	201	—	<10,000 g	—	—
P-34-1.5 k	11/9/2011	1.5	<b>69,000 g</b>	<b>580</b>	<200	140	<200	<100	—	<1,000	<1.0	191	—	<10,000 g	—	—
P-34-2.5	11/9/2011	2.5	<b>2,700,000 g</b>	<b>5,500</b>	<500	560	<500	<250	—	<2,500	1.2	171	—	<25,000 g	—	—
<b>ESLs<sup>a</sup></b>			<b>10,000</b>	<b>84</b>	<b>63,000</b>	<b>980</b>	<b>21,000</b>	<b>9,400</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>
<b>ESLs<sup>b</sup></b>			<b>29,000</b>	<b>280</b>	<b>180,000</b>	<b>3,300</b>	<b>58,000</b>	<b>31,000</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>	<b>NA</b>

**Notes:**

TPHg = Total petroleum hydrocarbons as gasoline analyzed by EPA Method TO-3M unless otherwise noted.

BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed by EPA Method 8260B (M) unless otherwise noted.

MTBE = Methyl tertiary-butyl ether analyzed by EPA Method 8260B (M) unless otherwise noted.

TBA = Tertiary-butyl alcohol analyzed by EPA Method 8260B (M) unless otherwise noted.

Methane, carbon dioxide, and oxygen + argon analyzed by ASTM D-1946 unless otherwise noted.

Isopropanol analyzed by EPA Method 8260B (M) unless otherwise noted.

1,1-Difluoroethane analyzed by EPA Method TO-15M unless otherwise noted.

Helium analyzed by ASTM D-1946 (modified) unless otherwise noted.

fbg = Feet below grade

 $\mu\text{g}/\text{m}^3$  = Micrograms per cubic meter

%v = Percent by volume

&lt;x = Not detected at reporting limit x

— = Not analyzed

UNK = Unknown

ESL = Environmental screening level

NA = No applicable ESL

All flux samples were collected after three purge volumes unless otherwise noted.

Results in bold exceed environmental screening level

a = Analytical method unknown

b = Analyzed by EPA Method TO-15M

c = Analysis by mobile laboratory. TPHg analyzed by EPA Method 8015, and BTEX and MTBE analyzed by EPA Method 8020. Fixed/biogenic gases analyzed on a thermal conductivity detector.

TABLE 1

**HISTORICAL SOIL VAPOR AND SURFACE FLUX ANALYTICAL DATA  
FORMER SHELL SERVICE STATION  
15275 WASHINGTON AVENUE, SAN LEANDRO, CALIFORNIA**

<i>Sample ID</i>	<i>Date</i>	<i>Depth</i> (ftbg)	<i>TPHg</i> ( $\mu\text{g}/\text{m}^3$ )	<i>B</i> ( $\mu\text{g}/\text{m}^3$ )	<i>T</i> ( $\mu\text{g}/\text{m}^3$ )	<i>E</i> ( $\mu\text{g}/\text{m}^3$ )	<i>X</i> ( $\mu\text{g}/\text{m}^3$ )	<i>MTBE</i> ( $\mu\text{g}/\text{m}^3$ )	<i>TBA</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Methane</i> (%v)	<i>Carbon Dioxide</i> (%v)	<i>Oxygen +</i> (%v)	<i>1,1-Difluoroethane</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Isopropanol</i> ( $\mu\text{g}/\text{m}^3$ )	<i>Helium</i> (%v)
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d = Analyzed by GC/FID

e = Analyzed by EPA Method TO-3

f = Analyzed by EPA Method TO-14A

g = Analyzed by EPA Method 8260B

i= Sample collected after one purge volume

j = Sample collected after seven purge volumes

k = Duplicate sample

l = Oxygen only

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

TABLE 2

**SUMMARY OF SURFACE FLUX CHAMBER DATA AND CALCULATED RISK  
FORMER SHELL SERVICE STATION  
15275 WASHINGTON AVENUE, SAN LEANDRO, CALIFORNIA**

<i>Chamber ID</i>	<i>Compound</i>	<i>C<sub>c</sub></i> ( $\mu\text{g}/\text{m}^3$ )	<i>T</i> (min)	<i>V<sub>c</sub></i> ( $\text{m}^3$ )	<i>A<sub>c</sub></i> ( $\text{m}^2$ )	<i>Er<sub>i</sub></i> ( $\mu\text{g}/\text{min}\cdot\text{m}^2$ )	<i>A<sub>r</sub></i> ( $\text{m}^2$ )	<i>Q</i> ( $\text{m}^3/\text{min}$ )	<i>C<sub>r-e</sub></i> ( $\mu\text{g}/\text{m}^3$ )	<i>C<sub>r-a</sub></i> ( $\mu\text{g}/\text{m}^3$ )	<i>C<sub>r-e/C<sub>r-a</sub></sub></i>	<i>Risk</i>
P-31	Benzene	7.1	240	0.006	0.06	0.0030	100	4.07	0.073	0.084	0.87	9E-07
P-32	Benzene	<30	240	0.006	0.06	NA	100	4.07	NA	NA	NA	NA
P-33	Benzene	4.8	240	0.006	0.06	0.0020	100	4.07	0.049	0.084	0.59	6E-07
P-34	Benzene	7.6	240	0.006	0.06	0.0032	100	4.07	0.078	0.084	0.93	9E-07

Definitions: $C_c$  = Chamber concentration after incubation period $T$  = Incubation time of static chamber $V_c$  = Chamber volume $A_c$  = Chamber surface contact area $ER_i$  = Flux $A_r$  = Area of room <sup>a</sup> = 1.00E+06 cm<sup>2</sup> (1.00E+02 m<sup>2</sup>) $Q$  = Volumetric flow rate in room $C_{r-e}$  = Equivalent room concentration with exchange of room air $C_{r-a}$  = Allowed residential room concentration for 1E-06 risk from San Francisco Bay Regional Water Quality Control Board's (RWQCB's)*Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, Interim Final – November 2007 [Revised May 2008] $C_{r-e}/C_{r-a}$  = Ratio of equivalent to allowed room concentration

Room height a = 2.44E+02 cm (2.44E+00 m)

ER = Room air exchange rate/hour <sup>a</sup> = 1.00E+00/hour (1.67E-02 / min)Defining Equations:Flux:  $ER_i = C_c \times V_c / A_c \times T$ Room Concentration:  $C_{r-e} = ER_i \times A_r / Q$ Risk = ( $C_{r-e}/C_{r-a}$ ) / 1,000,000Flow rate in room:  $Q = A_r \times \text{Room height} \times ER = 4.07 \text{ m}^3/\text{min}$ Notes: $\mu\text{g}/\text{m}^3$  = Micrograms per cubic meter

min = Minutes

 $\text{m}^3$  = Cubic meters $\text{m}^2$  = Square meters $\mu\text{g}/\text{min}\cdot\text{m}^2$  = Micrograms per minute per square meter

**TABLE 2**

**SUMMARY OF SURFACE FLUX CHAMBER DATA AND CALCULATED RISK  
FORMER SHELL SERVICE STATION  
15275 WASHINGTON AVENUE, SAN LEANDRO, CALIFORNIA**

$\text{m}^3/\text{min}$  = Cubic meters per minute

NA = Not applicable; risk not calculated because constituent of concern not detected.

$\text{cm}^2$  = Square centimeters

cm = Centimeters

m = Meters

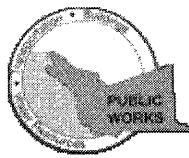
ESL = Environmental screening level

a = Default value used in calculating ESLs in RWQCB's *Screening for Environmental Concerns at Sites With Contaminated Soil and Groundwater*, Interim Final – November 2007 [Revised May 2008]

**APPENDIX A**

**PERMIT**

# Alameda County Public Works Agency - Water Resources Well Permit



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

Application Approved on: 10/31/2011 By jamesy

Permit Numbers: W2011-0668  
Permits Valid from 11/08/2011 to 11/15/2011

Application Id: 1319514542376  
Site Location: 15275 Washington Avenue  
Project Start Date: 11/08/2011  
Assigned Inspector: Contact Steve Miller at (510) 670-5517 or stevem@acpwa.org

Applicant: Conestoga-Rovers & Associates - Chris Phone: 916-889-8900 x125  
Benedict  
Property Owner: Salel Salel Phone: --  
10969 Trade Center Drive Suite 107, Rancho Cordova, CA 95670  
6733 Foothil Blvd., Oakland, CA 94605  
Client: Denis Brown (Shell Oil Products US) Phone: --  
20945 S. Wilmington Ave., Carson, CA 90810

Total Due: \$265.00  
Receipt Number: WR2011-0316 Total Amount Paid: \$265.00  
Payer Name : Conestoga-Rovers & Paid By: CHECK  
Associates PAID IN FULL

## Works Requesting Permits:

Borehole(s) for Investigation-Environmental/Monitorinig Study - 8 Boreholes

Driller: TEG - Lic #: 706568 - Method: DP

Work Total: \$265.00

## Specifications

Permit Number	Issued Dt	Expire Dt	#	Hole Diam	Max Depth
W2011-0668	10/31/2011	02/06/2012	8	3.25 in.	5.00 ft

## Specific Work Permit Conditions

1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site. The containers shall be clearly labeled to the ownership of the container and labeled hazardous or non-hazardous.
2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
4. Applicant shall contact Steve Miller for an inspection time at (510) 670-5517 or email to stevem@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.
5. 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.

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

6. Prior to any drilling activities onto any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.

7. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.

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**APPENDIX B**  
**CERTIFIED ANALYTICAL REPORTS**



**teg**

**TEG Northern California Inc.**

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30 November 2011

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

**SUBJECT: DATA REPORT - Conestoga-Rovers & Associates, Inc. Project # 240933  
15275 Washington Avenue, San Leandro, California**

**TEG Project # 11108F**

Mr. Schaefer:

Please find enclosed a data report for the samples analyzed from the above referenced project for Conestoga-Rovers & Associates, Inc. The samples were analyzed on site in TEG's mobile laboratory. TEG conducted a total of 49 analyses on 17 soil vapor and 8 flux chamber soil vapor samples.

- 25 analyses for aromatic volatile hydrocarbons (BTEX), the fuel oxygenate methyl-t-butyl ether (MtBE), and total petroleum hydrocarbons-gasoline by EPA method 8260B.
- 24 analyses for methane, and oxygen and carbon dioxide by GC/TCD.

The results of the analyses are summarized in the enclosed tables. Applicable detection limits and calibration data are included in the tables.

1,1 difluoroethane was used as a leak check compound during the soil vapor sampling. No leak check compound was detected in any of the vapor samples reported at or above the DTSC recommended leak check compound reporting limit of 10 µg/L of vapor.

TEG appreciates the opportunity to have provided analytical services to Conestoga-Rovers & Associates, Inc. on this project. If you have any further questions relating to these data or report, please do not hesitate to contact us.

Sincerely,

Mark Jerpbak  
Director, TEG-Northern California



Conestoga-Rovers & Associates - Project # 240933  
15275 Washington Avenue, San Leandro, California

TEG Project #11108F

**Analyses of SOIL VAPOR**

BTEX, MtBE, & TPH-gasoline (EPA method 8260B) in micrograms per cubic meter of Vapor

Methane in ppmV, and Oxygen and Carbon Dioxide in percent by Volume

SAMPLE NUMBER:	Blank	Blank	Blank	P30-0.5	P30-1.5	P31-0.5
SAMPLE DEPTH (feet):				0.5	1.5	0.5
PURGE VOLUME:				3	3	3
COLLECTION DATE:	11/8/11	11/9/11	11/10/11	11/8/11	11/8/11	11/8/11
COLLECTION TIME:	11:22	10:10	08:23	15:25	15:45	14:25
DILUTION FACTOR (VOCs):	1	1	1	1	1	1
RL						
<b>Benzene</b>	30	nd	nd	41	nd	120
<b>Toluene</b>	200	nd	nd	nd	nd	nd
<b>Ethylbenzene</b>	100	nd	nd	nd	nd	nd
<i>m,p-Xylene</i>	200	nd	nd	nd	nd	nd
<i>o-Xylene</i>	100	nd	nd	nd	nd	nd
<b>Methyl-t-butyl ether (MtBE)</b>	100	nd	nd	nd	nd	nd
<b>TPH (gasoline range)</b>	10000	nd	nd	nd	nd	nd
<b>Methane</b>	1000	nd	nd	nd	nd	nd
<b>Oxygen</b>	1.0	19	21	21	16	16
<b>Carbon Dioxide</b>	1.0	nd	nd	nd	2.7	2.4
1,1-Difluoroethane (leak check)	10000	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		103%	98%	101%	101%	99%
Surrogate Recovery (Toluene-d8)		91%	90%	92%	93%	93%
Surrogate Recovery (1,4-BFB)		90%	89%	81%	95%	86%

'RL' Indicates reporting limit at a dilution factor of 1  
'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab  
Analyses performed by: Mr. Leif Jonsson

page 1



Conestoga-Rovers & Associates - Project # 240933  
15275 Washington Avenue, San Leandro, California

TEG Project #11108F

**Analyses of SOIL VAPOR**

**BTEX, MtBE, & TPH-gasoline (EPA method 8260B) in micrograms per cubic meter of Vapor**

**Methane in ppmV, and Oxygen and Carbon Dioxide in percent by Volume**

SAMPLE NUMBER:	P31-0.5	P31-1.5	P31-4	P31-4	P31-4	P32-0.5
	dup					
SAMPLE DEPTH (feet):	0.5	1.5	4.0	4.0	4.0	0.5
PURGE VOLUME:	3	3	1	3	7	3
COLLECTION DATE:	11/8/11	11/8/11	11/8/11	11/8/11	11/8/11	11/9/11
COLLECTION TIME:	15:07	14:04	11:39	12:11	12:33	11:10
DILUTION FACTOR (VOCs):	1	1	2.5	2.5	2.5	1
	RL					
<b>Benzene</b>	30	130	420	7700	9900	13000
<b>Toluene</b>	200	nd	nd	nd	nd	670
<b>Ethylbenzene</b>	100	nd	460	770	990	2000
<i>m,p-Xylene</i>	200	nd	nd	nd	nd	nd
<i>o-Xylene</i>	100	nd	nd	nd	nd	nd
<b>Methyl-t-butyl ether (MtBE)</b>	100	nd	nd	nd	nd	nd
<b>TPH (gasoline range)</b>	10000	nd	400000	23000000	31000000	39000000
<b>Methane</b>	1000	nd	nd	46000	48000	49000
<b>Oxygen</b>	1.0	19	19	2.6	2.7	2.2
<b>Carbon Dioxide</b>	1.0	nd	nd	4.3	5.0	5.6
<b>1,1-Difluoroethane (leak check)</b>	10000	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		103%	98%	119%	128%	117%
Surrogate Recovery (Toluene-d8)		93%	99%	220% *	502% *	1050% *
Surrogate Recovery (1,4-BFB)		93%	83%	114%	124%	116%
						100%
						90%
						89%

'RL' Indicates reporting limit at a dilution factor of 1

'nd' Indicates not detected at listed reporting limits

\*\* Surrogate interference by coeluting compounds

Analyses performed in TEG-Northern California's lab  
Analyses performed by: Mr. Leif Jonsson

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Conestoga-Rovers & Associates - Project # 240933  
15275 Washington Avenue, San Leandro, California

TEG Project #11108F

**Analyses of SOIL VAPOR**

BTEX, MtBE, & TPH-gasoline (EPA method 8260B) in micrograms per cubic meter of Vapor

Methane in ppmV, and Oxygen and Carbon Dioxide in percent by Volume

SAMPLE NUMBER:	P32-1.5	P33-0.5	P33-1.5	P33-3.0	P34-0.5	P34-1.5
SAMPLE DEPTH (feet):	1.5	0.5	1.5	3.0	0.5	1.5
PURGE VOLUME:	3	3	3	3	3	3
COLLECTION DATE:	11/9/11	11/9/11	11/9/11	11/9/11	11/9/11	11/9/11
COLLECTION TIME:	11:32	12:35	12:56	13:25	15:02	15:21
DILUTION FACTOR (VOCs):	1	1	1	2.5	1	1
RL						
<b>Benzene</b>	30	340	380	210	770	140
<b>Toluene</b>	200	nd	nd	nd	nd	nd
<b>Ethylbenzene</b>	100	190	nd	120	290	nd
<i>m,p-Xylene</i>	200	nd	nd	nd	nd	nd
<i>o-Xylene</i>	100	nd	nd	nd	nd	nd
<b>Methyl-t-butyl ether (MtBE)</b>	100	nd	nd	nd	nd	nd
<b>TPH (gasoline range)</b>	10000	81000	nd	nd	84000	nd
<b>Methane</b>	1000	nd	nd	nd	nd	nd
<b>Oxygen</b>	1.0	20	20	19	14	19
<b>Carbon Dioxide</b>	1.0	nd	nd	nd	2.8	nd
1,1-Difluoroethane (leak check)						
1,1-Difluoroethane (leak check)	10000	nd	nd	nd	nd	nd
Surrogate Recovery (DBFM)		103%	103%	102%	102%	98%
Surrogate Recovery (Toluene-d8)		88%	90%	90%	100%	88%
Surrogate Recovery (1,4-BFB)		81%	79%	84%	83%	80%

'RL' Indicates reporting limit at a dilution factor of 1

'nd' Indicates not detected at listed reporting limits

Analyses performed in TEG-Northern California's lab  
Analyses performed by: Mr. Leif Jonsson

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Conestoga-Rovers & Associates - Project # 240933  
15275 Washington Avenue, San Leandro, California

TEG Project #11108F

**Analyses of SOIL VAPOR**

BTEX, MtBE, & TPH-gasoline (EPA method 8260B) in micrograms per cubic meter of Vapor

Methane in ppmV, and Oxygen and Carbon Dioxide in percent by Volume

SAMPLE NUMBER:	P34-1.5 dup	P34-2.5	P31-Flux-0	P31-Flux-4	P32-Flux-0	P32-Flux-4
SAMPLE DEPTH (feet):	1.5	2.5				
PURGE VOLUME:	3	3				
COLLECTION DATE:	11/9/11	11/9/11	11/10/11	11/10/11	11/9/11	11/9/11
COLLECTION TIME:	15:21	16:01	09:09	13:09	10:44	14:44
DILUTION FACTOR (VOCs):	1	2.5	1	1	1	1
	RL					
<b>Benzene</b>	30	580	5500	nd	nd	nd
<b>Toluene</b>	200	nd	nd	nd	nd	nd
<b>Ethylbenzene</b>	100	140	560	nd	nd	nd
<i>m,p-Xylene</i>	200	nd	nd	nd	nd	nd
<i>o-Xylene</i>	100	nd	nd	nd	nd	nd
<b>Methyl-t-butyl ether (MtBE)</b>	100	nd	nd	nd	nd	nd
<b>TPH (gasoline range)</b>	10000	69000	2700000	nd	nd	nd
<b>Methane</b>	1000	nd	nd	nd	nd	nd
<b>Oxygen</b>	1.0	19	17	2.4	6.2	3.1
<b>Carbon Dioxide</b>	1.0	nd	1.2	nd	nd	nd
<b>1,1-Difluoroethane (leak check)</b>	10000	nd	nd	--	--	--
Surrogate Recovery (DBFM)		99%	102%	100%	100%	98%
Surrogate Recovery (Toluene-d8)		89%	105%	89%	91%	92%
Surrogate Recovery (1,4-BFB)		81%	85%	86%	84%	93%

'RL' Indicates reporting limit at a dilution factor of 1

'nd' Indicates not detected at listed reporting limits

--' Indicates analysis not done for this compound

Analyses performed in TEG-Northern California's lab  
Analyses performed by: Mr. Leif Jonsson

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Conestoga-Rovers & Associates - Project # 240933  
15275 Washington Avenue, San Leandro, California

TEG Project #11108F

**Analyses of SOIL VAPOR**

BTEX, MtBE, & TPH-gasoline (EPA method 8260B) in micrograms per cubic meter of Vapor  
Methane in ppmV, and Oxygen and Carbon Dioxide in percent by Volume

SAMPLE NUMBER:	P33-Flux-0	P33-Flux-4	P34-Flux-0	P34-Flux-4
SAMPLE DEPTH (feet):				
PURGE VOLUME:				
COLLECTION DATE:	11/10/11	11/10/11	11/10/11	11/10/11
COLLECTION TIME:	09:31	13:31	08:47	12:47
DILUTION FACTOR (VOCs):	1	1	1	1
RL				
<b>Benzene</b>	30	nd	nd	nd
<b>Toluene</b>	200	nd	nd	nd
<b>Ethylbenzene</b>	100	nd	nd	nd
<i>m,p-Xylene</i>	200	nd	nd	nd
<i>o-Xylene</i>	100	nd	nd	nd
<b>Methyl-t-butyl ether (MtBE)</b>	100	nd	nd	nd
<b>TPH (gasoline range)</b>	10000	nd	nd	nd
<b>Methane</b>	1000	--	nd	nd
<b>Oxygen</b>	1.0	--	3.7	2.4
<b>Carbon Dioxide</b>	1.0	--	nd	nd
1,1-Difluoroethane (leak check)	10000	--	--	--
Surrogate Recovery (DBFM)		105%	106%	98%
Surrogate Recovery (Toluene-d8)		89%	94%	89%
Surrogate Recovery (1,4-BFB)		94%	86%	78%
				99%
				90%
				83%

'RL' Indicates reporting limit at a dilution factor of 1

'nd' Indicates not detected at listed reporting limits

-- Indicates analysis not done for this compound

Analyses performed in TEG-Northern California's lab  
Analyses performed by: Mr. Leif Jonsson

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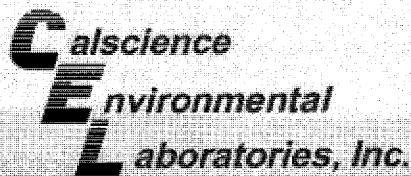
Conestoga-Rovers & Associates - Project # 240933  
15275 Washington Avenue, San Leandro, California

TEG Project #11108F

**CALIBRATION STANDARDS - Initial Calibration / LCS**

Instrument: Agilent 5975B MSD

COMPOUND	INITIAL CALIBRATION		LCS	
	RF	%RSD	RF	%DIFF
Benzene	1.083	11.8%	0.958	11.5%
Toluene	0.858	7.3%	0.929	8.3%
Ethylbenzene	0.575	6.3%	0.500	13.0%
<i>m,p-Xylene</i>	0.675	10.8%	0.615	8.9%
<i>o-Xylene</i>	0.665	7.6%	0.596	10.4%
Methyl- <i>t</i> -butyl ether (MtBE)	0.543	4.6%	0.603	11.0%
TPH-Gasoline	1.303	9.5%	1.256	3.6%
<u>Acceptable Limits</u>		20.0%	15.0%	



# CALSCIENCE

WORK ORDER NUMBER: 11-11-1006

*The difference is service*



AIR : SOIL : WATER : MARINE CHEMISTRY

**Analytical Report For**

**Client: Conestoga-Rovers & Associates**

**Client Project Name: 15275 Washington Avenue, San Leandro, CA**

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

A handwritten signature in black ink, appearing to read "Xuan Dang".

---

Approved for release on 11/22/2011 by:  
**Xuan Dang**  
Project Manager

**ResultLink ▶**

**Email your PM ▶**

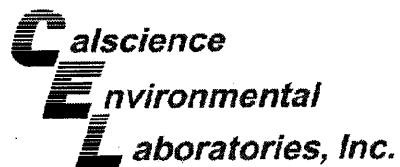


Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety. Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

A handwritten signature in black ink, appearing to read "Xuan Dang".

7400 Lincoln Way, Garden Grove, CA 92841 • TEL: (714) 535-2024 • FAX: (714) 535-2411 • [www.calscience.com](http://www.calscience.com)

NELAC ID: 03-2017 • CAL/OSHA ID: 16179 • CSDLAC ID: 10119 • SCAGMD ID: 032-0001



## Contents

Client Project Name: 15275 Washington Avenue, San Leandro, CA  
Work Order Number: 11-11-1006

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

Attn: Peter Schaefer

Work Order: 11-11-1006  
 Project name: 15275 Washington Avenue, San Leandro, C  
 Received: 11/11/11 10:30

### DETECTIONS SUMMARY

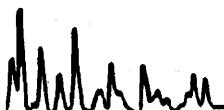
#### Client Sample ID

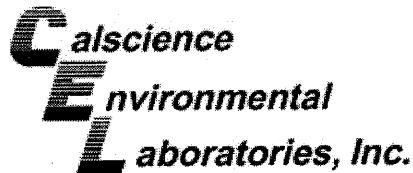
Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
<b>P-31-FLUX</b>						
Benzene	7.1		1.6	ug/m <sup>3</sup>	EPA TO-15M	N/A
Toluene	41		19	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	6.4		2.2	ug/m <sup>3</sup>	EPA TO-15M	N/A
Xylenes (total)	36		8.7	ug/m <sup>3</sup>	EPA TO-15M	N/A
<b>P-33-FLUX</b>						
Benzene	4.8		1.6	ug/m <sup>3</sup>	EPA TO-15M	N/A
Toluene	28		19	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	4.4		2.2	ug/m <sup>3</sup>	EPA TO-15M	N/A
Xylenes (total)	25		8.7	ug/m <sup>3</sup>	EPA TO-15M	N/A
TPH as Gasoline	9900		7000	ug/m <sup>3</sup>	EPA TO-3M	N/A
<b>P-34-FLUX</b>						
Benzene	7.6		1.6	ug/m <sup>3</sup>	EPA TO-15M	N/A
Toluene	42		19	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	6.6		2.2	ug/m <sup>3</sup>	EPA TO-15M	N/A
Xylenes (total)	37		8.7	ug/m <sup>3</sup>	EPA TO-15M	N/A

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

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\*MDL is shown.





## Analytical Report



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

Date Received: 11/11/11  
Work Order No: 11-11-1006  
Preparation: N/A  
Method: EPA TO-15M  
Units: ug/m3

Project: 15275 Washington Avenue, San Leandro, CA

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
P-31-FLUX	11-11-1006-1-A	11/10/11 13:09	Air	GC/MS AA	N/A	11/11/11 22:56	111111L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	7.1	1.6	1		Xylenes (total)	36	8.7	1	
Toluene	41	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	6.4	2.2	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	102	57-129			1,2-Dichloroethane-d4	94	47-137		
Toluene-d8	97	78-156							
P-33-FLUX		11-11-1006-2-A	11/10/11 13:31	Air	GC/MS AA	N/A	11/11/11 23:44	111111L01	

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

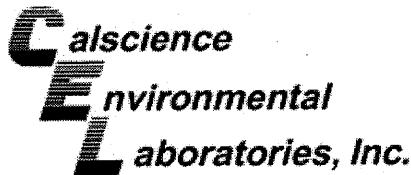
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	4.8	1.6	1		Xylenes (total)	25	8.7	1	
Toluene	28	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	4.4	2.2	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	99	57-129			1,2-Dichloroethane-d4	94	47-137		
Toluene-d8	100	78-156							
P-34-FLUX		11-11-1006-3-A	11/10/11 12:47	Air	GC/MS AA	N/A	11/12/11 00:31	111111L01	

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	7.6	1.6	1		Xylenes (total)	37	8.7	1	
Toluene	42	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	6.6	2.2	1						
Surrogates:	REC (%)	Control Limits		Qual	Surrogates:	REC (%)	Control Limits		Qual
1,4-Bromofluorobenzene	100	57-129			1,2-Dichloroethane-d4	95	47-137		
Toluene-d8	99	78-156							

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

Return to Contents ↑



## Analytical Report



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

Date Received: 11/11/11  
Work Order No: 11-11-1006  
Preparation: N/A  
Method: EPA TO-15M  
Units: ug/m3

Project: 15275 Washington Avenue, San Leandro, CA

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-983-1,957	N/A	Air	GC/MS AA	N/A	11/11/11 13:20	111111L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	ND	2.2	1						
Surrogates:	REC (%)	Control	Qual		Surrogates:	REC (%)	Control	Qual	
		Limits					Limits		
1,4-Bromofluorobenzene	102	57-129			1,2-Dichloroethane-d4	97	47-137		
Toluene-d8	98	78-156							

Return to Contents

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

7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501

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

Date Received: 11/11/11  
Work Order No: 11-11-1006  
Preparation: N/A  
Method: EPA TO-3M

Project: 15275 Washington Avenue, 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
P-31-FLUX	11-11-1006-1-A	11/10/11 13:09	Air	GC 53	N/A	11/11/11 13:59	111111L01

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	7000	1		ug/m3

P-33-FLUX	11-11-1006-2-A	11/10/11 13:31	Air	GC 53	N/A	11/11/11 14:09	111111L01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	9900	7000	1		ug/m3

P-34-FLUX	11-11-1006-3-A	11/10/11 12:47	Air	GC 53	N/A	11/11/11 14:19	111111L01
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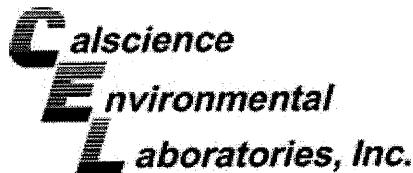
Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	7000	1		ug/m3

Method Blank	098-01-005-3,510	N/A	Air	GC 53	N/A	11/11/11 10:48	111111L01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	7000	1		ug/m3

Return to Contents

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



## Quality Control - Duplicate



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

Date Received: 11/11/11  
Work Order No: 11-11-1006  
Preparation: N/A  
Method: EPA TO-3M

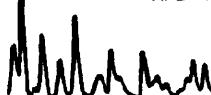
Project: 15275 Washington Avenue, San Leandro, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
11-11-0951-1	Air	GC 53	N/A	11/11/11	111111D02

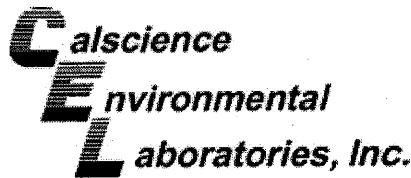
Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
TPH as Gasoline	419800	406400	3	0-20	

Return to Contents

RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501



## Quality Control - LCS/LCS Duplicate



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

Date Received: N/A  
Work Order No: 11-11-1006  
Preparation: N/A  
Method: EPA TO-15M

Project: 15275 Washington Avenue, San Leandro, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-983-1,957	Air	GC/MS AA	N/A	11/11/11	111111L01

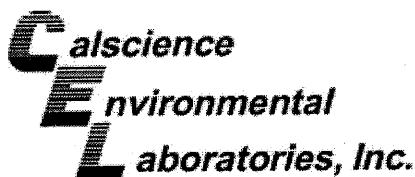
Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	79.87	101	101	60-156	0	0-40	
Toluene	94.21	99	101	56-146	1	0-43	
Ethylbenzene	108.6	96	96	52-154	0	0-38	
Xylenes (total)	325.7	93	93	42-156	1	0-41	
Methyl-t-Butyl Ether (MTBE)	90.13	100	99	50-150	1	0-25	
Tert-Butyl Alcohol (TBA)	151.6	96	89	60-140	7	0-35	
Diisopropyl Ether (DIPE)	104.5	85	85	60-140	0	0-35	
Ethyl-t-Butyl Ether (ETBE)	104.5	101	101	60-140	0	0-35	
Tert-Amyl-Methyl Ether (TAME)	104.5	102	100	60-140	2	0-35	
Ethanol	188.4	77	76	47-137	1	0-35	

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RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501



## Glossary of Terms and Qualifiers

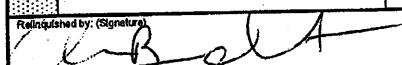
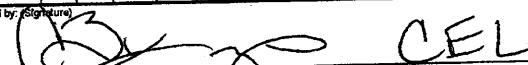
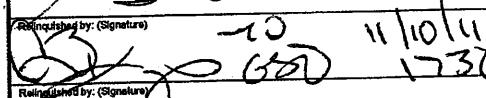
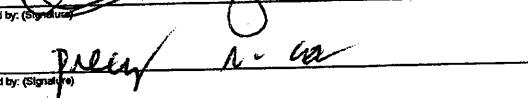


Work Order Number: 11-11-1006

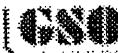
<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate 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 was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

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# Shell Oil Products Chain Of Custody Record

LAB (LOCATION)				Shell Oil Products Chain Of Custody Record											
<input checked="" type="checkbox"/> CALSCIENCE ( ) <input type="checkbox"/> SPL ( ) <input type="checkbox"/> XENCO ( ) <input type="checkbox"/> TEST AMERICA ( ) <input type="checkbox"/> OTHER ( )		<b>Please Check Appropriate Box:</b> <input type="checkbox"/> ENV. SERVICES <input type="checkbox"/> MOTIVA RETAIL <input type="checkbox"/> SHELL RETAIL <input type="checkbox"/> MOTIVA SD&CM <input checked="" type="checkbox"/> CONSULTANT <input type="checkbox"/> LUBES <input type="checkbox"/> SHELL PIPELINE <input type="checkbox"/> OTHER				<b>Print Bill To Contact Name:</b> Peter Schaefer				<b>INCIDENT # (ENV. SERVICES):</b> 9 7 0 9 3 4 1 2 <b>PO #:</b> <b>SAP #:</b>				<input type="checkbox"/> CHECK IF NO INCIDENT # APPLIES DATE: 11/10/2011	
<small>SAMPLING COMPANY:</small> Conestoga-Rovers & Associates		<small>LOG CODE:</small> CRAW				<small>SITE ADDRESS: Street and City</small> 15275 Washington Avenue, San Leandro, CA				<small>State:</small> CA <small>GLOBAL ID NO.:</small> TO600101226					
<small>ADDRESS:</small> 5900 Hollis Street, Suite A, Emeryville, CA 94608						<small>EDF DELIVERABLE TO (Name, Company, Office Location):</small> Brenda Carter, CRA, Emeryville				<small>PHONE NO.:</small> 510-420-3343 <small>E-MAIL:</small> shelledf@craworld.com				<small>CONSULTANT PROJECT NO.:</small> 240933-95-11.04	
<small>PROJECT CONTACT (Handy or PDF Report to):</small> Peter Schaefer						<small>SAMPLER NAME(S) (P/MC):</small> Chris Benedict								<small>CAB USE ONLY:</small> <b>11316006</b>	
<small>TELEPHONE:</small> 510-420-3319 <small>FAX:</small> 510-420-9170 <small>E-MAIL:</small> pschaefer@craworld.com															
<small>TURNAROUND TIME (CALENDAR DAYS):</small> <input checked="" type="checkbox"/> STANDARD (14 DAY) <input type="checkbox"/> 5 DAYS <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 24 HOURS						<small>RESULTS NEEDED ON WEEKEND:</small> <input type="checkbox"/>									
<input type="checkbox"/> LA - RWQCB REPORT FORMAT <input type="checkbox"/> UST AGENCY:															
<small>SPECIAL INSTRUCTIONS OR NOTES :</small>  Copy final report to Shell.Lab.Billing@craworld.com <i>10-9-15</i>						<input checked="" type="checkbox"/> SHELL CONTRACT RATE APPLIES <input type="checkbox"/> STATE REIMBURSEMENT RATE APPLIES <input type="checkbox"/> EDD NOT NEEDED <input checked="" type="checkbox"/> RECEIPT VERIFICATION REQUESTED									
<small>Please report results in <math>\mu\text{g}/\text{m}^3</math> for benzene.</small> <i>A</i>															
LAB NO. ONLY	Field Sample Identification	SAMPLING		PRESERVATIVE				NO. OF CONT.					Container PID Readings or Laboratory Notes		
		DATE	TIME	MATRIX	HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>		NONE	Ice	OTHER	TPHg (EPA TO-9)			BTX & MTBE (EPA TO-15)
	P-31 - FLUX	11/10/11	1309	Vapor			X			X	X				
2	P-33 - FLUX	11/10/11	1331	Vapor			X			X	X				
3	P-34 - FLUX	11/10/11	1247	Vapor			X			X	X				
<small>Relinquished by: (Signature)</small> 		<small>Received by: (Signature)</small> 						<small>Date:</small> 11/10/11 <small>Time:</small> 1500							
<small>Relinquished by: (Signature)</small> 		<small>Received by: (Signature)</small> 						<small>Date:</small> 11/11/11 <small>Time:</small> 10:30							
<small>Relinquished by: (Signature)</small> 		<small>Received by: (Signature)</small> 													

05/06 Revision



&lt; WebShip &gt; &gt; &gt; &gt;

800-322-5555 www.gso.com

1006

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

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

COD:  
 \$0.00

Reference:  
 CRA

Delivery Instructions:

Signature Type:  
 SIGNATURE REQUIRED

Tracking #: 517815059



NPS

**ORC**  
**GARDEN GROVE**

**D****D92843A**

95976479

Print Date : 11/10/11 15:32 PM

**Package 1 of 1** Print All

### LABEL INSTRUCTIONS:

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

STEP 1 - Use the "Send Label to Printer" button on this page to print the shipping label on a laser or inkjet printer.

STEP 2 - Fold this page in half.

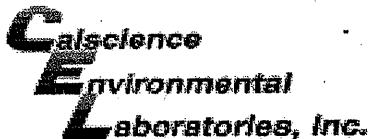
STEP 3 - Securely attach this label to your package, do not cover the barcode.

STEP 4 - Request an on-call pickup for your package, if you do not have scheduled daily pickup service or Drop-off your package at the nearest GSO drop box. Locate nearest GSO dropbox locations using this link.

### ADDITIONAL OPTIONS:

### TERMS AND CONDITIONS:

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



WORK ORDER #: 11-11-1006

**SAMPLE RECEIPT FORM**

Box 1 of 1

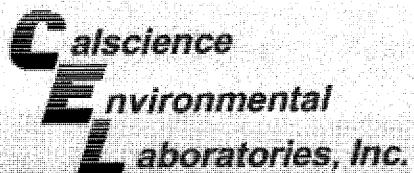
CLIENT: CRADATE: 11/11/11**TEMPERATURE:** Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)Temperature \_\_\_\_ °C + 0.5 °C (CF) = \_\_\_\_ °C     Blank     Sample Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_). Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling. Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature:  Air     FilterInitial: PS**CUSTODY SEALS INTACT:** Box     \_\_\_\_\_     No (Not Intact)     Not Present     N/AInitial: PS Sample     \_\_\_\_\_     No (Not Intact)     Not PresentInitial: PS**SAMPLE CONDITION:**

Yes

No

N/A

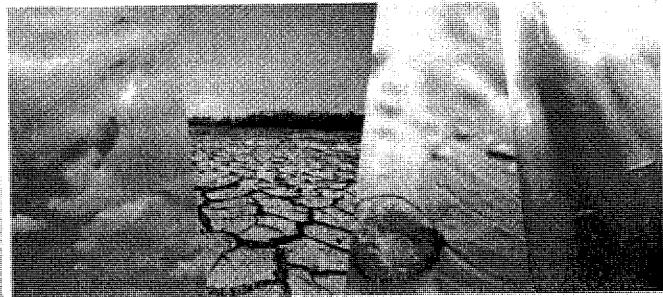
Chain-Of-Custody (COC) document(s) received with samples..... COC document(s) received complete.....   Collection date/time, matrix, and/or # of containers logged in based on sample labels. No analysis requested.     Not relinquished.     No date/time relinquished.Sampler's name indicated on COC..... Sample container label(s) consistent with COC..... Sample container(s) intact and good condition..... Proper containers and sufficient volume for analyses requested..... Analyses received within holding time..... pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours... Proper preservation noted on COC or sample container.....  Unpreserved vials received for Volatiles analysisVolatile analysis container(s) free of headspace..... Tedlar bag(s) free of condensation..... **CONTAINER TYPE:**Solid:  4ozCGJ  8ozCGJ  16ozCGJ  Sleeve (\_\_\_\_\_)  EnCores®  TerraCores®  \_\_\_\_\_Water:  VOA  VOAh  VOAna<sub>2</sub>  125AGB  125AGBh  125AGBp  1AGB  1AGBna<sub>2</sub>  1AGBs 500AGB  500AGJ  500AGJs  250AGB  250CGB  250CGBs  1PB  1PBna  500PB 250PB  250PBn  125PB  125PBznna  100PJ  100PJna<sub>2</sub>  \_\_\_\_\_  \_\_\_\_\_ Air:  Tedlar®  Summa® Other:  \_\_\_\_\_ Trip Blank Lot#: 25 Labeled/Checked by: PSContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: PSPreservative: h: HCL n: HNO<sub>3</sub> na<sub>2</sub>:Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> na: NaOH p: H<sub>3</sub>PO<sub>4</sub> s: H<sub>2</sub>SO<sub>4</sub> u: Ultra-pure znna: ZnAc<sub>2</sub>+NaOH f: Filtered Scanned by: PS



# **CALSCIENCE**

**WORK ORDER NUMBER: 11-11-1373**

## *The difference is service*



## AB SOIL WATER MARINE CHEMISTRY

## Analytical Report For

**Client: Conestoga-Rovers & Associates**

**Client Project Name:** 15275 Washington Avenue, San Leandro, CA

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

*Wesbury*

Approved for release on 11/28/2011 by:  
Xuan Dang  
Project Manager

• 18 •

Email your PMLs

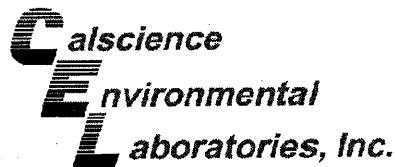


Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety. Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.

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www.ijerpes.com | ISSN: 2231-3381 | DOI: 10.15417/ijerpes.2021.00001 | RESEARCH PAPER



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Work Order Number: 11-11-1373

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## CASE NARRATIVE

**Calscience Work Order No.: 11-11-1373**

### Insufficient Sample Volume

Sample #12 SVG-5-5 was received with low volume and was insufficient to perform all requested analyses on the COC. Client was notified and had decided to cancel all analyses for this sample.



Client: Conestoga-Rovers & Associates  
 5900 Hollis Street, Suite A  
 Emeryville, CA 94608-2008  
 Work Order: 11-11-1373  
 Project name: 15275 Washington Avenue, San Leandro, C  
 Received: 11/17/11 10:30  
 Attn: Peter Schaefer

### DETECTIONS SUMMARY

#### Client Sample ID

Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
<b>SVG-6-5</b>						
Methane	2.11		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	6.49		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	2.23		0.500	%v	ASTM D-1946	N/A
Benzene	19000		1600	ug/m3	EPA TO-15M	N/A
Ethylbenzene	6700		2200	ug/m3	EPA TO-15M	N/A
TPH as Gasoline	120000000		700000	ug/m3	EPA TO-3M	N/A
<b>SVG-7-3</b>						
Carbon Dioxide	2.52		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	13.4		0.500	%v	ASTM D-1946	N/A
<b>SVG-8-3</b>						
Carbon Dioxide	8.81		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	2.40		0.500	%v	ASTM D-1946	N/A
Ethylbenzene	3.0		2.2	ug/m3	EPA TO-15M	N/A
TPH as Gasoline	20000		7000	ug/m3	EPA TO-3M	N/A
<b>SVG-8-5</b>						
Carbon Dioxide	9.61		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	2.28		0.500	%v	ASTM D-1946	N/A
TPH as Gasoline	34000		7000	ug/m3	EPA TO-3M	N/A
<b>SVG-9-3</b>						
Carbon Dioxide	12.3		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	5.76		0.500	%v	ASTM D-1946	N/A
TPH as Gasoline	13000		7000	ug/m3	EPA TO-3M	N/A
<b>SVG-9-5</b>						
Carbon Dioxide	13.8		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	5.04		0.500	%v	ASTM D-1946	N/A
TPH as Gasoline	9900		7000	ug/m3	EPA TO-3M	N/A
<b>SVG-9-7.5</b>						
Carbon Dioxide	15.2		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	4.14		0.500	%v	ASTM D-1946	N/A

\*MDL is shown.

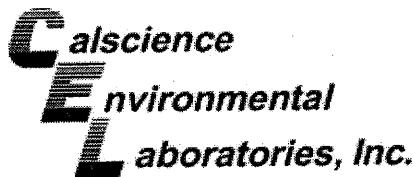
Client: Conestoga-Rovers & Associates  
 5900 Hollis Street, Suite A  
 Emeryville, CA 94608-2008  
 Work Order: 11-11-1373  
 Project name: 15275 Washington Avenue, San Leandro, C  
 Received: 11/17/11 10:30  
 Attn: Peter Schaefer

### DETECTIONS SUMMARY

Client Sample ID	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
SVG-7-5						
Carbon Dioxide	<b>2.64</b>		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	<b>13.6</b>		0.500	%v	ASTM D-1946	N/A
SVG-4-5						
Carbon Dioxide	<b>9.35</b>		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	<b>7.32</b>		0.500	%v	ASTM D-1946	N/A
Ethylbenzene	<b>16</b>		2.2	ug/m <sup>3</sup>	EPA TO-15M	N/A
Xylenes (total)	<b>30</b>		8.7	ug/m <sup>3</sup>	EPA TO-15M	N/A
SVG-4-3						
Carbon Dioxide	<b>9.08</b>		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	<b>7.27</b>		0.500	%v	ASTM D-1946	N/A
Ethylbenzene	<b>54</b>		2.2	ug/m <sup>3</sup>	EPA TO-15M	N/A
Xylenes (total)	<b>85</b>		8.7	ug/m <sup>3</sup>	EPA TO-15M	N/A
SVG-5-3						
Methane	<b>1.42</b>		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	<b>10.2</b>		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	<b>2.50</b>		0.500	%v	ASTM D-1946	N/A
Benzene	<b>1000</b>		320	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	<b>1700</b>		430	ug/m <sup>3</sup>	EPA TO-15M	N/A
TPH as Gasoline	<b>17000000</b>		70000	ug/m <sup>3</sup>	EPA TO-3M	N/A
SVG-6-3						
Methane	<b>2.23</b>		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	<b>6.05</b>		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	<b>2.44</b>		0.500	%v	ASTM D-1946	N/A
Benzene	<b>16000</b>		1600	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	<b>7900</b>		2200	ug/m <sup>3</sup>	EPA TO-15M	N/A
TPH as Gasoline	<b>99000000</b>		700000	ug/m <sup>3</sup>	EPA TO-3M	N/A

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

\*MDL is shown.



## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: ASTM D-1946  
Units: %v

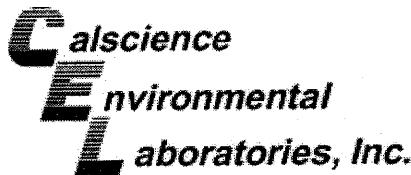
Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID		
SVG-6-5	11-11-1373-1-A	11/16/11 14:35	Air	GC 34	N/A	11/17/11 12:58	111117L01		
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	2.11	0.500	1	Oxygen + Argon	2.23	0.500	1		
Carbon Dioxide	6.49	0.500	1						
SVG-7-3	11-11-1373-2-A	11/16/11 11:35	Air	GC 34	N/A	11/17/11 13:35	111117L01		
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1	Oxygen + Argon	13.4	0.500	1		
Carbon Dioxide	2.52	0.500	1						
SVG-8-3	11-11-1373-3-A	11/16/11 10:55	Air	GC 34	N/A	11/17/11 14:19	111117L01		
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1	Oxygen + Argon	2.40	0.500	1		
Carbon Dioxide	8.81	0.500	1						
SVG-8-5	11-11-1373-4-A	11/16/11 11:05	Air	GC 34	N/A	11/17/11 15:44	111117L01		
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1	Oxygen + Argon	2.28	0.500	1		
Carbon Dioxide	9.61	0.500	1						
SVG-9-3	11-11-1373-5-A	11/16/11 10:00	Air	GC 34	N/A	11/17/11 16:34	111117L01		
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1	Oxygen + Argon	5.76	0.500	1		
Carbon Dioxide	12.3	0.500	1						
SVG-9-5	11-11-1373-6-A	11/16/11 10:11	Air	GC 34	N/A	11/17/11 17:21	111117L01		
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1	Oxygen + Argon	5.04	0.500	1		
Carbon Dioxide	13.8	0.500	1						
SVG-9-7-5	11-11-1373-7-A	11/16/11 10:30	Air	GC 34	N/A	11/17/11 18:05	111117L01		
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1	Oxygen + Argon	4.14	0.500	1		
Carbon Dioxide	15.2	0.500	1						

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

Return to Contents ↑



## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: ASTM D-1946  
Units: %v

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-7-5	11-11-1373-8-A	11/16/11 11:45	Air	GC 34	N/A	11/17/11 18:46	111117L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual		
Methane	ND	0.500	1		Oxygen + Argon	13.6	0.500	1			
Carbon Dioxide	2.64	0.500	1								
SVG-4-5					11-11-1373-9-A	11/16/11 13:20	Air	GC 34	N/A	11/17/11 19:19	111117L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual		
Methane	ND	0.500	1		Oxygen + Argon	7.32	0.500	1			
Carbon Dioxide	9.35	0.500	1								
SVG-4-3					11-11-1373-10-A	11/16/11 13:10	Air	GC 34	N/A	11/17/11 20:10	111117L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual		
Methane	ND	0.500	1		Oxygen + Argon	7.27	0.500	1			
Carbon Dioxide	9.08	0.500	1								
SVG-5-3					11-11-1373-11-A	11/16/11 13:45	Air	GC 34	N/A	11/17/11 21:18	111117L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual		
Methane	1.42	0.500	1		Oxygen + Argon	2.50	0.500	1			
Carbon Dioxide	10.2	0.500	1								
SVG-6-3					11-11-1373-13-A	11/16/11 14:24	Air	GC 34	N/A	11/17/11 21:56	111117L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual		
Methane	2.23	0.500	1		Oxygen + Argon	2.44	0.500	1			
Carbon Dioxide	6.05	0.500	1								
Method Blank					099-03-002-1,433	N/A	Air	GC 34	N/A	11/17/11 12:18	111117L01

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

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

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### Analytical Report

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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: ASTM D-1946 (M)

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-6-5	11-11-1373-1-A	11/16/11 14:35	Air	GC 55	N/A	11/17/11 13:46	111117L01

Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-7-3	11-11-1373-2-A	11/16/11 11:35	Air	GC 55	N/A	11/17/11 14:09	111117L01

Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-8-3	11-11-1373-3-A	11/16/11 10:55	Air	GC 55	N/A	11/17/11 14:33	111117L01

Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-8-5	11-11-1373-4-A	11/16/11 11:05	Air	GC 55	N/A	11/17/11 15:17	111117L01

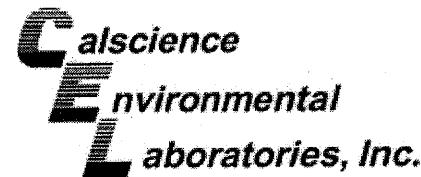
Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-9-3	11-11-1373-5-A	11/16/11 10:00	Air	GC 55	N/A	11/17/11 15:39	111117L01

Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-9-5	11-11-1373-6-A	11/16/11 10:11	Air	GC 55	N/A	11/17/11 16:05	111117L01

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

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

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## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: ASTM D-1946 (M)

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-9-7.5	11-11-1373-7-A	11/16/11 10:30	Air	GC 55	N/A	11/17/11 16:26	111117L01

Parameter	Result	RL	DF	Qual	Units			
Helium	ND	0.0100	1		%v			
SVG-7.5		11-11-1373-8-A	11/16/11 11:45	Air	GC 55	N/A	11/17/11 16:51	111117L01

Parameter	Result	RL	DF	Qual	Units			
Helium	ND	0.0100	1		%v			
SVG-4.5		11-11-1373-9-A	11/16/11 13:20	Air	GC 55	N/A	11/17/11 17:15	111117L01

Parameter	Result	RL	DF	Qual	Units			
Helium	ND	0.0100	1		%v			
SVG-4.3		11-11-1373-10-A	11/16/11 13:10	Air	GC 55	N/A	11/17/11 17:37	111117L01

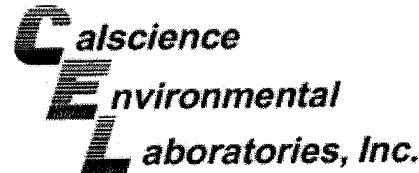
Parameter	Result	RL	DF	Qual	Units			
Helium	ND	0.0100	1		%v			
SVG-5.3		11-11-1373-11-A	11/16/11 13:45	Air	GC 55	N/A	11/17/11 18:00	111117L01

Parameter	Result	RL	DF	Qual	Units			
Helium	ND	0.0100	1		%v			
SVG-6.3		11-11-1373-13-A	11/16/11 14:24	Air	GC 55	N/A	11/17/11 18:26	111117L01

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

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

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## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: ASTM D-1946 (M)

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-872-187	N/A	Air	GC 55	N/A	11/17/11 13:24	111117L01

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

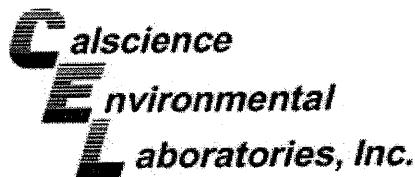
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RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



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## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: EPA TO-15M  
Units: ug/m3

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-6-5	11-11-1373-1-A	11/16/11 14:35	Air	GC/MS AA	N/A	11/18/11 18:34	111118L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	19000	1600	1000		Xylenes (total)	ND	8700	1000	
Toluene	ND	19000	1000		Methyl-t-Butyl Ether (MTBE)	ND	7200	1000	
Ethylbenzene	6700	2200	1000						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>	
		Limits					Limits		
1,4-Bromofluorobenzene	121	57-129			1,2-Dichloroethane-d4	92	47-137		
Toluene-d8	64	78-156		1,2,6					
SVG-7-3					11-11-1373-2-A	11/16/11 11:35	Air	GC/MS AA	N/A
									11/17/11 23:02
									111117L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

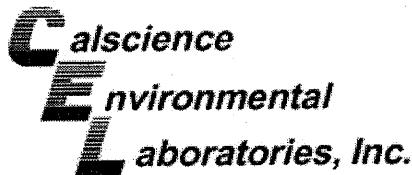
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	ND	2.2	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>	
		Limits					Limits		
1,4-Bromofluorobenzene	102	57-129			1,2-Dichloroethane-d4	100	47-137		
Toluene-d8	97	78-156							
SVG-8-3					11-11-1373-3-A	11/16/11 10:55	Air	GC/MS AA	N/A
									11/17/11 23:50
									111117L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	3.0	2.2	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>	
		Limits					Limits		
1,4-Bromofluorobenzene	107	57-129			1,2-Dichloroethane-d4	103	47-137		
Toluene-d8	96	78-156							

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



## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: EPA TO-15M  
Units: ug/m3

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-8-5	11-11-1373-4-A	11/16/11 11:05	Air	GC/MS AA	N/A	11/18/11 00:38	111117L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	ND	2.2	1						
Surrogates:	REC (%)	Control		Qual	Surrogates:	REC (%)	Control		Qual
		Limits					Limits		
1,4-Bromofluorobenzene	102	57-129			1,2-Dichloroethane-d4	96	47-137		
Toluene-d8	97	78-156							
SVG-9-3					11-11-1373-5-A	11/16/11 10:00	Air	GC/MS AA	N/A
									11/18/11 01:25
									111117L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

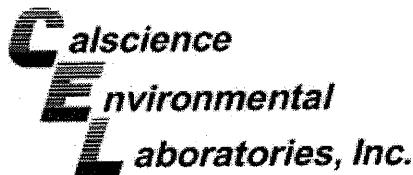
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	ND	2.2	1						
Surrogates:	REC (%)	Control		Qual	Surrogates:	REC (%)	Control		Qual
		Limits					Limits		
1,4-Bromofluorobenzene	101	57-129			1,2-Dichloroethane-d4	93	47-137		
Toluene-d8	98	78-156							
SVG-9-5					11-11-1373-6-A	11/16/11 10:11	Air	GC/MS AA	N/A
									11/18/11 02:12
									111117L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	ND	2.2	1						
Surrogates:	REC (%)	Control		Qual	Surrogates:	REC (%)	Control		Qual
		Limits					Limits		
1,4-Bromofluorobenzene	97	57-129			1,2-Dichloroethane-d4	113	47-137		
Toluene-d8	98	78-156							

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



## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: EPA TO-15M  
Units: ug/m3

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-9-7.5	11-11-1373-7-A	11/16/11 10:30	Air	GC/MS AA	N/A	11/18/11 03:00	111117L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	ND	2.2	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>	
1,4-Bromofluorobenzene	99	57-129			1,2-Dichloroethane-d4	93	47-137		
Toluene-d8	98	78-156							
SVG-7.5		11-11-1373-8-A	11/16/11 11:45	Air	GC/MS AA	N/A	11/18/11 03:47		111117L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

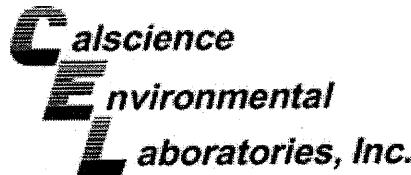
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	ND	2.2	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>	
1,4-Bromofluorobenzene	98	57-129			1,2-Dichloroethane-d4	95	47-137		
Toluene-d8	98	78-156							
SVG-4.5		11-11-1373-9-A	11/16/11 13:20	Air	GC/MS AA	N/A	11/18/11 04:34		111117L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	30	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	16	2.2	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>	
1,4-Bromofluorobenzene	98	57-129			1,2-Dichloroethane-d4	95	47-137		
Toluene-d8	97	78-156							

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

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## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: EPA TO-15M  
Units: ug/m3

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-4-3	11-11-1373-10-A	11/16/11 13:10	Air	GC/MS AA	N/A	11/18/11 05:22	111117L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	85	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	54	2.2	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>	
1,4-Bromofluorobenzene	97	57-129			1,2-Dichloroethane-d4	98	47-137		
Toluene-d8	97	78-156							
SVG-5-3					11-11-1373-11-A	11/16/11 13:45	Air	GC/MS AA	N/A
									11/18/11 17:01
									111118L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	1000	320	200		Xylenes (total)	ND	1700	200	
Toluene	ND	3800	200		Methyl-t-Butyl Ether (MTBE)	ND	1400	200	
Ethylbenzene	1700	430	200						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>	
1,4-Bromofluorobenzene	170	57-129		1,2,7	1,2-Dichloroethane-d4	98	47-137		
Toluene-d8	66	78-156		1,2,6					
SVG-6-3					11-11-1373-13-A	11/16/11 14:24	Air	GC/MS AA	N/A
									11/18/11 17:47
									111118L01

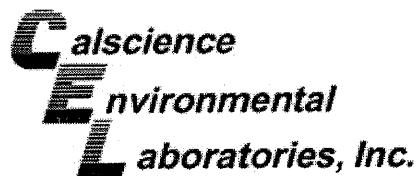
Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	16000	1600	1000		Xylenes (total)	ND	8700	1000	
Toluene	ND	19000	1000		Methyl-t-Butyl Ether (MTBE)	ND	7200	1000	
Ethylbenzene	7900	2200	1000						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>	
1,4-Bromofluorobenzene	118	57-129			1,2-Dichloroethane-d4	95	47-137		
Toluene-d8	66	78-156		1,2,6					

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

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## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: EPA TO-15M  
Units: ug/m3

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-983-1,964	N/A	Air	GC/MS AA	N/A	11/17/11 18:42	111117L01

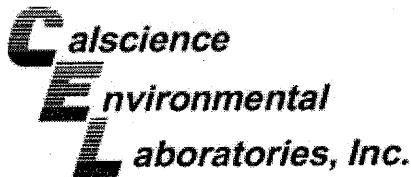
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	ND	2.2	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>	
		Limits					Limits		
1,4-Bromofluorobenzene	99	57-129			1,2-Dichloroethane-d4	101	47-137		
Toluene-d8	97	78-156							
Method Blank	099-12-983-1,965	N/A	Air	GC/MS AA	N/A	11/18/11 12:13	111118L01		

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	ND	2.2	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>	
		Limits					Limits		
1,4-Bromofluorobenzene	101	57-129			1,2-Dichloroethane-d4	100	47-137		
Toluene-d8	98	78-156							

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

7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501



## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: EPA TO-3M

Project: 15275 Washington Avenue, San Leandro, CA

Page 1 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-6-5	11-11-1373-1-A	11/16/11 14:35	Air	GC 13	N/A	11/17/11 18:13	111117L02

Parameter Result RL DF Qual Units  
TPH as Gasoline 120000000 700000 100 ug/m3

SVG-7-3	11-11-1373-2-A	11/16/11 11:35	Air	GC 13	N/A	11/17/11 14:29	111117L02
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Parameter Result RL DF Qual Units  
TPH as Gasoline ND 7000 1 ug/m3

SVG-8-3	11-11-1373-3-A	11/16/11 10:55	Air	GC 13	N/A	11/17/11 14:39	111117L02
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Parameter Result RL DF Qual Units  
TPH as Gasoline 20000 7000 1 ug/m3

SVG-8-5	11-11-1373-4-A	11/16/11 11:05	Air	GC 13	N/A	11/17/11 14:50	111117L02
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Parameter Result RL DF Qual Units  
TPH as Gasoline 34000 7000 1 ug/m3

SVG-9-3	11-11-1373-5-A	11/16/11 10:00	Air	GC 13	N/A	11/17/11 15:02	111117L02
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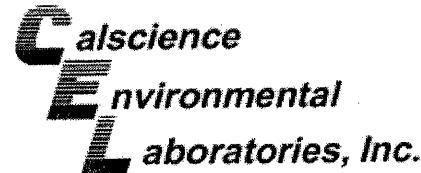
Parameter Result RL DF Qual Units  
TPH as Gasoline 13000 7000 1 ug/m3

SVG-9-5	11-11-1373-6-A	11/16/11 10:11	Air	GC 13	N/A	11/17/11 15:13	111117L02
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Parameter Result RL DF Qual Units  
TPH as Gasoline 9900 7000 1 ug/m3

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

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## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: EPA TO-3M

Project: 15275 Washington Avenue, San Leandro, CA

Page 2 of 3

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-9-7.5	11-11-1373-7-A	11/16/11 10:30	Air	GC 13	N/A	11/17/11 15:23	111117L02

Parameter	Result	RL	DF	Qual	Units		
TPH as Gasoline	ND	7000	1		ug/m3		
SVG-7.5	11-11-1373-8-A	11/16/11 11:45	Air	GC 13	N/A	11/17/11 15:37	111117L02

Parameter	Result	RL	DF	Qual	Units		
TPH as Gasoline	ND	7000	1		ug/m3		
SVG-4-5	11-11-1373-9-A	11/16/11 13:20	Air	GC 13	N/A	11/17/11 15:47	111117L02

Parameter	Result	RL	DF	Qual	Units		
TPH as Gasoline	ND	7000	1		ug/m3		
SVG-4-3	11-11-1373-10-A	11/16/11 13:10	Air	GC 13	N/A	11/17/11 15:59	111117L02

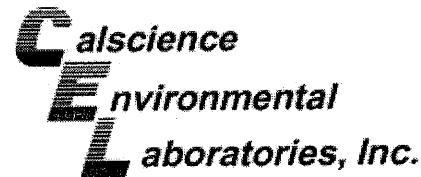
Parameter	Result	RL	DF	Qual	Units		
TPH as Gasoline	ND	7000	1		ug/m3		
SVG-5-3	11-11-1373-11-A	11/16/11 13:45	Air	GC 13	N/A	11/17/11 17:54	111117L02

Parameter	Result	RL	DF	Qual	Units		
TPH as Gasoline	17000000	70000	10		ug/m3		
SVG-6-3	11-11-1373-13-A	11/16/11 14:24	Air	GC 13	N/A	11/17/11 18:38	111117L02

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	99000000	700000	100		ug/m3

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

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## Analytical Report



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: EPA TO-3M

Project: 15275 Washington Avenue, San Leandro, CA

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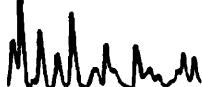
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	098-01-005-3,522	N/A	Air	GC 13	N/A	11/17/11 11:19	111117L02

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	7000	1		ug/m3

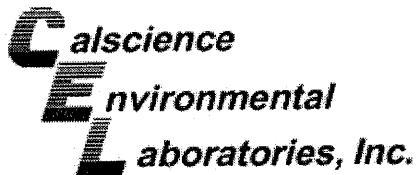
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RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501



## Quality Control - Duplicate



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

Date Received: 11/17/11  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: EPA TO-3M

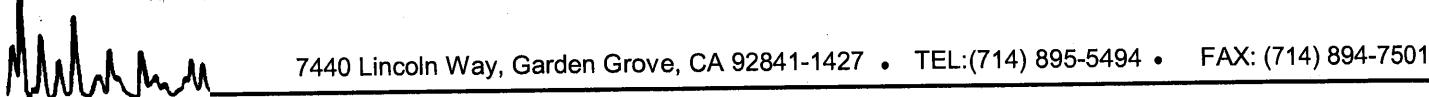
Project: 15275 Washington Avenue, San Leandro, CA

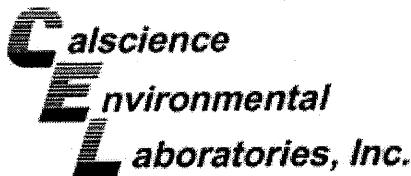
Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
SVG-6-3	Air	GC 13	N/A	11/17/11	111117D02

Parameter	Sample Conc.	DUP Conc	RPD	RPD CL	Qualifiers
TPH as Gasoline	99100000	102100000	3	0-20	

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RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - LCS/LCS Duplicate



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

Date Received: N/A  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: ASTM D-1946

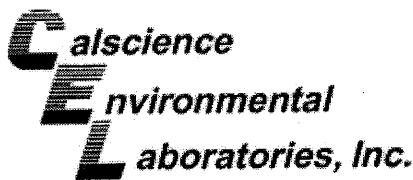
Project: 15275 Washington Avenue, San Leandro, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-03-002-1,433	Air	GC-34	N/A	11/17/11	111117L01

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Methane	10.12	94	94	80-120	0	0-30	
Carbon Dioxide	10.07	96	96	80-120	1	0-30	
Carbon Monoxide	9.930	102	102	80-120	0	0-30	
Oxygen + Argon	3.500	96	95	80-120	1	0-30	
Nitrogen	10.02	98	97	80-120	1	0-30	

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RPD - Relative Percent Difference , CL - Control Limit



## Quality Control - LCS/LCS Duplicate



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

Date Received: N/A  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: ASTM D-1946 (M)

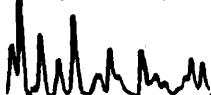
Project: 15275 Washington Avenue, San Leandro, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-872-187	Air	GC-55	N/A	11/17/11	11117L01

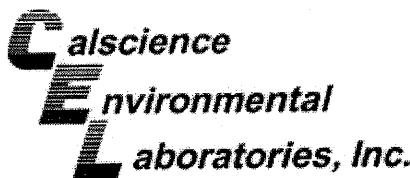
Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Helium	1.000	96	99	80-120	3	0-30	
Hydrogen	1.000	98	101	80-120	3	0-30	

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RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate



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

Date Received: N/A  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: EPA TO-15M

Project: 15275 Washington Avenue, San Leandro, CA

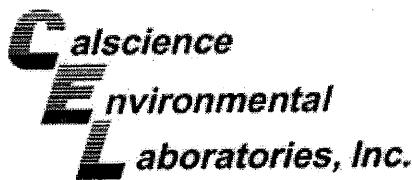
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-12-983-1,964	Air	GC/MS AA	N/A	11/17/11	111117L01

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	79.87	101	101	60-156	0	0-40	
Toluene	94.21	102	102	56-146	0	0-43	
Ethylbenzene	108.6	97	99	52-154	2	0-38	
Xylenes (total)	325.7	97	98	42-156	1	0-41	
Methyl-t-Butyl Ether (MTBE)	90.13	105	105	50-150	0	0-25	
Tert-Butyl Alcohol (TBA)	151.6	99	100	60-140	1	0-35	
Diisopropyl Ether (DIPE)	104.5	83	82	60-140	1	0-35	
Ethyl-t-Butyl Ether (ETBE)	104.5	106	103	60-140	2	0-35	
Tert-Amyl-Methyl Ether (TAME)	104.5	101	101	60-140	0	0-35	
Ethanol	188.4	146	143	47-137	2	0-35	X

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RPD - Relative Percent Difference , CL - Control Limit

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## Quality Control - LCS/LCS Duplicate



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

Date Received: N/A  
Work Order No: 11-11-1373  
Preparation: N/A  
Method: EPA TO-15M

Project: 15275 Washington Avenue, San Leandro, CA

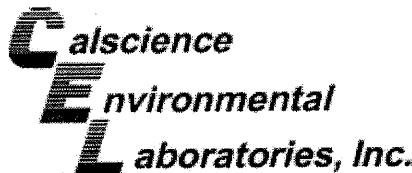
Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-983-1,965	Air	GC/MS AA	N/A	11/18/11	111118L01

Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	79.87	95	96	60-156	1	0-40	
Toluene	94.21	94	95	56-146	2	0-43	
Ethylbenzene	108.6	91	93	52-154	2	0-38	
Xylenes (total)	325.7	93	95	42-156	2	0-41	
Methyl-t-Butyl Ether (MTBE)	90.13	100	104	50-150	4	0-25	
Tert-Butyl Alcohol (TBA)	151.6	110	111	60-140	1	0-35	
Diisopropyl Ether (DIPE)	104.5	80	82	60-140	3	0-35	
Ethyl-t-Butyl Ether (ETBE)	104.5	102	105	60-140	2	0-35	
Tert-Amyl-Methyl Ether (TAME)	104.5	95	99	60-140	4	0-35	
Ethanol	188.4	172	176	47-137	3	0-35	X

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RPD - Relative Percent Difference , CL - Control Limit

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## Glossary of Terms and Qualifiers

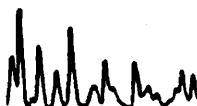


Work Order Number: 11-11-1373

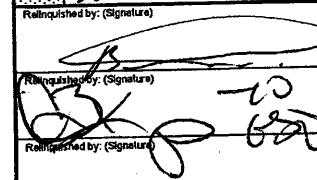
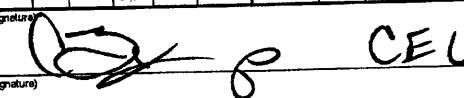
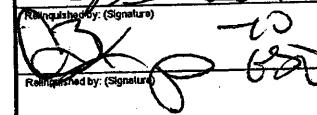
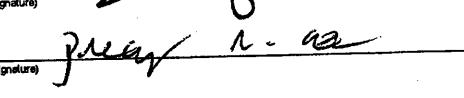
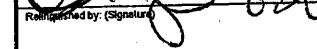
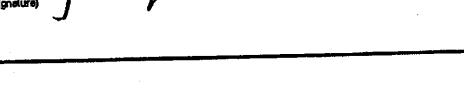
<u>Qualifier</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate 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 was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

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# Shell Oil Products Chain Of Custody Record

LAB (LOCATION)																					
<input checked="" type="checkbox"/> CALSCIENCE ( ) <input type="checkbox"/> SPL ( ) <input type="checkbox"/> XENCO ( ) <input type="checkbox"/> TEST AMERICA ( ) <input type="checkbox"/> OTHER ( )		<b>Please Check Appropriate Box:</b> <input type="checkbox"/> ENV. SERVICES <input type="checkbox"/> MOTIVA RETAIL <input type="checkbox"/> SHELL RETAIL <input type="checkbox"/> MOTIVA SD&CM <input checked="" type="checkbox"/> CONSULTANT <input type="checkbox"/> LUBES <input type="checkbox"/> SHELL PIPELINE <input type="checkbox"/> OTHER					<b>Print Bill To Contact Name:</b> Peter Schaefer <b>PO #:</b> _____					<b>INCIDENT # (ENV SERVICES):</b>		<input type="checkbox"/> CHECK IF NO INCIDENT # APPLIES							
												9	7	0	9	3	4	1	2	DATE: 11/10/2011	
												<b>SAP #:</b>				PAGE: 1 of 24					
												1	2	9	4	6	0				
SAMPLING COMPANY: Conestoga-Rovers & Associates		LOG CODE: CRAW					SITE ADDRESS: Street and City 15275 Washington Avenue, San Leandro, CA					State: CA		GLOBAL ID #: TO600101226		CONSULTANT PROJECT NO.: 240933-95-11-04					
ADDRESS: 5900 Hollis Street, Suite A, Emeryville, CA 94608							D/P/D DELIVERABLE TO (Name, Company, Office Location): Brenda Carter, CRA, Emeryville					PHONE NO.: 510-420-3343		E-MAIL: shelled@craworld.com							
PROJECT CONTACT (Hardcopy or PDF Report to): Peter Schaefer							SAMPLER NAME(S) (PIN): Belew Yifru														
TELEPHONE: 510-420-3319		FAX: 510-420-9170		E-MAIL: pschaefer@craworld.com												<b>11-11-1373</b>					
TURNAROUND TIME (CALENDAR DAYS): <input type="checkbox"/> STANDARD (14 DAY) <input type="checkbox"/> 5 DAYS <input type="checkbox"/> 3 DAYS <input type="checkbox"/> 2 DAYS <input type="checkbox"/> 24 HOURS							<input type="checkbox"/> RESULTS NEEDED ON WEEKEND					<b>REQUESTED ANALYSIS</b>									
<input type="checkbox"/> LA - RWQCB REPORT FORMAT		<input type="checkbox"/> UST AGENCY:																			
							<input checked="" type="checkbox"/> SHELL CONTRACT RATE APPLIES														
							<input type="checkbox"/> STATE REIMBURSEMENT RATE APPLIES														
							<input type="checkbox"/> EDD NOT NEEDED														
							<input checked="" type="checkbox"/> RECEIPT VERIFICATION REQUESTED														
Please report results in $\mu\text{g}/\text{m}^3$ for 8260. Needed detection limit of below 8 $\mu\text{g}/\text{m}^3$ for benzene																					
LAB USE ONLY	Field Sample Identification		SAMPLING		MATRIX	PRESERVATIVE				NO. OF CONT.	Container PID Readings or Laboratory Notes										
			DATE	TIME		HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NONE												Ice
1	SVG-6-5	11/16/11 11/17/11	1435	Vapor			X			X	X	X									
2	SVG-7-3	11/16/11 11/17/11	1135	Vapor			X			X	X	X									
3	SVG-8-3	11/16/11 11/17/11	1055	Vapor			X			X	X	X									
4	SVG-8-5	11/16/11 11/17/11	1105	Vapor			X			X	X	X									
	SVG-8-7.5	11/16/11 11/17/11		Vapor			X			X	X	X									
5	SVG-9-3	11/16/11 11/17/11	1000	Vapor			X			X	X	X									
6	SVG-9-5	11/16/11 11/17/11	1011	Vapor			X			X	X	X									
7	SVG-9-7.5	11/16/11 11/17/11	1030	Vapor			X			X	X	X									
8	SVG-7-5	11/16/11	1145															Date: 11/16/11	Time: 1455		
9	SVG-4-5	11/16/11	1320															Date: 11/17/11	Time: 10:30		
Distinguished by: (Signature) 		Received by: (Signature) 																			
Distinguished by: (Signature) 		Received by: (Signature) 																			
Distinguished by: (Signature) 		Received by: (Signature) 																			

# Shell Oil Products Chain Of Custody Record

LAB (LOCATION)																							
<input checked="" type="checkbox"/> CALSCIENCE ( ) <input type="checkbox"/> SPL ( ) <input type="checkbox"/> XENCO ( ) <input type="checkbox"/> TEST AMERICA ( ) <input type="checkbox"/> OTHER ( )		<b>Please Check Appropriate Box:</b> <input type="checkbox"/> ENV. SERVICES <input type="checkbox"/> MOTIVA RETAIL <input type="checkbox"/> SHELL RETAIL <input type="checkbox"/> MOTIVA SD&CM <input checked="" type="checkbox"/> CONSULTANT <input type="checkbox"/> LUBES <input type="checkbox"/> SHELL PIPELINE <input type="checkbox"/> OTHER					<b>Print Bill To Contact Name:</b> Peter Schaefer <b>PO. #</b> <b>INCIDENT # (ENV SERVICES):</b> 9 7 0 9 3 4 1 2 <b>SAP #</b> 1 2 9 4 6 0					<input type="checkbox"/> CHECK IF NO INCIDENT # APPLIES DATE: 11/10/2011 <b>PAGE:</b> 21 of 27											
SAMPLING COMPANY: <b>Conestoga-Rovers &amp; Associates</b>		LOG CODE: <b>CRAW</b>					SITE ADDRESS: Street and City <b>15275 Washington Avenue, San Leandro, CA</b>					State <b>CA</b>		GLOBAL ID NO. <b>TO600101226</b>									
ADDRESS: 5900 Hollis Street, Suite A, Emeryville, CA 94608							EOF DELIVERABLE TO Name, Company, Office Location: <b>Brenda Carter, CRA, Emeryville</b>					PHONE NO.: <b>510-420-3343</b>		E-MAIL: <b>shelledf@craworld.com</b>									
PROJECT CONTACT (Handcopy or PDF Report to): <b>Peter Schaefer</b>							SAMPLER NAME(S) (Print): <b>BELEW YIFRU</b>					LAB USE ONLY		<b>1-11-1373</b>									
TELEPHONE: 510-420-3319		FAX: 510-420-9170		EMAIL: pschaefer@craworld.com			RESULTS NEEDED ON WEEKEND																
STANDARD (14 DAY)		5 DAYS		3 DAYS		2 DAYS		24 HOURS															
<input type="checkbox"/> LA - RWQCB REPORT FORMAT <input type="checkbox"/> UST AGENCY:		<input checked="" type="checkbox"/> SHELL CONTRACT RATE APPLIES <input type="checkbox"/> STATE REIMBURSEMENT RATE APPLIES <input type="checkbox"/> EDD NOT NEEDED <input checked="" type="checkbox"/> RECEIPT VERIFICATION REQUESTED										TEMPERATURE ON RECEIPT C°											
SPECIAL INSTRUCTIONS OR NOTES :												Container PID Readings or Laboratory Notes											
Copy final report to Shell.Lab.Billing@craworld.com																							
Please report results in $\mu\text{g}/\text{m}^3$ for 8260. Needed detection limit of below 8 $\mu\text{g}/\text{m}^3$ for benzene																							
LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	Helium, Oxygen, Carbon Dioxide, Methane Method ASTM D1946 TPHg (EPA TO-3) BTEx & MTBE (EPA TO-15)										Container PID Readings or Laboratory Notes		
		DATE	TIME		HCl	HNO3	H2SO4	NONE	Ice														OTHER
	SVG-1-3	11/16/11	Vapor			X				X	X	X											
	SVG-1-5	11/16/11	Vapor			X				X	X	X											
	SVG-2-3	11/16/11	Vapor			X				X	X	X											
	SVG-2-5	11/16/11	Vapor			X				X	X	X											
	SVG-3-3	11/16/11	Vapor			X				X	X	X											
	SVG-3-5	11/16/11	Vapor			X				X	X	X											
C	SVG-4-3	11/16/11	1310 Vapor			X				X	X	X											
Z	SVG-5-3	11/16/11	1345 Vapor			X				X	X	X											
Z	SVG-5-5	11/16/11	1355 Vapor			X				X	X	X											
Z	SVG-6-3	11/16/11	1424 Vapor			X				X	X	X											
Relinquished by: (Signature)		Received by: (Signature)										Date: 11/16/11		Time: 1455									
Relinquished by: (Signature)		Received by: (Signature)										Date: 11/17/11		Time: 10:30									
Relinquished by: (Signature)		Received by: (Signature)										Date: 11/17/11		Time: 10:30									

1373



&lt; WebShip &gt; &gt; &gt; &gt;

800-322-5555 www.gso.com

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

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

**COD:**  
 \$0.00

**Reference:**  
 CRA

**Delivery Instructions:**

**Signature Type:**  
 SIGNATURE REQUIRED

Tracking #: 517853584



NPS

**ORC**  
**GARDEN GROVE**

D

D92843A



96140004

Print Date : 11/16/11 16:03 PM

**Package 1 of 1** Print All**LABEL INSTRUCTIONS:**

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

STEP 1 - Use the "Send Label to Printer" button on this page to print the shipping label on a laser or inkjet printer.

STEP 2 - Fold this page in half.

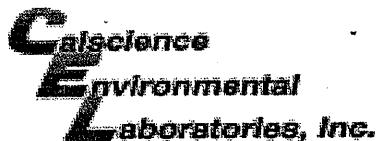
STEP 3 - Securely attach this label to your package, do not cover the barcode.

STEP 4 - Request an on-call pickup for your package, if you do not have scheduled daily pickup service or Drop-off your package at the nearest GSO drop box. Locate nearest GSO dropbox locations using this link.

**ADDITIONAL OPTIONS:****TERMS AND CONDITIONS:**

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

Return to Contents



WORK ORDER #: 11-11-□ 373

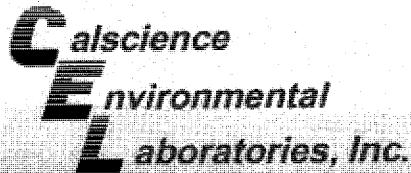
**SAMPLE RECEIPT FORM** Box 1 of 1CLIENT: CRADATE: 11/17/11**TEMPERATURE:** Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)Temperature       .       °C + 0.5 °C (CF) =       .       °C  Blank  Sample Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_). Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling. Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature:  Air  FilterInitial: PS**CUSTODY SEALS INTACT:**

<input checked="" type="checkbox"/> Box	<input type="checkbox"/>	<input type="checkbox"/> No (Not Intact)	<input type="checkbox"/> Not Present	<input type="checkbox"/> N/A	Initial: <u>PS</u>
<input type="checkbox"/> Sample	<input type="checkbox"/>	<input type="checkbox"/> No (Not Intact)	<input checked="" type="checkbox"/> Not Present	<input type="checkbox"/>	Initial: <u>PS</u>

**SAMPLE CONDITION:**

Yes      No      N/A

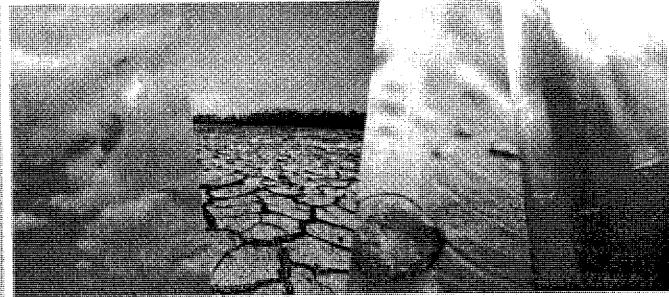
Chain-Of-Custody (COC) document(s) received with samples.....   COC document(s) received complete.....    Collection date/time, matrix, and/or # of containers logged in based on sample labels. No analysis requested.  Not relinquished.  No date/time relinquished.Sampler's name indicated on COC.....   Sample container label(s) consistent with COC.....   Sample container(s) intact and good condition.....   Proper containers and sufficient volume for analyses requested.....   Analyses received within holding time.....   pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...   Proper preservation noted on COC or sample container.....    Unpreserved vials received for Volatiles analysisVolatile analysis container(s) free of headspace.....   Tedlar bag(s) free of condensation.....   **CONTAINER TYPE:****Solid:**  4ozCGJ  8ozCGJ  16ozCGJ  Sleeve (\_\_\_\_\_)  EnCores®  TerraCores®  \_\_\_\_\_**Water:**  VOA  VOAh  VOAna<sub>2</sub>  125AGB  125AGBh  125AGBp  1AGB  1AGBna<sub>2</sub>  1AGBs 500AGB  500AGJ  500AGJs  250AGB  250CGB  250CGBs  1PB  1PBna  500PB 250PB  250PBn  125PB  125PBznna  100PJ  100PJna<sub>2</sub>  \_\_\_\_\_  \_\_\_\_\_**Air:**  Tedlar®  Summa® **Other:**  **Trip Blank Lot#:** \_\_\_\_\_ **Labeled/Checked by:** PSContainer: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: WSCPreservative: h: HCL n: HNO<sub>3</sub> na<sub>2</sub>:Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> na: NaOH p: H<sub>3</sub>PO<sub>4</sub> s: H<sub>2</sub>SO<sub>4</sub> u: Ultra-pure znna: ZnAc<sub>2</sub>+NaOH f: Filtered Scanned by: WSC



# CALSCIENCE

WORK ORDER NUMBER: 11-11-1476

*The difference is service*



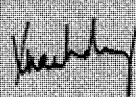
AIR   SOIL   WATER   MARINE CHEMISTRY

## Analytical Report For

**Client:** Conestoga-Rovers & Associates

**Client Project Name:** 15275 Washington Avenue, San Leandro, CA

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



Approved for release on 11/30/2011 by:

Xuan Dang  
Project Manager

[ResultLink](#)

[Email your PM](#)

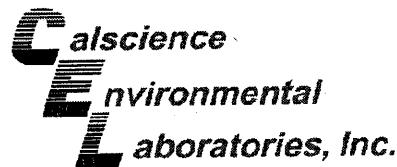


Calscience Environmental Laboratories certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety. Note that the Chain-of-Custody Record and Sample Receipt Form are integral parts of this report.



7500 Rockwell Avenue, Cypress, California 90630-2100 • (714) 220-1100 • Fax: (714) 220-1101 • [www.calscience.com](http://www.calscience.com)

NELAC ID: 05220-A • 2009-EPA ID: 10001 • US EPA ID: 10-001 • ACAP ID: 10-11476



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Work Order Number: 11-11-1476

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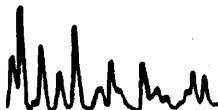
Client: Conestoga-Rovers & Associates  
 5900 Hollis Street, Suite A  
 Emeryville, CA 94608-2008  
 Attn: Peter Schaefer

Work Order: 11-11-1476  
 Project name: 15275 Washington Avenue, San Leandro, C  
 Received: 11/18/11 10:30

### DETECTIONS SUMMARY

Client Sample ID	Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
<b>SVG-1-3</b>							
Methane	1.77			0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	14.5			0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	2.56			0.500	%v	ASTM D-1946	N/A
Benzene	2500			160	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	670			220	ug/m <sup>3</sup>	EPA TO-15M	N/A
TPH as Gasoline	9000000			70000	ug/m <sup>3</sup>	EPA TO-3M	N/A
<b>SVG-1-5</b>							
Methane	1.67			0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	16.1			0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	2.67			0.500	%v	ASTM D-1946	N/A
Benzene	2000			160	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	1200			220	ug/m <sup>3</sup>	EPA TO-15M	N/A
TPH as Gasoline	10000000			70000	ug/m <sup>3</sup>	EPA TO-3M	N/A
<b>SVG-1-7.5</b>							
Methane	1.70			0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	18.1			0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	2.12			0.500	%v	ASTM D-1946	N/A
Benzene	1900			160	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	820			220	ug/m <sup>3</sup>	EPA TO-15M	N/A
TPH as Gasoline	11000000			70000	ug/m <sup>3</sup>	EPA TO-3M	N/A
<b>SVG-2-3</b>							
Methane	1.88			0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	16.2			0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	2.21			0.500	%v	ASTM D-1946	N/A
Benzene	15000			800	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	33000			1100	ug/m <sup>3</sup>	EPA TO-15M	N/A
TPH as Gasoline	11000000			70000	ug/m <sup>3</sup>	EPA TO-3M	N/A

\*MDL is shown.



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

Work Order: 11-11-1476  
 Project name: 15275 Washington Avenue, San Leandro, C  
 Received: 11/18/11 10:30

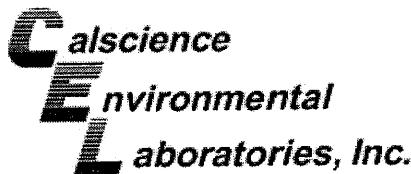
### DETECTIONS SUMMARY

#### Client Sample ID

Analyte	Result	Qualifiers	Reporting Limit	Units	Method	Extraction
<b>SVG-2-5</b>						
Methane	1.79		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	17.1		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	2.50		0.500	%v	ASTM D-1946	N/A
Benzene	11000		800	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	120000		1100	ug/m <sup>3</sup>	EPA TO-15M	N/A
Xylenes (total)	22000		4300	ug/m <sup>3</sup>	EPA TO-15M	N/A
TPH as Gasoline	14000000		70000	ug/m <sup>3</sup>	EPA TO-3M	N/A
<b>SVG-2-7.5</b>						
Methane	1.85		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	17.9		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	2.18		0.500	%v	ASTM D-1946	N/A
Benzene	9600		800	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	88000		1100	ug/m <sup>3</sup>	EPA TO-15M	N/A
TPH as Gasoline	13000000		70000	ug/m <sup>3</sup>	EPA TO-3M	N/A
<b>SVG-3-3</b>						
Carbon Dioxide	7.30		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	13.5		0.500	%v	ASTM D-1946	N/A
Ethylbenzene	30		2.2	ug/m <sup>3</sup>	EPA TO-15M	N/A
Xylenes (total)	45		8.7	ug/m <sup>3</sup>	EPA TO-15M	N/A
<b>SVG-3-5</b>						
Carbon Dioxide	7.40		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	13.3		0.500	%v	ASTM D-1946	N/A
Ethylbenzene	70		2.2	ug/m <sup>3</sup>	EPA TO-15M	N/A
Xylenes (total)	110		8.7	ug/m <sup>3</sup>	EPA TO-15M	N/A
<b>SVG-5-5</b>						
Methane	1.44		0.500	%v	ASTM D-1946	N/A
Carbon Dioxide	12.1		0.500	%v	ASTM D-1946	N/A
Oxygen + Argon	1.88		0.500	%v	ASTM D-1946	N/A
Benzene	1900		320	ug/m <sup>3</sup>	EPA TO-15M	N/A
Ethylbenzene	2700		430	ug/m <sup>3</sup>	EPA TO-15M	N/A
Xylenes (total)	3100		1700	ug/m <sup>3</sup>	EPA TO-15M	N/A
TPH as Gasoline	17000000		70000	ug/m <sup>3</sup>	EPA TO-3M	N/A

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

\*MDL is shown.



## Analytical Report



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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: ASTM D-1946  
Units: %v

Project: 15275 Washington Avenue, San Leandro, CA

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-1-3	11-11-1476-1-A	11/17/11 09:20	Air	GC 34	N/A	11/18/11 16:42	111118L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	1.77	0.500	1		Oxygen + Argon	2.56	0.500	1	
Carbon Dioxide	14.5	0.500	1						
SVG-1-5		11-11-1476-2-A	11/17/11 09:50		Air	GC 34	N/A	11/18/11 17:18	111118L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	1.67	0.500	1		Oxygen + Argon	2.67	0.500	1	
Carbon Dioxide	16.1	0.500	1						
SVG-1-7.5		11-11-1476-3-A	11/17/11 10:20		Air	GC 34	N/A	11/18/11 18:21	111118L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	1.70	0.500	1		Oxygen + Argon	2.12	0.500	1	
Carbon Dioxide	18.1	0.500	1						
SVG-2-3		11-11-1476-4-A	11/17/11 11:00		Air	GC 34	N/A	11/18/11 19:02	111118L01

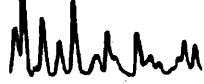
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	1.88	0.500	1		Oxygen + Argon	2.21	0.500	1	
Carbon Dioxide	16.2	0.500	1						
SVG-2-5		11-11-1476-5-A	11/17/11 11:25		Air	GC 34	N/A	11/18/11 19:35	111118L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	1.79	0.500	1		Oxygen + Argon	2.50	0.500	1	
Carbon Dioxide	17.1	0.500	1						
SVG-2-7.5		11-11-1476-6-A	11/17/11 11:40		Air	GC 34	N/A	11/18/11 20:14	111118L01

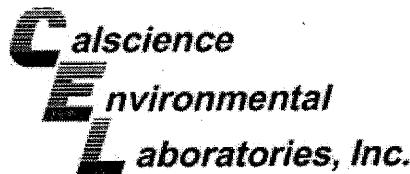
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	1.85	0.500	1		Oxygen + Argon	2.18	0.500	1	
Carbon Dioxide	17.9	0.500	1						
SVG-3-3		11-11-1476-7-A	11/17/11 12:20		Air	GC 34	N/A	11/18/11 20:51	111118L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	13.5	0.500	1	
Carbon Dioxide	7.30	0.500	1						

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



7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501



## Analytical Report



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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: ASTM D-1946  
Units: %V

Project: 15275 Washington Avenue, San Leandro, CA

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-3-5	11-11-1476-8-A	11/17/11 12:30	Air	GC-34	N/A	11/18/11 22:01	111118L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	ND	0.500	1		Oxygen + Argon	13.3	0.500	1	
Carbon Dioxide	7.40	0.500	1						
SVG-5-5		11-11-1476-9-A	11/17/11 13:10		Air	GC-34	N/A	11/18/11 22:39	111118L01

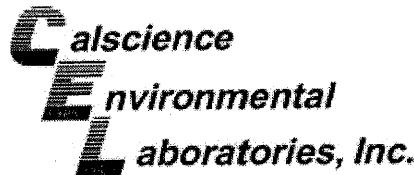
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Methane	1.44	0.500	1		Oxygen + Argon	1.88	0.500	1	
Carbon Dioxide	12.1	0.500	1						
Method Blank		099-03-002-1.429			Air	GC-34	N/A	11/18/11 12:59	111118L01

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

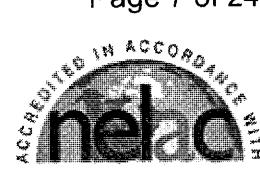
RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers



7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501



## Analytical Report



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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: ASTM D-1946 (M)

Project: 15275 Washington Avenue, San Leandro, CA

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-1-3	11-11-1476-1-A	11/17/11 09:20	Air	GC 55	N/A	11/19/11 10:40	111119L01

Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-1-5	11-11-1476-2-A	11/17/11 09:50	Air	GC 55	N/A	11/19/11 11:01	111119L01

Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-1-7-5	11-11-1476-3-A	11/17/11 10:20	Air	GC 55	N/A	11/19/11 11:31	111119L01

Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-2-3	11-11-1476-4-A	11/17/11 11:00	Air	GC 55	N/A	11/19/11 12:02	111119L01

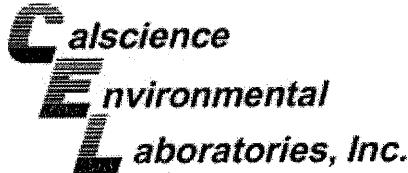
Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-2-5	11-11-1476-5-A	11/17/11 11:25	Air	GC 55	N/A	11/19/11 12:24	111119L01

Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-2-7-5	11-11-1476-6-A	11/17/11 11:40	Air	GC 55	N/A	11/19/11 12:56	111119L01

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

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

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## Analytical Report



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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: ASTM D-1946 (M)

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-3-3	11-11-1476-7-A	11/17/11 12:20	Air	GC 55	N/A	11/19/11 13:35	111119L01

Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-3-5	11-11-1476-8-A	11/17/11 12:30	Air	GC 55	N/A	11/19/11 15:05	111119L01

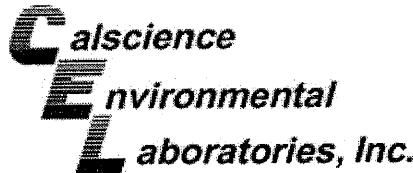
Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
SVG-5-5	11-11-1476-9-A	11/17/11 13:10	Air	GC 55	N/A	11/19/11 15:27	111119L01

Parameter	Result	RL	DF	Qual	Units		
Helium	ND	0.0100	1		%v		
Method Blank	099-12-872-185	N/A	Air	GC 55	N/A	11/19/11 10:14	111119L01

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

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

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## Analytical Report



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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: EPA TO-15M  
Units: ug/m3

Project: 15275 Washington Avenue, San Leandro, CA

Page 1 of 4

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-1-3	11-11-1476-1-A	11/17/11 09:20	Air	GC/MS AA	N/A	11/19/11 20:46	111119L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	2500	160	100		Xylenes (total)	ND	870	100	
Toluene	ND	1900	100		Methyl-t-Butyl Ether (MTBE)	ND	720	100	
Ethylbenzene	670	220	100						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>			<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		
1,4-Bromofluorobenzene	161	57-129		1,2,7	1,2-Dichloroethane-d4	92		47-137	
Toluene-d8	61	78-156		1,2,6					
SVG-1-5		11-11-1476-2-A	11/17/11 09:50	Air	GC/MS AA	N/A	11/19/11 21:34	111119L01	

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

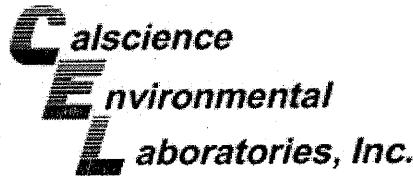
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	2000	160	100		Xylenes (total)	ND	870	100	
Toluene	ND	1900	100		Methyl-t-Butyl Ether (MTBE)	ND	720	100	
Ethylbenzene	1200	220	100						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>			<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		
1,4-Bromofluorobenzene	166	57-129		1,2,7	1,2-Dichloroethane-d4	91		47-137	
Toluene-d8	59	78-156		1,2,6					
SVG-1-7-5		11-11-1476-3-A	11/17/11 10:20	Air	GC/MS AA	N/A	11/19/11 22:25	111119L01	

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	1900	160	100		Xylenes (total)	ND	870	100	
Toluene	ND	1900	100		Methyl-t-Butyl Ether (MTBE)	ND	720	100	
Ethylbenzene	820	220	100						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>			<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		
1,4-Bromofluorobenzene	167	57-129		1,2,7	1,2-Dichloroethane-d4	92		47-137	
Toluene-d8	61	78-156		1,2,6					

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



## Analytical Report



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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: EPA TO-15M  
Units: ug/m<sup>3</sup>

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-2-3	11-11-1476-4-A	11/17/11 11:00	Air	GC/MS AA	N/A	11/18/11 23:19	111118L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	15000	800	500		Xylenes (total)	ND	4300	500	
Toluene	ND	9400	500		Methyl-t-Butyl Ether (MTBE)	ND	3600	500	
Ethylbenzene	33000	1100	500						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>			<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		
1,4-Bromofluorobenzene	128	57-129			1,2-Dichloroethane-d4	96	47-137		
Toluene-d8	86	78-156							
SVG-2-5	11-11-1476-5-A	11/17/11 11:25	Air	GC/MS AA	N/A	11/19/11 05:22	111118L01		

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

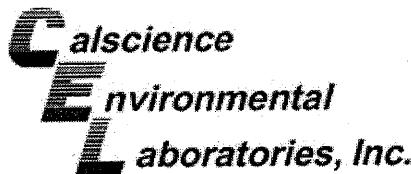
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	11000	800	500		Xylenes (total)	22000	4300	500	
Toluene	ND	9400	500		Methyl-t-Butyl Ether (MTBE)	ND	3600	500	
Ethylbenzene	120000	1100	500						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>			<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		
1,4-Bromofluorobenzene	128	57-129			1,2-Dichloroethane-d4	96	47-137		
Toluene-d8	81	78-156							
SVG-2-7.5	11-11-1476-6-A	11/17/11 11:40	Air	GC/MS AA	N/A	11/19/11 19:09	111119L01		

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	9600	800	500		Xylenes (total)	ND	4300	500	
Toluene	ND	9400	500		Methyl-t-Butyl Ether (MTBE)	ND	3600	500	
Ethylbenzene	88000	1100	500						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>			<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		
1,4-Bromofluorobenzene	127	57-129			1,2-Dichloroethane-d4	94	47-137		
Toluene-d8	84	78-156							

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

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## Analytical Report



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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: EPA TO-15M  
Units: ug/m<sup>3</sup>

Project: 15275 Washington Avenue, San Leandro, CA

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-3-3	11-11-1476-7-A	11/17/11 12:20	Air	GC/MS AA	N/A	11/19/11 16:47	111119L01

Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	45	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	30	2.2	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	101	57-129			1,2-Dichloroethane-d4	100	47-137		
Toluene-d8	96	78-156							
SVG-3-5		11-11-1476-8-A	11/17/11 12:30	Air	GC/MS AA	N/A	11/19/11 17:34	111119L01	

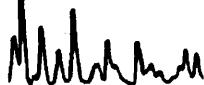
Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	110	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	70	2.2	1						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	100	57-129			1,2-Dichloroethane-d4	97	47-137		
Toluene-d8	96	78-156							
SVG-5-5		11-11-1476-9-A	11/17/11 13:10	Air	GC/MS AA	N/A	11/19/11 18:22	111119L01	

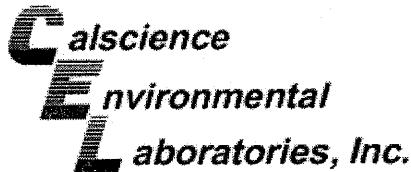
Comment(s): -The Method has been modified to use Tedlar Bags instead of Summa Canisters and is not NY NELAC accredited.

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	1900	320	200		Xylenes (total)	3100	1700	200	
Toluene	ND	3800	200		Methyl-t-Butyl Ether (MTBE)	ND	1400	200	
Ethylbenzene	2700	430	200						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>
1,4-Bromofluorobenzene	204	57-129		1,2,7	1,2-Dichloroethane-d4	97	47-137		
Toluene-d8	61	78-156		1,2,6					

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



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## Analytical Report



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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: EPA TO-15M  
Units: ug/m3

Project: 15275 Washington Avenue, San Leandro, CA

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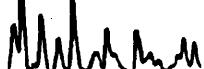
Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
Method Blank	099-12-983-1,965	N/A	Air	GC/MS AA	N/A	11/18/11 12:13	111118L01

Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	ND	2.2	1						
Surrogates:	REC (%)	Control	Qual	Limits	Surrogates:	REC (%)	Control	Qual	Limits
1,4-Bromofluorobenzene	101	57-129			1,2-Dichloroethane-d4	100	47-137		
Toluene-d8	98	78-156							
Method Blank	099-12-983-1,970	N/A	Air	GC/MS AA	N/A	11/19/11 15:59	111119L01		

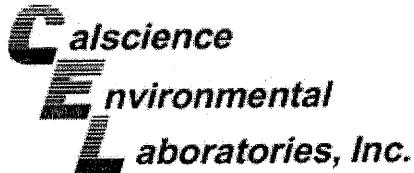
Parameter	Result	RL	DF	Qual	Parameter	Result	RL	DF	Qual
Benzene	ND	1.6	1		Xylenes (total)	ND	8.7	1	
Toluene	ND	19	1		Methyl-t-Butyl Ether (MTBE)	ND	7.2	1	
Ethylbenzene	ND	2.2	1						
Surrogates:	REC (%)	Control	Qual	Limits	Surrogates:	REC (%)	Control	Qual	Limits
1,4-Bromofluorobenzene	98	57-129			1,2-Dichloroethane-d4	102	47-137		
Toluene-d8	97	78-156							

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



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## Analytical Report



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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: EPA TO-3M

Project: 15275 Washington Avenue, San Leandro, CA

Page 1 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-1-3	11-11-1476-1-A	11/17/11 09:20	Air	GC 13	N/A	11/18/11 16:41	111118L01

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	9000000	70000	10		ug/m3

SVG-1-5	11-11-1476-2-A	11/17/11 09:50	Air	GC 13	N/A	11/18/11 16:51	111118L01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	10000000	70000	10		ug/m3

SVG-1-7-5	11-11-1476-3-A	11/17/11 10:20	Air	GC 13	N/A	11/18/11 17:04	111118L01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	11000000	70000	10		ug/m3

SVG-2-3	11-11-1476-4-A	11/17/11 11:00	Air	GC 13	N/A	11/18/11 17:14	111118L01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	11000000	70000	10		ug/m3

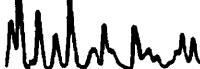
SVG-2-5	11-11-1476-5-A	11/17/11 11:25	Air	GC 13	N/A	11/18/11 17:27	111118L01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	14000000	70000	10		ug/m3

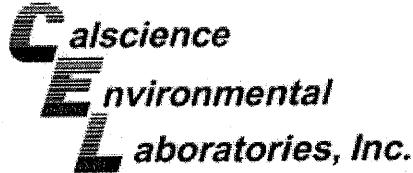
SVG-2-7-5	11-11-1476-6-A	11/17/11 11:40	Air	GC 13	N/A	11/18/11 15:32	111118L01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	13000000	70000	10		ug/m3

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



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## Analytical Report

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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: EPA TO-3M

Project: 15275 Washington Avenue, San Leandro, CA

Page 2 of 2

Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SVG-3-3	11-11-1476-7-A	11/17/11 12:20	Air	GC 13	N/A	11/21/11 13:40	111121L01

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	7000	1		ug/m3

SVG-3-5	11-11-1476-8-A	11/17/11 12:30	Air	GC 13	N/A	11/21/11 13:54	111121L01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	7000	1		ug/m3

SVG-5-5	11-11-1476-9-A	11/17/11 13:10	Air	GC 13	N/A	11/18/11 17:49	111118L01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	17000000	70000	10		ug/m3

Method Blank	098-01-005-3,520	N/A	Air	GC 13	N/A	11/18/11 11:09	111118L01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	7000	1		ug/m3

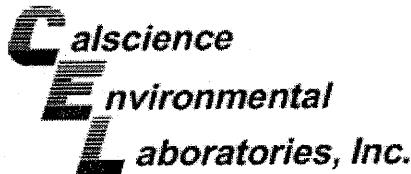
Method Blank	098-01-005-3,524	N/A	Air	GC 13	N/A	11/21/11 11:40	111121L01
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Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	7000	1		ug/m3

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

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## Quality Control - Duplicate



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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: EPA TO-3M

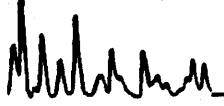
Project: 15275 Washington Avenue, San Leandro, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
11-11-1475-2	Air	GC 13	N/A	11/18/11	111118D01

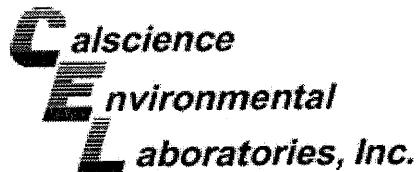
Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
TPH as Gasoline	3422000	3121000	9	0-20	

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RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - Duplicate



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

Date Received: 11/18/11  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: EPA TO-3M

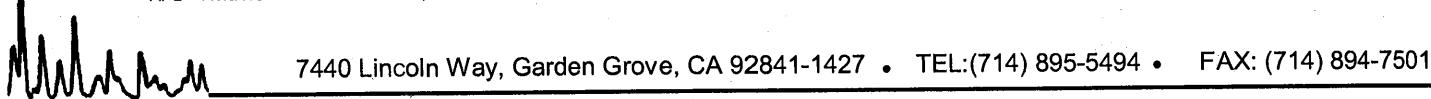
Project: 15275 Washington Avenue, San Leandro, CA

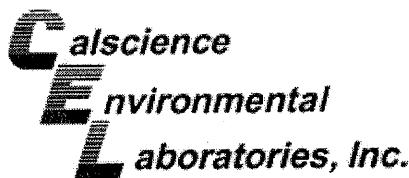
Quality Control Sample ID	Matrix	Instrument	Date Prepared:	Date Analyzed:	Duplicate Batch Number
11-11-1607-1	Air	GC 13	N/A	11/21/11	111121D01

Parameter	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
TPH as Gasoline	14210	14040	1	0-20	

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RPD - Relative Percent Difference , CL - Control Limit





## Quality Control - LCS/LCS Duplicate



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

Date Received: N/A  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: ASTM D-1946

Project: 15275 Washington Avenue, San Leandro, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-03-002-1,429	Air	GC-34	N/A	11/18/11	111118L01

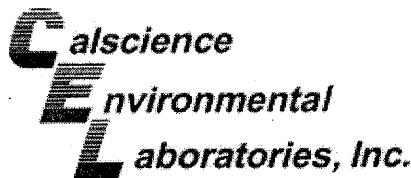
Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Methane	10.12	97	97	80-120	0	0-30	
Carbon Dioxide	10.07	99	99	80-120	0	0-30	
Carbon Monoxide	9.930	105	105	80-120	0	0-30	
Oxygen + Argon	3.500	99	101	80-120	2	0-30	
Nitrogen	10.02	100	103	80-120	2	0-30	

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RPD - Relative Percent Difference , CL - Control Limit



7440 Lincoln Way, Garden Grove, CA 92841-1427 • TEL:(714) 895-5494 • FAX: (714) 894-7501



## Quality Control - LCS/LCS Duplicate



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

Date Received: N/A  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: ASTM D-1946 (M)

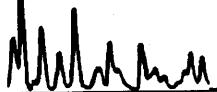
Project: 15275 Washington Avenue, San Leandro, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-872-185	Air	GC 55	N/A	11/19/11	111119L01

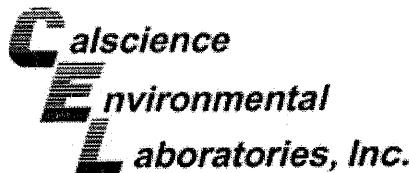
Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Helium	1.000	107	107	80-120	0	0-30	
Hydrogen	1.000	106	105	80-120	0	0-30	

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RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate



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

Date Received: N/A  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: EPA TO-15M

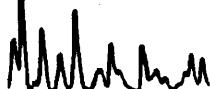
Project: 15275 Washington Avenue, San Leandro, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-983-1,965	Air	GC/MS AA	N/A	11/18/11	111118L01

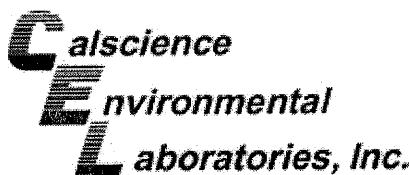
Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	79.87	95	96	60-156	1	0-40	
Toluene	94.21	94	95	56-146	2	0-43	
Ethylbenzene	108.6	91	93	52-154	2	0-38	
Xylenes (total)	325.7	93	95	42-156	2	0-41	
Methyl-t-Butyl Ether (MTBE)	90.13	100	104	50-150	4	0-25	
Tert-Butyl Alcohol (TBA)	151.6	110	111	60-140	1	0-35	
Diisopropyl Ether (DIPE)	104.5	80	82	60-140	3	0-35	
Ethyl-t-Butyl Ether (ETBE)	104.5	102	105	60-140	2	0-35	
Tert-Amyl-Methyl Ether (TAME)	104.5	95	99	60-140	4	0-35	
Ethanol	188.4	172	176	47-137	3	0-35	X

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RPD - Relative Percent Difference , CL - Control Limit



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## Quality Control - LCS/LCS Duplicate



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

Date Received: N/A  
Work Order No: 11-11-1476  
Preparation: N/A  
Method: EPA TO-15M

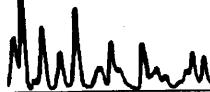
Project: 15275 Washington Avenue, San Leandro, CA

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-983-1,970	Air	GC/MS/AA	N/A	11/19/11	111119L01

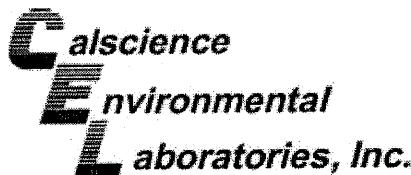
Parameter	SPIKE ADDED	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	79.87	103	103	60-156	0	0-40	
Toluene	94.21	102	104	56-146	2	0-43	
Ethylbenzene	108.6	99	100	52-154	1	0-38	
Xylenes (total)	325.7	99	101	42-156	2	0-41	
Methyl-t-Butyl Ether (MTBE)	90.13	109	110	50-150	1	0-25	
Tert-Butyl Alcohol (TBA)	151.6	103	103	60-140	0	0-35	
Diisopropyl Ether (DIPE)	104.5	85	85	60-140	0	0-35	
Ethyl-t-Butyl Ether (ETBE)	104.5	107	109	60-140	2	0-35	
Tert-Amyl-Methyl Ether (TAME)	104.5	101	99	60-140	1	0-35	
Ethanol	188.4	172	174	47-137	1	0-35	X

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RPD - Relative Percent Difference , CL - Control Limit



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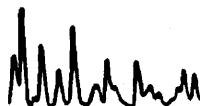
## Glossary of Terms and Qualifiers



Work Order Number: 11-11-1476

<u>Qualifier</u>	<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 was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported without further clarification.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
ME	LCS/LCSD Recovery Percentage is within Marginal Exceedance (ME) Control Limit range.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.
	Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis.

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## LAB (LOCATION)

CALSCIENCE \_\_\_\_\_  
 SPL \_\_\_\_\_  
 XENCO \_\_\_\_\_  
 TEST AMERICA \_\_\_\_\_  
 OTHER \_\_\_\_\_

## Please Check Appropriate Box:

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

## Shell Oil Products Chain Of Custody Record

## Print Bill To Contact Name:

Peter Schaefer

## INCIDENT # (ENV. SERVICES)

9 7 0 9 3 4 1 2

## CHECK IF NO INCIDENT # APPLIES

DATE: 11/10/2011

## PO. #

## SAP. #

PAGE: 1 of 1

1 2 9 4 6 0

## SITE ADDRESS: Street and City

15275 Washington Avenue, San Leandro, CA

## State

CA

## GLOBAL ID NO:

TO600101226

## EDF DELIVERABLE TO Name, Company, Office Location:

Brenda Carter, CRA, Emeryville

## PHONE NO.:

510-420-3343

## E-MAIL:

shelled@craworld.com

## CONSULTANT PROJECT NO.:

240933-95-11.04

## SAMPLER NAME(S) (Print)

Brenda Carter

CRA

Emeryville

## LAB USE ONLY

11-11-1476

1476

Page 1 of 1



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

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

COD:  
\$0.00

Reference:  
CRA, ERI

Delivery Instructions:

Signature Type:  
**SIGNATURE REQUIRED**

< WebShip > > > >

800-322-5555 www.gso.com

Tracking #: 517864718



NPS

**ORC**  
GARDEN GROVE

D

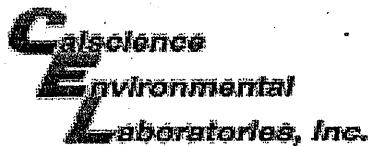
**D92843A**



96184434

Print Date 11/17/11 16:33 PM

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WORK ORDER #: 11-11-1476

**SAMPLE RECEIPT FORM**

Box 1 of 1

CLIENT: CRA

DATE: 11/18/11

**TEMPERATURE:** Thermometer ID: SC1 (Criteria: 0.0 °C – 6.0 °C, not frozen)Temperature \_\_\_\_ °C + 0.5 °C (CF) = \_\_\_\_ °C  Blank  Sample Sample(s) outside temperature criteria (PM/APM contacted by: \_\_\_\_\_). Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling. Received at ambient temperature, placed on ice for transport by Courier.Ambient Temperature:  Air  Filter

Initial: NC

**CUSTODY SEALS INTACT:**

<input checked="" type="checkbox"/> Box	<input type="checkbox"/>	<input type="checkbox"/> No (Not Intact)	<input type="checkbox"/> Not Present	<input type="checkbox"/> N/A	Initial: NC
<input type="checkbox"/> Sample	<input type="checkbox"/>	<input type="checkbox"/> No (Not Intact)	<input checked="" type="checkbox"/> Not Present	<input type="checkbox"/>	Initial: NC

**SAMPLE CONDITION:**

Yes      No      N/A

Chain-Of-Custody (COC) document(s) received with samples.....   COC document(s) received complete.....   

- Collection date/time, matrix, and/or # of containers logged in based on sample labels.  
 No analysis requested.  Not relinquished.  No date/time relinquished.
- Sampler's name indicated on COC.....     
 Sample container label(s) consistent with COC.....     
 Sample container(s) intact and good condition.....     
 Proper containers and sufficient volume for analyses requested.....     
 Analyses received within holding time.....     
 pH / Res. Chlorine / Diss. Sulfide / Diss. Oxygen received within 24 hours...     
 Proper preservation noted on COC or sample container.....     
 Unpreserved vials received for Volatiles analysis

Volatile analysis container(s) free of headspace.....   Tedlar bag(s) free of condensation.....   **CONTAINER TYPE:**Solid:  4ozCGJ  8ozCGJ  16ozCGJ  Sleeve (\_\_\_\_\_)  EnCores®  TerraCores®  \_\_\_\_\_Water:  VOA  VOAh  VOAna<sub>2</sub>  125AGB  125AGBh  125AGBp  1AGB  1AGBna<sub>2</sub>  1AGBs 500AGB  500AGJ  500AGJs  250AGB  250CGB  250CGBs  1PB  1PBna  500PB 250PB  250PBn  125PB  125PBznna  100PJ  100PJna<sub>2</sub>  \_\_\_\_\_  \_\_\_\_\_Air:  Tedlar®  Summa® Other:  \_\_\_\_\_ Trip Blank Lot#: \_\_\_\_\_ Labeled/Checked by: NC

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

Preservative: h: HCl n: HNO<sub>3</sub> na<sub>2</sub>:Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> na: NaOH p: H<sub>3</sub>PO<sub>4</sub> s: H<sub>2</sub>SO<sub>4</sub> u: Ultra-pure znna: ZnAc<sub>2</sub>+NaOH f: Filtered Scanned by: G