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## PERJURY STATEMENT SOIL MITIGATION, ASHLAND YOUTH CENTER PROJECT PROJECT NO. 10020

I declare, under penalty of perjury, that the information and/or recommendations contained in the attached "Soil Vapor Quality Monitoring Report" dated August 27, 2012, are true and correct to the best of my knowledge.

Director, General Services Agency

9/4/12

Date

Chris Bazar

Director, Community Development Agency

## **RECEIVED**

4:56 pm, Sep 10, 2012

Alameda County Environmental Health



Type of Services | Soil Vapor Quality Monitoring Report

**Location** Ashland Youth Center

16335 East 14<sup>th</sup> Street San Lorenzo, California

(RO 0003078)

Addressee Alameda County Health Care Services Agency

**Environmental Health Services** 

Address 1131 Harbor Bay Parkway, Suite 250

Alameda, California 94502

Project Number | 165-11-2

**Date** | August 27, 2012

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FIGURE 1 - VICINITY MAP

FIGURE 2 – SITE PLAN

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**APPENDIX A - LABORATORY ANALYTICAL REPORTS** 



Type of Services

**Soil Vapor Quality Monitoring Report** 

Location

Ashland Youth Center 16335 East 14<sup>th</sup> Street San Lorenzo, California

#### **SECTION 1: INTRODUCTION**

This report presents the results of the soil vapor quality monitoring performed at the Ashland Youth Center in San Lorenzo, California as shown on Figures 1 and 2 (Site). This work was performed for Sandis Engineers and Alameda County General Services Agency (ACGSA) in accordance with our February 3, 2012 Agreement (Agreement).

#### 1.1 BACKGROUND

The project consists of the construction of an approximately 32,000 square foot youth center on the approximately 1 acre Site. Construction of the new building currently is in progress. In addition, asphalt and concrete paved driveway and parking area, and hardscape patio areas, and landscaping also will be constructed. A tot-lot is planned adjacent to the northeast corner of the building, adjacent to East 14<sup>th</sup> Street.

Holland Oil formerly operated on the adjacent parcel (APN 80C-479-9-21) and on the northwest and southwest portion of the on-Site parcel (Figure 2). Holland Oil operated as a bulk fuel storage and distribution facility from the 1960s to the mid-1980s. The on-Site area located along East 14<sup>th</sup> Street and outside the Holland Oil facility area reportedly was used primarily for vehicle sales. Other former Site uses included a retail store, Moose lodge, a bar, a blacksmith, and an automobile window tinting shop (Cornerstone Earth Group, 2012).

Grading activities for the construction of the youth center began on-Site on August 16, 2011. The deeper (6 feet deep) excavations previously backfilled (excavations B1 and B2) were initially over-excavated and the material stockpiled on-Site. The remainder of the Site was to be over-excavated to a depth of approximately 3 feet for re-compaction as engineered fill as discussed above. During this initial excavation process, soil with significant petroleum odors was encountered.

Subsequently, an additional soil quality evaluation was conducted on-Site that lead to the removal of the undocumented fill soil across the Site, which generally was present to a depth of approximately 3 feet. The fill was disposed at appropriately licensed facilities. In addition, soil in the northwest portion of the Site, in the area formerly occupied by Holland Oil, was excavated to depths of approximately 6 to 8 feet. The excavation areas were backfilled with imported soil



that met unrestricted use criteria. Total petroleum hydrocarbons in the diesel (TPHd) and oil (TPHo) ranges were detected in 5 final verification soil samples collected from the base of excavation in northwest corner of the Site at concentrations above the unrestricted Environmental Screening Level (ESL) (San Francisco Bay Regional Water Quality Control Board, May 2008). In addition, benzene was detected in 1 of 5 soil samples collected from the base of the excavation [VS-5 (8)] at a concentration of 0.65 parts per million (ppm). The residential ESL for benzene is 0.044 ppm. Due to the location of the samples near the property boundary and the presence of ground water at the base of the excavation, this soil was left inplace. Based on the detection of benzene at sample location VS-5 (8), the Alameda County Health Services Department of Environmental Health (County Health) required a soil vapor quality investigation to be conducted in the northwestern area of the Site.

Cornerstone Earth Group prepared a work plan, dated February 14, 2012, for the evaluation of soil vapor quality beneath the northwest corner of the Site. County Health approved the work plan in a letter dated March 15, 2012.

#### 1.2 MARCH AND APRIL 2012 VAPOR PROBE INSTALLATION AND SAMPLING

Three soil vapor probes (SV-1, SV-2 and SV-3) were installed in the northwest corner of the Site on March 26 and 27, 2012 (Figure 2). Probe construction details are shown on Figure 3. The probes were sampled on April 6, 2012. Water was present in the SV-2 vapor probe at the time of sampling; no soil vapor sample was collected at this location during the April sampling event. Additional details regarding the probe installation and sampling are presented in the May 1, 2012 report prepared by Cornerstone.

TPHg was detected in soil vapor sample SV-3 at a concentration of 1,600,000  $\mu g/m^3$ . There is no California Human Health Screening Level (CHHSL) established for TPHg. The unrestricted Environmental Screening Level (ESL) for TPHg is 10,000  $\mu g/m^3$ . CHHSLs and ESLs are defined in Section 2.4. Benzene was detected in soil vapor sample SV-3 at a concentration of 200  $\mu g/m^3$ . The unrestricted CHHSL for benzene is 85  $\mu g/m^3$ . In addition, trichloroethene (TCE) was detected in soil vapor sample SV-3 at an estimated concentration of 340  $\mu g/m^3$ . The unrestricted CHHSL for TCE is 1,300  $\mu g/m^3$ . TPHg, benzene and TCE were not detected in soil vapor sample SV-1.

Oxygen was detected in soil vapor samples SV-1 and SV-3 at 9.6 and 1.6 percent, respectively. In addition, methane was detected in probes SV-1 and SV-3 at 0.00023 percent and 0.13 percent, and carbon dioxide was detected in probes SV-1 and SV-3 at 0.78 percent and 3.1 percent.

#### 1.3 VAPOR INTRUSION ENGINEERING CONTROLS

Based on the detection of benzene above the unrestricted ESL in soil left in-place beneath the northwest corner of the Site, ACGSA designed and installed vapor intrusion engineering controls in the new youth center building. The system was installed by Advanced Construction Tech (ACT) and consists of a soil vapor membrane beneath the floor of the new building. In addition, perforated piping was installed by ACT beneath the membrane and was connected to



4-inch cast iron ventilation risers that will vent above the roof. Since the elevator pit foundation was installed without a sub-slab membrane in May 2012 ACT coated the concrete surface of the elevator pit with an epoxy sealant. The subslab depressurization and vapor barrier system was designed to operate as a passive system but can be converted to active ventilation, if needed based on the results of the soil vapor monitoring. Additional details of the soil vapor intrusion engineering controls are presented in the May 1, 2012 report (Cornerstone). The approximate locations of the ventilation risers are shown on Figure 4.

#### 1.4 PURPOSE

The purpose of this investigation was to evaluate the presence of volatile organic compounds (VOCs) and volatile petroleum hydrocarbons in soil vapor beneath the northwest corner of the Site. The additional purpose of this investigation was to evaluate the concentrations of VOCs and volatile petroleum hydrocarbons in the sub-slab soil vapor.

#### 1.5 SCOPE OF WORK

As presented in our Agreement, the scope of work performed for this investigation included the following:

- Sampling the three previously installed soil vapor probes during May, June and July 2012.
- Collection and laboratory analyses of soil vapor samples from five vent risers connected to the perforated piping installed beneath the concrete slab and vapor barrier system.

The limitations for this investigation are presented in Section 5.

## **SECTION 2: SOIL VAPOR QUALITY MONITORING**

#### 2.1 SOIL VAPOR SAMPLE COLLECTION

Soil vapor sampling was performed by a California registered Professional Geologist on May 4, June 6, and July 9, 2012. A 167 milliliters-per-minute flow regulator inclusive of a particulate filter was fitted to the shut-off valve and the other end to a "T" fitting. A Summa canister was connected to the "T" fitting. The other end of the "T" fitting was affixed to a digital vacuum gauge and a 1-liter Summa canister utilized for purging.

A minimum 10-minute vacuum tightness test was performed on the manifold and connections by opening and closing the 1-liter purge canister valve and applying and monitoring a vacuum on the vacuum gauge. The sample shut-off valve on the downhole side of the sampling manifold remained in the "off" position. When gauge vacuum was maintained for at least 10 minutes without any noticeable decrease (less than approximately 0.1 inches of mercury (Hg) for properly connected fittings), purging began. The downhole shut off valve was opened and approximately three purge volumes of vapor were removed using the purging 1-liter Summa. The volume of vapor removed was verified by the calculated versus observed pressure drop in



the purging Summa canister. The purge volume was calculated based on the length and inner diameter of the sampling probe and the connected sampling tubing and equipment. Assuming the vapor probe was properly sealed, the borehole sand pack vapor space will have equilibrated with the surrounding vapors following the more than 48 hour equilibration period. Thus, the sand pack vapor space was not included in the purge volume calculation. Sampling was performed for volatile organic compounds including total petroleum hydrocarbons in the gasoline range and oxygen, methane and carbon dioxide as described below in Section 2.2.

#### 2.2 SOIL VAPOR LABORATORY ANALYSES

To evaluate soil vapor quality, 11 soil vapor samples were analyzed for full list VOCs, (TPHg) (EPA Test Method TO-15) and oxygen, methane, and carbon dioxide (ASTM Test Method D-1946). As a quality control measure, one air sample collected from the shroud atmosphere was analyzed for 2-propanol during each sampling event. Analytical results are summarized in Tables 1 and 2 in the Tables section of this report. The laboratory analytical reports are presented in Appendix A.

#### 2.3 SOIL VAPOR SAMPLE INTEGRITY EVALUATION

Isopropyl alcohol (2-propanol, 91 percent) was utilized as a leak detection compound during sampling by applying approximately 10 to 12 drops to cotton gauze and placing the moistened gauze above the monument within the shroud. Sampling began by opening the Summa canister valve. Immediately upon opening the sampling valve, the shroud cover was placed over the shroud base affixed to the top of the well monument and enclosed the atmosphere of the open top of the monument and entire sampling train including all connections.

A data logging PID was utilized during sampling to monitor the atmosphere inside the shroud through a bulkhead fitting. The logged data (at minimum 30 second intervals) was corrected to parts per million by volume isopropyl alcohol concentrations and utilized to evaluate the integrity of the sampling train.

2-propanol was detected in one of the eleven samples collected (SV-2 on June 6, 2012 at a concentration of 11  $\mu$ g/m³). 2-propanol was not detected in ten of eleven samples collected above its laboratory reporting limits ranging from <7.3  $\mu$ g/m³ to <800  $\mu$ g/m³. This data indicates that the sample trains were tight and no significant leakage occurred.

To confirm the isopropyl alcohol atmosphere, one confirmation sample was collected from the shroud atmosphere by connecting a 250mL summa canister to tubing entering the shroud through a bulkhead fitting. Laboratory analyses of the shroud atmosphere sample collected during sampling from the soil vapor well SV-3 during the four sampling events ranged from 120,000  $\mu g/m^3$  to 280,000  $\mu g/m^3$ . During the same sampling time period (approximately 2 to 3 minutes) the shroud atmosphere was measured by the PID to contain between approximately 148,345  $\mu g/m^3$  and 230,823  $\mu g/m^3$ . The approximately relative percent difference [RPD] ranged from 24.7% overestimation to a 38.9% underestimation. The data confirms that sufficient 2-propanol was present within the shroud to evaluate and confirm no significant leakage occurred during sampling.



#### 2.4 DISCUSSION OF RESULTS - SOIL VAPOR

Data summary tables are included in the Tables section of this report. Analytical data sheets and chain of custody documentation are included in Appendix B. The results of the soil samples were compared to California Human Health Screening Levels (CHHSLs) established by the California Environmental Protection Agency (CalEPA, 2010). For detected chemicals for which CHHSLs have not been established, Environmental Screening Levels (ESLs) established by the San Francisco Bay Area Regional Water Quality Control Board (SFRWQCB, 2008) were used for comparison.

CHHSLs and ESLs are used to screen properties for potential human health concerns where releases of chemicals to soil have occurred. Under most circumstances, the presence of a chemical in soil below the corresponding CHHSL or ESL can be assumed not to pose a significant risk to human health. A chemical exceeding the CHHSL or ESL does not indicate that adverse impacts to human health are occurring or will occur but suggests that further evaluation of potential health concerns is warranted.

Water was present in vapor probe SV-2 during the April 6, 2012 sampling; no soil vapor sample was collected at this location during this sampling event. Soil vapor samples were collected from vapor probe SV-2 during May, June and July 2012.

TPHg was detected in soil vapor probe SV-3 at estimated concentrations ranging from 1,200,000  $\mu g/m^3$  to 1,600,000  $\mu g/m^3$ . The unrestricted ESL for TPHg is 10,000  $\mu g/m^3$ . TPHg was detected above the laboratory reporting limit in samples collected from soil vapor probe SV-1 during one of four sampling events (290  $\mu g/m^3$  detected in sample collected on May 4, 2012). TPHg was detected above the laboratory reporting limits in two of three soil vapor samples collected from probe SV-2 (1,700  $\mu g/m^3$  detected in samples collected on May 4 and June 6, 2012).

Benzene was not detected in soil vapor samples collected from probe SV-1. Benzene was detected in the SV-2 soil vapor samples ranging from  $2.6~\mu g/m^3$  to  $6.3~\mu g/m^3$ . Benzene was detected in the soil vapor sample collected from probe SV-3 during April ( $200~\mu g/m^3$ ) but was not detected in May, June or July. The residential (unrestricted) CHHSL for benzene is  $85~\mu g/m^3$ .

Several other VOCs were detected in the soil vapor samples but at concentrations below unrestricted CHHSLs and Regional Screening Levels (RSLs) (US EPA, April 2012); no CHHSLs, ESLs or RSLsare established for some of the VOCs detected.

Oxygen was detected in soil vapor samples collected from soil vapor probe SV-1 at concentrations of ranging from 9.6 percent to 15 percent. Oxygen was detected in the three samples collected from soil vapor probe SV-2 at concentrations ranging from 1.9 percent to 4.2 percent. In addition, oxygen was detected in the four samples collected from soil vapor probe SV-3 at concentrations ranging from 1.5 percent to 1.8 percent collected.



Methane was detected in the four samples collected from soil vapor probe SV-1 at concentrations of 0.00019 percent to 0.00023 percent. Methane was detected in the three samples collected from soil vapor probe SV-2 at concentrations of 0.00025 percent to 0.0045 percent. In addition, methane was detected in the four samples collected from soil vapor probe SV-3 at concentrations of 0.13 percent to 0.27 percent.

Carbon dioxide was detected in the four samples collected from soil vapor probe SV-1 at concentrations of 0.78 percent to 1.4 percent. Carbon dioxide was detected in the three soil vapor samples collected from probe SV-2 at concentrations of 0.93 percent to 2.2 percent and was detected in the four soil vapor samples collected from probe SV-3 at concentrations of 3.2 percent to 6.0 percent.

#### **SECTION 3: SUB-SLAB VAPOR SAMPLING**

#### 3.1 VENT RISER VAPOR SAMPLING

To evaluate concentrations of TPHg and VOCs in vapor present beneath the concrete slab and vapor barrier system, , Cornerstone collected air samples from the five ventilation risers described in Section 1.3.

On July 16, 2012 the ventilation risers were sealed with 4 inch diameter rubber caps and secured with stainless steel band clamps. On July 18, after allowing the ventilation risers to equilibrate with sub-slab soil vapor, sampling was performed by a California registered Professional Geologist. Teflon tubing (¼-inch diameter) was inserted through the rubber vent riser caps, extending beneath the concrete slab, approximately 2 ½ feet from the vent riser location. A 167 milliliters-per-minute flow regulator inclusive of a particulate filter was fitted to the shut-off valve and the other end to a "T" fitting. A Summa canister was connected to the "T" fitting. The other end of the "T" fitting was affixed to a digital vacuum gauge and a 1-liter Summa canister utilized for purging.

A minimum 10-minute vacuum tightness test was performed on the manifold and connections by opening and closing the 1-liter purge canister valve and applying and monitoring a vacuum on the vacuum gauge. The sample shut-off valve on the downhole side of the sampling manifold remained in the "off" position. When gauge vacuum was maintained for at least 10 minutes without any noticeable decrease (less than approximately 0.1 inches of mercury (Hg) for properly connected fittings), purging began. The downhole shut off valve was opened and approximately three tubing volumes of vapor were removed using the purging 1-liter Summa. The volume of vapor removed was estimated by the calculated versus observed pressure drop in the purging Summa canister. The purge volume was calculated based on the length and inner diameter of the Teflon sampling tube and the connected sampling tubing and equipment. Assuming the vent riser was properly sealed, the vent riser vapor space is assumed to have equilibrated with the surrounding vapors following the more than 48-hour equilibration period. Thus, the air space in the riser pipe and perforated pipe was not included in the purge volume calculation. Sampling was performed for VOCs and oxygen, methane and carbon dioxide as described below in Section 3.2.



#### 3.2 VENT RISER VAPOR LABORATORY ANALYSES

To evaluate sub-slab soil vapor quality, the five vent riser vapor samples were analyzed for full list VOCs (EPA Test Method TO-15), TPHg (EPA Test Method TO-3) and oxygen, methane, and carbon dioxide (ASTM Test Method D-1946). Analytical results are summarized in Tables 3 and 4 in the Tables section of this report. The laboratory analytical reports are presented in Appendix B.

#### 3.3 DISCUSSION OF RESULTS – VENT RISER VAPOR

Department of Toxic Substances Control (DTSC) vapor intrusion guidance suggests using subslab screening criterion that are 100 times the screening level for indoor air. The sub-slab screening criterion assumes a slab floor installed without vapor intrusion engineering controls. Because a vapor membrane was installed beneath the floor slab of the on-Site building and the presence of the passive depressurization system, the potential for vapor intrusion is significantly reduced. Therefore, in our opinion use of the sub-slab criterion does not appear appropriate. Sub-slab vent riser analytical data are compared to residential/unrestricted soil vapor ESLs or CHHSLs.

TPHg was detected in all five vent riser sub-slab soil vapor samples above their respective laboratory reporting levels at concentrations ranging from 840  $\mu$ g/m³ (V-5) to 3,300  $\mu$ g/m³ (V-2). The unrestricted soil vapor ESL for TPHg is 10,000  $\mu$ g/m³.

Benzene was not detected in the vent riser vapor samples. Several VOCs, including toluene, ethylbenzene, and xylenes were detected in the five vent riser vapor samples at concentrations below their respective unrestricted soil vapor CHHSLs.

Oxygen was detected in all five vent riser sub-slab soil vapor samples collected at concentrations between 20 percent (V-2 and V-4) and 21 percent (V-1, V-3, and V-5). Methane was detected in three of five vent riser sub-slab soil vapor samples at concentrations between 0.0022 percent (V-4) and 0.0031 percent (V-3). Carbon dioxide was detected in all five vent riser sub-slab soil vapor samples at concentrations ranging from 0.039 percent (V-3) to 0.075 percent (V-2). The data indicate an oxygenated, aerobic atmosphere within the vent risers and sub-slab ventilation conduits.

#### **SECTION 4: CONCLUSIONS AND RECOMMENDATIONS**

Based on the laboratory analytical results, soil vapor at SV-3 appears to be impacted from TPHg above the unrestricted soil vapor ESL. Benzene also was detected in the SV-3 soil vapor sample collected during April 2012 above the unrestricted CHHSL, but was not detected in the samples collected from SV-3 during May, June and July; however, the June and July laboratory detection limits exceeded the unrestricted CHHSL.

Laboratory analyses of vapor samples collected from the sub-slab ventilation system detected TPHg at concentrations significantly below concentrations detected in vapor probe SV-3. In addition, benzene was not detected in the sub-slab vapor samples. Based on the analytical



results, sub-slab vapor does not appear to be significantly impacted by the volatile constituents detected in soil vapor. The sub-slab vapor barrier and passive depressurization system installed appear to be sufficient to significantly reduce the potential for vapor intrusion into the on-Site building. In addition, based on the soil vapor oxygen data, an aerobic biodegradation zone appears present below the subslab. Within this bioactive zone, natural microbial activity can degrade many petroleum hydrocarbon compounds into non-toxic end products, thus limiting the potential for petroleum hydrocarbon vapor intrusion (USEPA, 2012). Furthermore, much of the Site has been over-excavated several feet and backfilled with "clean" soil. The greater separation distance between the building slab and localized residual petroleum hydrocarbon impacted soil will likely help to maintain a biologically active aerobic zone beneath the slab, thus further limiting the potential for petroleum hydrocarbon vapor intrusion.

Based on the available data, operation of the sub-slab depressurization system actively (i.e. installation of vacuum blowers) does not appear needed at this time. We recommend requesting no-further-action from County Health.

This report will be submitted to County Health for their review.

#### **SECTION 5: LIMITATIONS**

Cornerstone performed this investigation to support Sandis Engineers and Alameda County General Services Agency in evaluation of soil vapor quality at the Site based on a scope of work developed by Alameda County Health Services Department of Environmental Health. Sandis Engineers and Alameda County General Services Agency understand that the extent of soil vapor and air quality data obtained is based on the reasonable limits of time and budgetary constraints. In addition, the chemical information presented in this report can change over time and is only valid at the time of this investigation and for the locations sampled.

This report, an instrument of professional service, was prepared for the sole use of Sandis Engineers and Alameda County General Services Agency and may not be reproduced or distributed without written authorization from Cornerstone.

Cornerstone makes no warranty, expressed or implied, except that our services have been performed in accordance with the environmental principles generally accepted at this time and location.

#### **SECTION 6: REFERENCES**

CalEPA, 2005. Use of California Human Health Screening Levels (CHHSLs) in Evaluation of Contaminated Properties, January 2005.

CalEPA, 2010. Advisory – Active Soil Gas Investigation, March 2010.

Cornerstone Earth Group. February 1, 2012. Completion Report, Soil Removal Activities, Ashland Youth Center, 16335 East 14<sup>th</sup> Street, San Lorenzo, California.



- Cornerstone Earth Group. May 1, 2012. Soil Vapor Probe Installation and Sampling Report, Ashland Youth Center, 16335 East 14<sup>th</sup> Street, San Lorenzo, California.
- Regional Water Quality Control Board, 2008. Screening For Environmental Concerns at Sites With Contaminated Soil and Groundwater (November 2007), San Francisco Bay Regional Water Quality Control Board, California EPA, <a href="http://www.waterboards.ca.gov/sanfranciscobay/esl.htm">http://www.waterboards.ca.gov/sanfranciscobay/esl.htm</a>, updated May 2008.
- USEPA, 2012. Petroleum Hydrocarbons and Chlorinated Hydrocarbons Differ in Their Potential For Vapor Intrusion, March 2012.



## **ANALYTICAL DATA SUMMARY TABLES**

Table 1. Analytical Results of Selected Soil Vapor Samples - TPHg and VOCs

(Concentrations in  $\mu g/m^3$ )

(estimation in Egym.)																
Sample Location	Date	Depth (feet)	рнат	Acetone	2-Propanol	Carbon Disulfide	Hexane	cis-1,2 Dichlorenthene	Cyclohexane	2,2,4- Trimethylpentane	Benzene	Heptane	Trichloroethene (TCE)	Tetrachloroethene	m,p-Xylene	
	4/6/2012		< 160	28	< 7.5	21	<2.7	<3.0	<2.6	<3.6	< 2.4	< 3.1	< 4.1	< 5.2	3.6	
SV-1	5/4/2012	5	290	<18	< 7.5	< 9.5	<2.7	<3.0	<2.6	< 3.6	< 2.4	< 3.1	< 4.1	< 5.2	< 3.3	
30-1	6/6/2012	6/6/2012	5	< 150	<18	<7.3	< 9.3	<2.6	<3.0	<2.6	< 3.5	< 2.4	< 3.0	< 4.0	< 5.0	< 3.2
	7/9/2012		< 160	<18	< 7.5	< 9.5	<2.7	<3.0	<2.6	< 3.6	< 2.4	< 3.1	< 4.1	28	< 3.3	
	4/6/2012															
SV-2	5/4/2012	5	1,700	< 75	<31	< 39	<11	<12	<11	<15	10	<13	< 17	<21	< 14	
34-2	6/6/2012	5	1,700	< 19	11	< 9.8	3.8	<3.1	< 2.7	< 3.7	6.3	<3.2	< 4.2	23	< 3.4	
	7/9/2012		< 160	< 19	< 7.9	<10	3.5	3.4	<2.8	< 3.8	2.6	<3.3	< 4.3	30	< 3.5	
	4/6/2012		1,200,000	<1,500	<620	< 780	3,200	<250	2,900	69,000	200	790	340 J	<430	<270	
SV-3	5/4/2012	5	1,600,000	< 480	< 200	<250	2,600	<80	<69	72,000 E	<64	720	<110	< 140	<87	
3 V - 3	6/6/2012	5	1,100,000	<1,900	<800	<1,000	2,000	<320	1,300	64,000	< 260	<330	<440	< 550	<350	
	7/9/2012		1,300,000	< 760	<320	<400	1,400	<130	730	66,000 E	<100	<130	<170	<220	<140	
Residential	Soil Vapor Cl	HHSL <sup>1</sup>	10,000 <sup>2</sup>	660,000 <sup>2</sup>	NE	NE	NE	41,000	NE	NE	85	NE	1,300	470	850,000	

- 1 California Human Health Screening Level (CHHSL) Cal/EPA September 2010
- 2 Environmental Screening Level (ESL) SF Bay Regional Water Board May 2008 Table E2
- < Not detected at or above laboratory reporting limit
- J Laboratory approximate value
- E Exceeds laboratory instrument calibration range
- BOLD Concentration exceeds CHHSL or ESL
  - --- Probe not sampled due to water in the tubing
- Red Indicates detection limit that exceeds screening level

Table 2. Analytical Results of Selected Soil Vapor Samples - Oxygen, Methane, and Carbon Dioxide

(Concentrations in %)

	( )				
Sample Location	Date	Depth (feet)	Oxygen	Methane	Carbon Dioxide
4/6/2012	4/6/2012		9.6	0.00023	0.78
CV/ 1	5/4/2012	5	11	0.00022	1.2
SV-1	6/6/2012	5	15	0.0002	1.1
	7/9/2012		11	0.00019	1.4
	4/6/2012				
CV 2	5/4/2012	F	4.2	0.0045	0.93
SV-2	6/6/2012	5	1.9	0.0027	1.5
	7/9/2012		1.9	0.00025	2.2
	4/6/2012		1.6	0.13	3.2
CV 2	5/4/2012	5	1.5	0.27	3.2
SV-3	6/6/2012		1.8	0.2	4.2
	7/9/2012		1.5	0.16	6.0

--- Probe could not be sampled due to water in the tubing



## **Table 3. Analytical Results of Selected Vapor Riser Samples**

(Concentrations in  $\mu g/m^3$ )

Sample Location	Date	ТРНд	Benzene	Freon-12	Ethanol	Acetone	2-Propanol	Carbon Disulfide	Hexane	2-Butonone (Methyl Ethyl Ketone)	Cyclohexane	Heptane	4-Methyl-2- penatone	Toulene	Ethyl Benzene	m,p-Xylene	o-Xylene	Styrene	Cumene
V-1	7/18/2012	2,500	<2.5	<3.9	<6.0	230	<7.8	25	3.6	13	3.0	3.9	17	5.4	3.5	3.4	< 3.4	28	< 3.9
V-2	7/18/2012	3,300	< 2.5	< 3.9	36	96	<7.8	23	4.8	13	<2.7	14	9	5.3	5.9	8.3	3.7	42	< 3.9
V-3	7/18/2012	2,200	< 2.5	160	<5.8	160	10	56	3	12	4.9	< 3.2	18	7	16	4.8	< 3.4	140	7.3
V-4	7/18/2012	2,500	< 2.5	3.9	<6.0	120	< 7.8	20	5.0	13	7.5	3.3	5.1	3.3	3.6	< 3.4	< 3.4	28	< 3.9
V-5	7/18/2012	840	< 2.5	< 3.9	<6.0	26	<7.8	39	4.5	< 9.3	4.2	< 3.2	< 3.2	3.8	< 3.4	< 3.4	< 3.4	18	< 3.9
	ial Soil Vapor HHSL <sup>1</sup>	10,000 <sup>2</sup>	85	NE	NE	660,000 <sup>2</sup>	NE	NE	NE	NE	NE	NE	NE	320,000	1,100	850,000	740,000	190,000 <sup>2</sup>	NE

- 1 California Human Health Screening Level (CHHSL) Cal/EPA September
- 2 Environmental Screening Level (ESL) SF Bay Regional Water Board May 2008 Table E2
- < Not detected at or above laboratory reporting limit
- NE Not Established

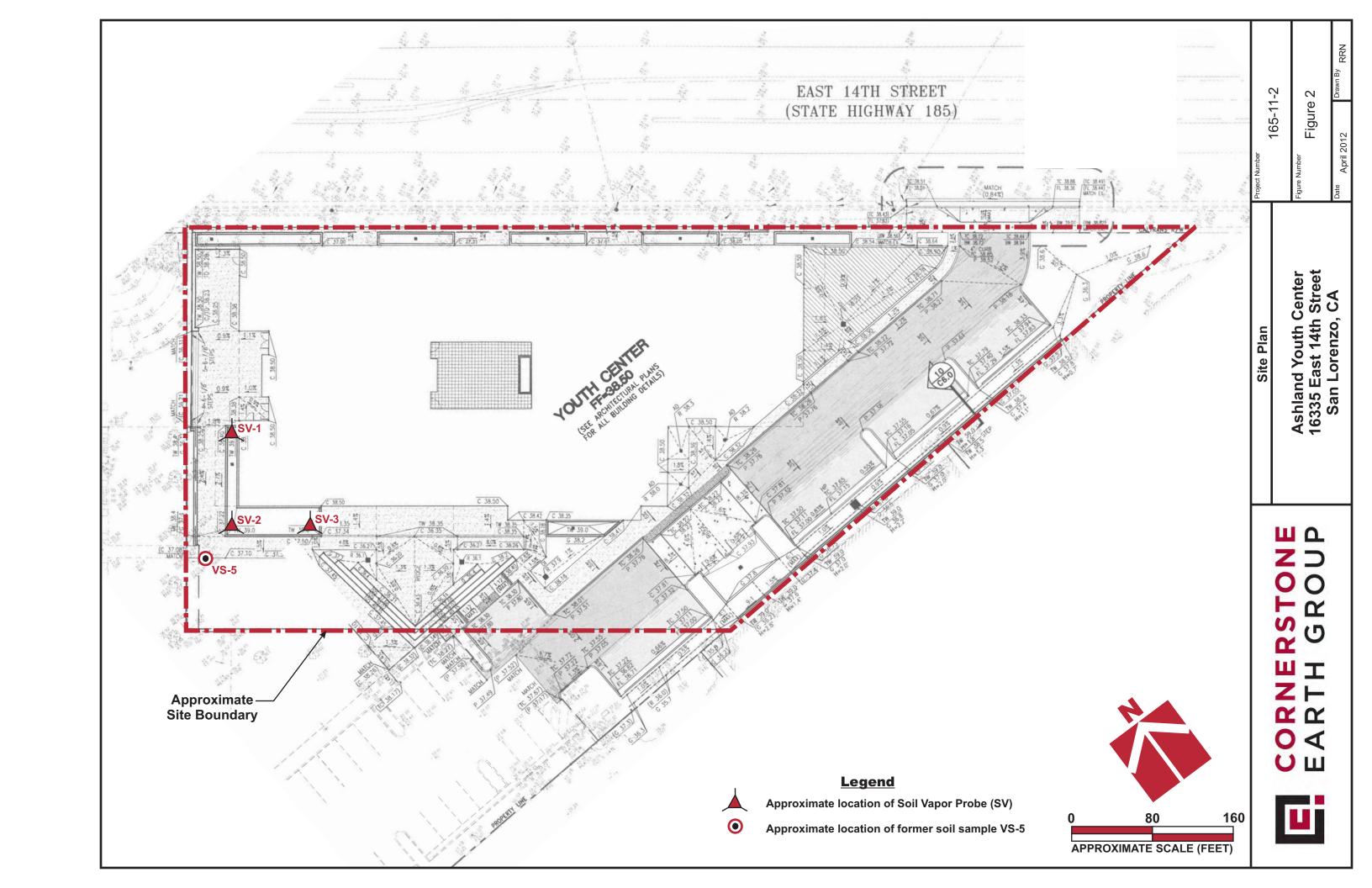


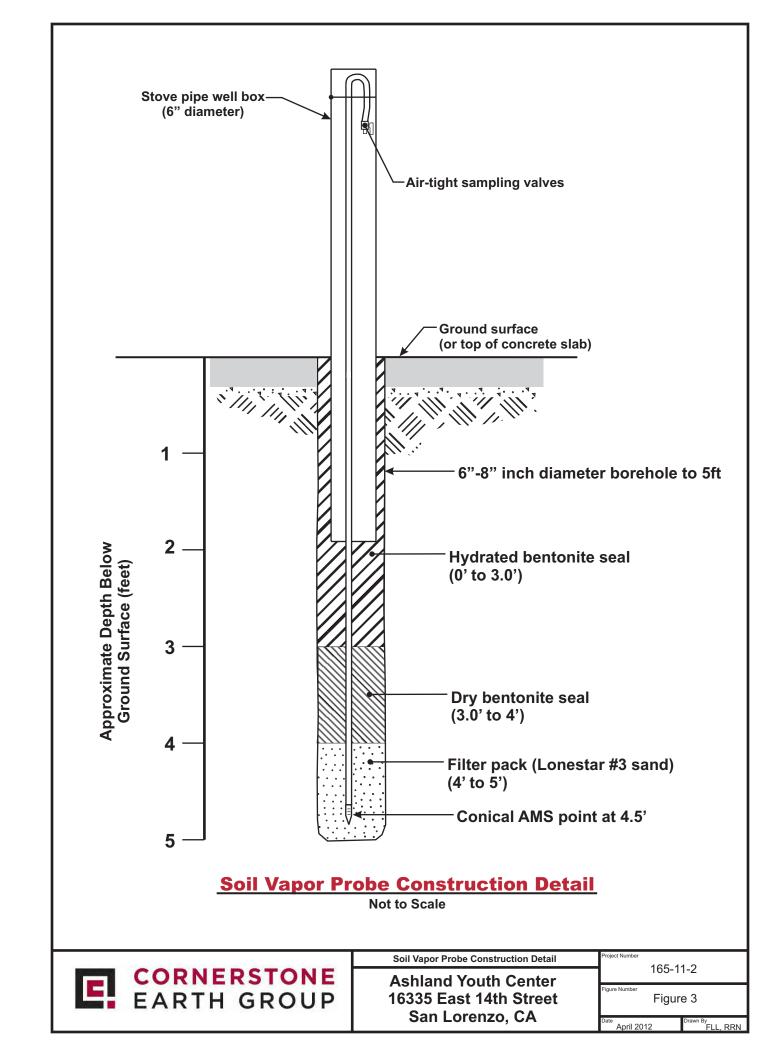
Table 4. Analytical Results of Selected Vent Riser Vapor Samples - Oxygen, Methane, and Carbon Dioxide

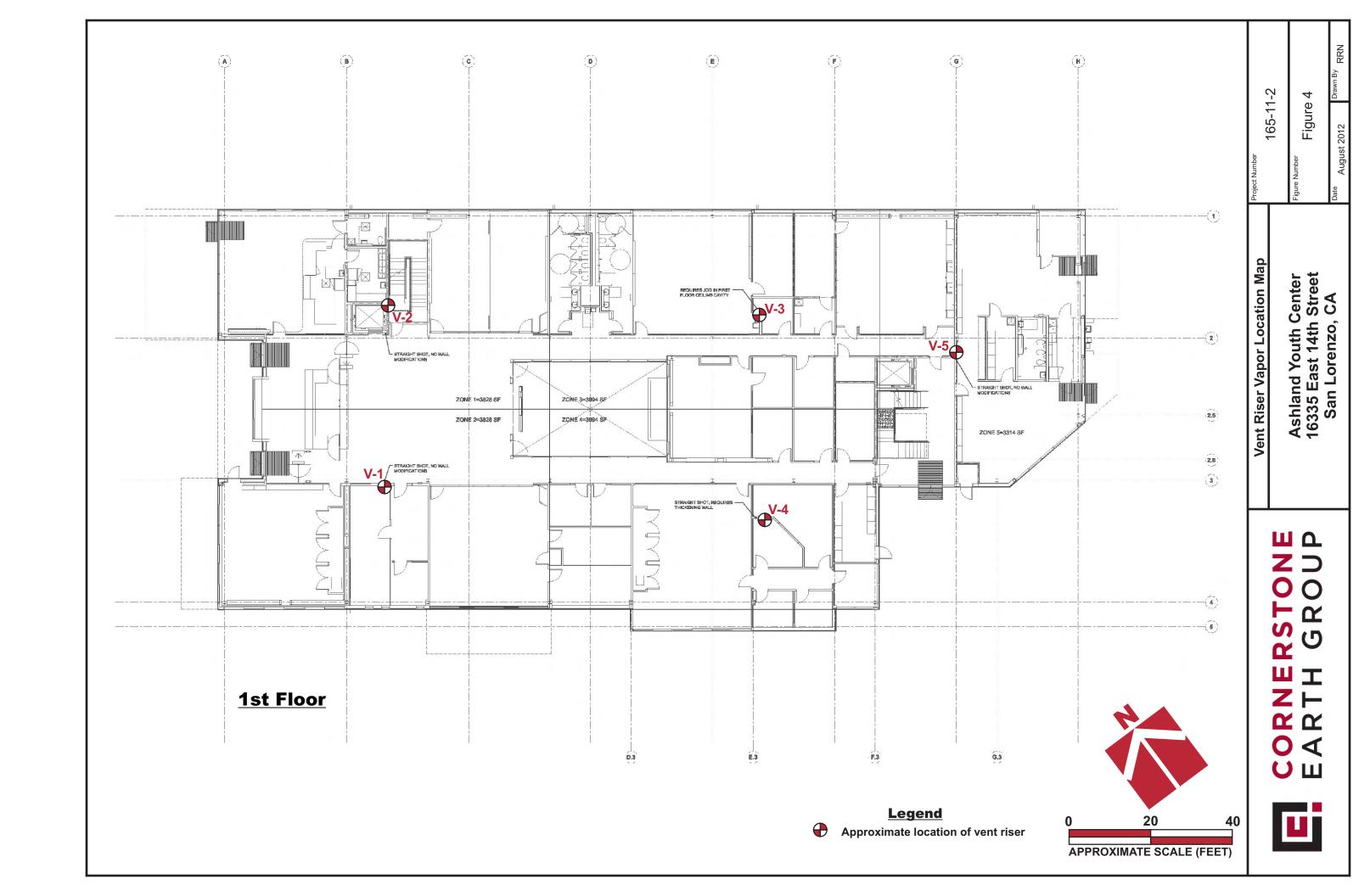
(Concentrations in %)

Sample Location	Date	Oxygen	Methane	Carbon Dioxide
V-1	7/18/2012	21	<0.00022	0.073
V-2	7/18/2012	20	<0.00022	0.075
V-3	7/18/2012	21	0.00031	0.039
V-4	7/18/2012	20	0.00022	0.047
V-5	7/18/2012	21	0.00024	0.052











# **APPENDIX A – LABORATORY ANALYTICAL REPORTS**



## **CHAIN-OF-CUSTODY RECORD**

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

Page \_\_\_\_\_\_\_\_ of \_\_\_\_\_\_\_\_

Project Manager <u>Peter Lanstry</u>	1		Proje	ct Info:		Turn Aroui Time:		Only urized by:		
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Phone 925 988 9500 Fax 925 988	950/		Projec	t Name_Ashl	and Youth Center	specify		N <sub>2</sub> H	9	
			Date	Time	1		nister Pre	ssure/Vac	uum	FG#
Lab I.D. Field Sample I.D. (Location)	Car	# of C	ollection	of Collection	Analyses Reques	sted Initia	l Final	Receipt	Final (psi)	
5Y-1	3462	1 5-	4-12	1206211	TOIS- YOUS inc	lude -28.8	Z - 4.8C			20336
5V-2	1203	34 5-	4-12	13477	TPHz (Cs-Cn), BTI	EX -27	73 -4.50			20313
5V-3	207		4-12	1252-	noghthalene + AS	TM11946-29.	55 -5.13			20130
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5/14/2012 Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1205132C

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 5/7/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 (5&20 ppbv) are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



## **WORK ORDER #: 1205132C**

Work Order Summary

CLIENT: Mr. Peter Langtry BILL TO: Accounts Payable

Cornerstone Earth Group
2737 North Main St.

Suite 10

Cornerstone Earth Group
1259 Oakmead Parkway
Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

**DATE RECEIVED:** 05/07/2012 **CONTACT:** Kyle Vagadori **DATE COMPLETED:** 05/14/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
05A	SV-3 (IPA)	Modified TO-15 (5&20 ppbv	2.6 "Hg	15 psi
06A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
07A	CCV	Modified TO-15 (5&20 ppbv	NA	NA
08A	LCS	Modified TO-15 (5&20 ppbv	NA	NA
08AA	LCSD	Modified TO-15 (5&20 ppbv	NA	NA

CERTIFIED BY: DATE: 05/14/12

Laboratory Director

Certification numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP - CA009332011-1, WA NELAP - C935 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11, Expiration date: 06/30/12.

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020



## LABORATORY NARRATIVE EPA Method TO-15 Soil Gas Cornerstone Earth Group Workorder# 1205132C

One PAC250 Canister sample was received on May 07, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

## **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

Dilution was performed on sample SV-3 (IPA) due to the presence of high level target species.

## **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
  - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



# **Summary of Detected Compounds EPA METHOD TO-15 GC/MS**

Client Sample ID: SV-3 (IPA)

Lab ID#: 1205132C-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
2-Propanol	550	87000	1400	210000	



# Client Sample ID: SV-3 (IPA) Lab ID#: 1205132C-05A

## **EPA METHOD TO-15 GC/MS**

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
2-Propanol	550	87000	1400	210000

**Container Type: PAC250 Canister** 

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130



# Client Sample ID: Lab Blank Lab ID#: 1205132C-06A

## **EPA METHOD TO-15 GC/MS**

File Name: Dil. Factor:	14050806 1.00	Date of Collection: NA Date of Analysis: 5/8/12 06:09 PM					
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)			
2-Propanol	20	Not Detected	49	Not Detected			

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	94	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	99	70-130	



# Client Sample ID: CCV Lab ID#: 1205132C-07A

## **EPA METHOD TO-15 GC/MS**

File Name: 14050802 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/8/12 04:07 PM

 Compound
 %Recovery

 2-Propanol
 100

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	94	70-130	
Toluene-d8	99	70-130	
4-Bromofluorobenzene	105	70-130	



# Client Sample ID: LCS Lab ID#: 1205132C-08A

## **EPA METHOD TO-15 GC/MS**

File Name: 14050803 Date of Collection: NA

Dil. Factor: 1.00 Date of Analysis: 5/8/12 04:31 PM

 Compound
 %Recovery

 2-Propanol
 110

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	96	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	105	70-130	



# Client Sample ID: LCSD Lab ID#: 1205132C-08AA EPA METHOD TO-15 GC/MS

File Name: 14050804 Date of Collection: NA

Dil. Factor: 1.00 Date of Analysis: 5/8/12 05:00 PM

 Compound
 %Recovery

 2-Propanol
 108

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	94	70-130	
Toluene-d8	100	70-130	
4-Bromofluorobenzene	106	70-130	



## **CHAIN-OF-CUSTODY RECORD**

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

Phone <u>925</u>	N Main St. #10 City Walnut Ck 988 9500 Fax 925 988				Name_Ashl	land You	th Cents	$\begin{bmatrix} 5-j \\ s_i \end{bmatrix}$	pecify	ter Pres	N <sub>2</sub> Hosure/Vac	American Indiana (Indiana Indiana India	-FC#
Lab I.D.	Field Sample I.D. (Location)	Can #		ate llection	Time of Collection	Ana	lyses Requ	uested	Initial	Final	Receipt	1	
OIA _	5V-I	34624	5-4	1-12	1206-1	T015-	· VOCs in	nclude	-28.82	-4.80			2033
0214	5V-2	12034	5-4	1-12	1347-		C5-C1), P						20313
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5/14/2012 Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1205132B

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 5/7/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



## WORK ORDER #: 1205132B

Work Order Summary

CLIENT: Mr. Peter Langtry BILL TO: Accounts Payable

Cornerstone Earth Group
2737 North Main St.
259 Oakmead Parkway
Suite 10
Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

**DATE RECEIVED:** 05/07/2012 **CONTACT:** Kyle Vagadori **DATE COMPLETED:** 05/14/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	SV-1	Modified ASTM D-1946	3.5 "Hg	5 psi
02A	SV-2	Modified ASTM D-1946	4.5 "Hg	5 psi
03A	SV-3	Modified ASTM D-1946	5.0 "Hg	5 psi
04A	Lab Blank	Modified ASTM D-1946	NA	NA
05A	LCS	Modified ASTM D-1946	NA	NA
05AA	LCSD	Modified ASTM D-1946	NA	NA

CERTIFIED BY: DATE: 05/14/12

Laboratory Director

Certification numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP - CA009332011-1, WA NELAP - C935 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11, Expiration date: 06/30/12.

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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## LABORATORY NARRATIVE Modified ASTM D-1946 Cornerstone Earth Group Workorder# 1205132B

Three 1 Liter Summa Canister samples were received on May 07, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	ASTM D-1946	ATL Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

## **Receiving Notes**

There were no receiving discrepancies.



#### **Analytical Notes**

There were no analytical discrepancies.

#### **Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B Compound present in laboratory blank greater than reporting limit.
- J Estimated value.
- E Exceeds instrument calibration range.
- S Saturated peak.
- Q Exceeds quality control limits.
- U Compound analyzed for but not detected above the detection limit.
- M Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



# Summary of Detected Compounds MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

Client Sample ID: SV-1 Lab ID#: 1205132B-01A

	Rpt. Limit	Amount
Compound	(%)	(%)
Oxygen	0.15	11
Methane	0.00015	0.00022
Carbon Dioxide	0.015	1.2

Client Sample ID: SV-2 Lab ID#: 1205132B-02A

	Rpt. Limit	Amount	
Compound	(%)	(%)	
Oxygen	0.16	4.2	
Methane	0.00016	0.0045	
Carbon Dioxide	0.016	0.93	

Client Sample ID: SV-3 Lab ID#: 1205132B-03A

	Rpt. Limit	Amount	
Compound	(%)	(%)	
Oxygen	0.16	1.5	
Methane	0.00016	0.27	
Carbon Dioxide	0.016	3.2	



## Client Sample ID: SV-1 Lab ID#: 1205132B-01A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9050810 1.52		ction:  5/4/12 12:11:00 PN sis:  5/8/12 11:42 AM
Compound		Rpt. Limit (%)	Amount (%)
Oxygen		0.15	11
Methane		0.00015	0.00022
Carbon Dioxide		0.015	1.2

**Container Type: 1 Liter Summa Canister** 



## Client Sample ID: SV-2 Lab ID#: 1205132B-02A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9050811	Date of Collection: 5/4/12 1:53:00		
Dil. Factor:	1.58	Date of Analys	sis: 5/8/12 12:07 PM	
		Rpt. Limit	Amount	
Compound		(%)	(%)	
Oxygen		0.16	4.2	
Methane		0.00016	0.0045	

0.016

0.93

Container Type: 1 Liter Summa Canister

Carbon Dioxide



## Client Sample ID: SV-3 Lab ID#: 1205132B-03A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9050812	Date of Collec	tion: 5/4/12 1:08:00 PM
Dil. Factor:	1.61	Date of Analys	sis: 5/8/12 12:31 PM
•		Rpt. Limit	Amount
Compound		(%)	(%)

 Compound
 (%)
 (%)

 Oxygen
 0.16
 1.5

 Methane
 0.00016
 0.27

 Carbon Dioxide
 0.016
 3.2

**Container Type: 1 Liter Summa Canister** 



## Client Sample ID: Lab Blank Lab ID#: 1205132B-04A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9050804 1.00	Date of Colle Date of Analy	ction: NA /sis:  5/8/12 09:15 AM
Compound		Rpt. Limit (%)	Amount (%)
Oxygen		0.10	Not Detected
Methane		0.00010	Not Detected
Carbon Dioxide		0.010	Not Detected



## Client Sample ID: LCS Lab ID#: 1205132B-05A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

F	ile Name:	9050802	Date of Collection: NA
D	Dil. Factor:	1.00	Date of Analysis: 5/8/12 08:18 AM

Compound	%Recovery
Oxygen	100
Methane	96
Carbon Dioxide	101



## Client Sample ID: LCSD Lab ID#: 1205132B-05AA

## MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9050826	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/8/12 06:51 PM

Compound	%Recovery
Oxygen	99
Methane	97
Carbon Dioxide	101



#### **CHAIN-OF-CUSTODY RECORD**

Sample Transportation Notice

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FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

	unager <u>Peter Longtry</u>	<i>-</i> //	Proje	ct Info:		Turn Around Time:	Lab Use Only Pressurized by:	
	by: (Print and Sign) ROSS Tin like / ha	1	P.O. #			☐ Normal	Date:	
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			Date	Time			ster Pressure/Vacuun	n FC#
Lab I.D.	Field Sample I.D. (Location)	Can #		of Collection	Analyses Reques	sted Initial	Final Receipt Fin	al
OIA	57-1	34624	5-4-12	1206-	TOIS- VOCS inc	Jude -28.82	-4.80	20336
02/A	5V-2	12034	5-4-12	1347-	TPHS(CS-C), BTE		3 -4.50	20313
03A	5V-3	2076	5-4-12	1252-	naphthalene + AST	7	1. 25ye 1: 1 1 5 5 c	20130
			,		for Oz CO, The	/ i		
04A	Trip Blank	37323	5-4-12	NAMES OF STREET	VOCS TO15			
	Trip Blank 5V-3 (IPA)	3608	5-4-12	1257=9	2-proposal only (TO15 5+20)	30	-5	1000 भू
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5/14/2012 Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1205132A

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 5/7/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



#### **WORK ORDER #: 1205132A**

Work Order Summary

CLIENT: Mr. Peter Langtry BILL TO: Accounts Payable

Cornerstone Earth Group
2737 North Main St.
259 Oakmead Parkway
Suite 10
Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

**DATE RECEIVED:** 05/07/2012 **CONTACT:** Kyle Vagadori **DATE COMPLETED:** 05/14/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	SV-1	Modified TO-15	3.5 "Hg	5 psi
02A	SV-2	Modified TO-15	4.5 "Hg	5 psi
03A	SV-3	Modified TO-15	5 "Hg	5 psi
04A	Trip Blank	Modified TO-15	28 "Hg	5 psi
05A	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: DATE: 05/14/12

Laboratory Director

Certification numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP - CA009332011-1, WA NELAP - C935 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11, Expiration date: 06/30/12.

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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#### LABORATORY NARRATIVE EPA Method TO-15 Cornerstone Earth Group Workorder# 1205132A

Four 1 Liter Summa Canister samples were received on May 07, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

Dilution was performed on sample SV-3 due to the presence of high level target species.

Dilution was performed on sample SV-2 due to the presence of high level non-target species.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
  - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# **Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN**

Client Sample ID: SV-1 Lab ID#: 1205132A-01A

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
TPH ref. to Gasoline (MW-100)	38	70	160	290

Client Sample ID: SV-2 Lab ID#: 1205132A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ua/m3)	Amount (ug/m3)
Benzene	3.2	3.3	10	10
TPH ref. to Gasoline (MW=100)	160	420	650	1700

Client Sample ID: SV-3 Lab ID#: 1205132A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	20	730	71	2600
2,2,4-Trimethylpentane	20	15000 E	94	72000 E
Heptane	20	180	82	720
Propylbenzene	20	29	99	140
TPH ref. to Gasoline (MW=100)	1000	400000	4100	1600000

**Client Sample ID: Trip Blank** 

Lab ID#: 1205132A-04A
No Detections Were Found.



## Client Sample ID: SV-1 Lab ID#: 1205132A-01A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j051008	Date of Collection: 5/4/12 12:11:00 PM
Dil. Factor:	1.52	Date of Analysis: 5/10/12 01:11 PM

Dil. Factor:	1.52	Date of Analysis: 5/10/12 01:11 PM		
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.76	Not Detected	3.8	Not Detected
Freon 114	0.76	Not Detected	5.3	Not Detected
Chloromethane	7.6	Not Detected	16	Not Detected
Vinyl Chloride	0.76	Not Detected	1.9	Not Detected
1,3-Butadiene	0.76	Not Detected	1.7	Not Detected
Bromomethane	7.6	Not Detected	30	Not Detected
Chloroethane	3.0	Not Detected	8.0	Not Detected
Freon 11	0.76	Not Detected	4.3	Not Detected
Ethanol	3.0	Not Detected	5.7	Not Detected
Freon 113	0.76	Not Detected	5.8	Not Detected
1,1-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Acetone	7.6	Not Detected	18	Not Detected
2-Propanol	3.0	Not Detected	7.5	Not Detected
Carbon Disulfide	3.0	Not Detected	9.5	Not Detected
3-Chloropropene	3.0	Not Detected	9.5	Not Detected
Methylene Chloride	7.6	Not Detected	26	Not Detected
Methyl tert-butyl ether	0.76	Not Detected	2.7	Not Detected
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Hexane	0.76	Not Detected	2.7	Not Detected
1,1-Dichloroethane	0.76	Not Detected	3.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.0	Not Detected	9.0	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Tetrahydrofuran	0.76	Not Detected	2.2	Not Detected
Chloroform	0.76	Not Detected	3.7	Not Detected
1,1,1-Trichloroethane	0.76	Not Detected	4.1	Not Detected
Cyclohexane	0.76	Not Detected	2.6	Not Detected
Carbon Tetrachloride	0.76	Not Detected	4.8	Not Detected
2,2,4-Trimethylpentane	0.76	Not Detected	3.6	Not Detected
Benzene	0.76	Not Detected	2.4	Not Detected
1,2-Dichloroethane	0.76	Not Detected	3.1	Not Detected
Heptane	0.76	Not Detected	3.1	Not Detected
Trichloroethene	0.76	Not Detected	4.1	Not Detected
1,2-Dichloropropane	0.76	Not Detected	3.5	Not Detected
1,4-Dioxane	3.0	Not Detected	11	Not Detected
Bromodichloromethane	0.76	Not Detected	5.1	Not Detected
cis-1,3-Dichloropropene	0.76	Not Detected	3.4	Not Detected
4-Methyl-2-pentanone	0.76	Not Detected	3.1	Not Detected
Toluene	0.76	Not Detected	2.9	Not Detected
trans-1,3-Dichloropropene	0.76	Not Detected	3.4	Not Detected
1,1,2-Trichloroethane	0.76	Not Detected	4.1	Not Detected
Tetrachloroethene	0.76	Not Detected	5.2	Not Detected
2-Hexanone	3.0	Not Detected	12	Not Detected



## Client Sample ID: SV-1 Lab ID#: 1205132A-01A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j051008	Date of Collection: 5/4/12 12:11:00 PM
Dil. Factor:	1.52	Date of Analysis: 5/10/12 01:11 PM

	<b>-</b>		<b>,</b>	•
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.76	Not Detected	6.5	Not Detected
1,2-Dibromoethane (EDB)	0.76	Not Detected	5.8	Not Detected
Chlorobenzene	0.76	Not Detected	3.5	Not Detected
Ethyl Benzene	0.76	Not Detected	3.3	Not Detected
m,p-Xylene	0.76	Not Detected	3.3	Not Detected
o-Xylene	0.76	Not Detected	3.3	Not Detected
Styrene	0.76	Not Detected	3.2	Not Detected
Bromoform	0.76	Not Detected	7.8	Not Detected
Cumene	0.76	Not Detected	3.7	Not Detected
1,1,2,2-Tetrachloroethane	0.76	Not Detected	5.2	Not Detected
Propylbenzene	0.76	Not Detected	3.7	Not Detected
4-Ethyltoluene	0.76	Not Detected	3.7	Not Detected
1,3,5-Trimethylbenzene	0.76	Not Detected	3.7	Not Detected
1,2,4-Trimethylbenzene	0.76	Not Detected	3.7	Not Detected
1,3-Dichlorobenzene	0.76	Not Detected	4.6	Not Detected
1,4-Dichlorobenzene	0.76	Not Detected	4.6	Not Detected
alpha-Chlorotoluene	0.76	Not Detected	3.9	Not Detected
1,2-Dichlorobenzene	0.76	Not Detected	4.6	Not Detected
1,2,4-Trichlorobenzene	3.0	Not Detected	22	Not Detected
Hexachlorobutadiene	3.0	Not Detected	32	Not Detected
Naphthalene	3.0	Not Detected	16	Not Detected
TPH ref. to Gasoline (MW=100)	38	70	160	290

#### **Container Type: 1 Liter Summa Canister**

		Method
Surrogates	%Recovery	Limits
Toluene-d8	108	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	97	70-130



File Name:

Heptane

Trichloroethene

1,4-Dioxane

Toluene

1,2-Dichloropropane

Bromodichloromethane

cis-1,3-Dichloropropene

trans-1,3-Dichloropropene

4-Methyl-2-pentanone

1,1,2-Trichloroethane

Tetrachloroethene

2-Hexanone

#### Client Sample ID: SV-2 Lab ID#: 1205132A-02A

#### EPA METHOD TO-15 GC/MS FULL SCAN

i051009

Date of Collection: 5/4/12 1:53:00 PM

Dil. Factor:	6.32	Date	of Analysis: 5/10	
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	3.2	Not Detected	16	Not Detected
Freon 114	3.2	Not Detected	22	Not Detected
Chloromethane	32	Not Detected	65	Not Detected
Vinyl Chloride	3.2	Not Detected	8.1	Not Detected
1,3-Butadiene	3.2	Not Detected	7.0	Not Detected
Bromomethane	32	Not Detected	120	Not Detected
Chloroethane	13	Not Detected	33	Not Detected
Freon 11	3.2	Not Detected	18	Not Detected
Ethanol	13	Not Detected	24	Not Detected
Freon 113	3.2	Not Detected	24	Not Detected
1,1-Dichloroethene	3.2	Not Detected	12	Not Detected
Acetone	32	Not Detected	75	Not Detected
2-Propanol	13	Not Detected	31	Not Detected
Carbon Disulfide	13	Not Detected	39	Not Detected
3-Chloropropene	13	Not Detected	40	Not Detected
Methylene Chloride	32	Not Detected	110	Not Detected
Methyl tert-butyl ether	3.2	Not Detected	11	Not Detected
trans-1,2-Dichloroethene	3.2	Not Detected	12	Not Detected
Hexane	3.2	Not Detected	11	Not Detected
1,1-Dichloroethane	3.2	Not Detected	13	Not Detected
2-Butanone (Methyl Ethyl Ketone)	13	Not Detected	37	Not Detected
cis-1,2-Dichloroethene	3.2	Not Detected	12	Not Detected
Tetrahydrofuran	3.2	Not Detected	9.3	Not Detected
Chloroform	3.2	Not Detected	15	Not Detected
1,1,1-Trichloroethane	3.2	Not Detected	17	Not Detected
Cyclohexane	3.2	Not Detected	11	Not Detected
Carbon Tetrachloride	3.2	Not Detected	20	Not Detected
2,2,4-Trimethylpentane	3.2	Not Detected	15	Not Detected
Benzene	3.2	3.3	10	10
1,2-Dichloroethane	3.2	Not Detected	13	Not Detected

Not Detected

13

17

15

46

21

14

13

12

14

17

21

52

Not Detected

3.2

3.2

3.2

13

3.2

3.2

3.2

3.2

3.2

3.2

3.2

13



## Client Sample ID: SV-2 Lab ID#: 1205132A-02A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j051009	Date of Collection: 5/4/12 1:53:00 PM
Dil. Factor:	6.32	Date of Analysis: 5/10/12 01:43 PM

V:0=	Date of Attalysie: 6/16/12 01:40 1 iii		
Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
3.2	Not Detected	27	Not Detected
3.2	Not Detected	24	Not Detected
3.2	Not Detected	14	Not Detected
3.2	Not Detected	14	Not Detected
3.2	Not Detected	14	Not Detected
3.2	Not Detected	14	Not Detected
3.2	Not Detected	13	Not Detected
3.2	Not Detected	33	Not Detected
3.2	Not Detected	16	Not Detected
3.2	Not Detected	22	Not Detected
3.2	Not Detected	16	Not Detected
3.2	Not Detected	16	Not Detected
3.2	Not Detected	16	Not Detected
3.2	Not Detected	16	Not Detected
3.2	Not Detected	19	Not Detected
3.2	Not Detected	19	Not Detected
3.2	Not Detected	16	Not Detected
3.2	Not Detected	19	Not Detected
13	Not Detected	94	Not Detected
13	Not Detected	130	Not Detected
13	Not Detected	66	Not Detected
160	420	650	1700
	(ppbv)  3.2 3.2 3.2 3.2 3.2 3.2 3.2 3.2 3.2 3.	(ppbv) (ppbv)  3.2 Not Detected 3.3 Not Detected 3.3 Not Detected 13 Not Detected 13 Not Detected	Rpt. Limit (ppbv)         Amount (ppbv)         Rpt. Limit (ug/m3)           3.2         Not Detected         27           3.2         Not Detected         24           3.2         Not Detected         14           3.2         Not Detected         14           3.2         Not Detected         14           3.2         Not Detected         13           3.2         Not Detected         33           3.2         Not Detected         16           3.2         Not Detected         19           3.2

#### **Container Type: 1 Liter Summa Canister**

		Method
Surrogates	%Recovery	Limits
Toluene-d8	108	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	94	70-130



## Client Sample ID: SV-3 Lab ID#: 1205132A-03A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j051012 Date of Collection: 5/4/12 1:08:00 PM
Dil. Factor: 40.2 Date of Analysis: 5/10/12 03:42 PM

Dil. Factor:	40.2	Date of Analysis: 5/10/12 03:42 P		/12 03:42 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	20	Not Detected	99	Not Detected
Freon 114	20	Not Detected	140	Not Detected
Chloromethane	200	Not Detected	420	Not Detected
Vinyl Chloride	20	Not Detected	51	Not Detected
1,3-Butadiene	20	Not Detected	44	Not Detected
Bromomethane	200	Not Detected	780	Not Detected
Chloroethane	80	Not Detected	210	Not Detected
Freon 11	20	Not Detected	110	Not Detected
Ethanol	80	Not Detected	150	Not Detected
Freon 113	20	Not Detected	150	Not Detected
1,1-Dichloroethene	20	Not Detected	80	Not Detected
Acetone	200	Not Detected	480	Not Detected
2-Propanol	80	Not Detected	200	Not Detected
Carbon Disulfide	80	Not Detected	250	Not Detected
3-Chloropropene	80	Not Detected	250	Not Detected
Methylene Chloride	200	Not Detected	700	Not Detected
Methyl tert-butyl ether	20	Not Detected	72	Not Detected
trans-1,2-Dichloroethene	20	Not Detected	80	Not Detected
Hexane	20	730	71	2600
1,1-Dichloroethane	20	Not Detected	81	Not Detected
2-Butanone (Methyl Ethyl Ketone)	80	Not Detected	240	Not Detected
cis-1,2-Dichloroethene	20	Not Detected	80	Not Detected
Tetrahydrofuran	20	Not Detected	59	Not Detected
Chloroform	20	Not Detected	98	Not Detected
1,1,1-Trichloroethane	20	Not Detected	110	Not Detected
Cyclohexane	20	Not Detected	69	Not Detected
Carbon Tetrachloride	20	Not Detected	130	Not Detected
2,2,4-Trimethylpentane	20	15000 E	94	72000 E
Benzene	20	Not Detected	64	Not Detected
1,2-Dichloroethane	20	Not Detected	81	Not Detected
Heptane	20	180	82	720
Trichloroethene	20	Not Detected	110	Not Detected
1,2-Dichloropropane	20	Not Detected	93	Not Detected
1,4-Dioxane	80	Not Detected	290	Not Detected
Bromodichloromethane	20	Not Detected	130	Not Detected
cis-1,3-Dichloropropene	20	Not Detected	91	Not Detected
4-Methyl-2-pentanone	20	Not Detected	82	Not Detected
Toluene	20	Not Detected	76	Not Detected
trans-1,3-Dichloropropene	20	Not Detected	91	Not Detected
1,1,2-Trichloroethane	20	Not Detected	110	Not Detected
Tetrachloroethene	20	Not Detected	140	Not Detected
2-Hexanone	80	Not Detected	330	Not Detected



### Client Sample ID: SV-3 Lab ID#: 1205132A-03A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j051012 Date of Collection: 5/4/12 1:08:00 PM
Dil. Factor: 40.2 Date of Analysis: 5/10/12 03:42 PM

Dill i dotoii	70.2	Date	Ol Allalysis. 3/10/	12 00.72 1 W
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	20	Not Detected	170	Not Detected
1,2-Dibromoethane (EDB)	20	Not Detected	150	Not Detected
Chlorobenzene	20	Not Detected	92	Not Detected
Ethyl Benzene	20	Not Detected	87	Not Detected
m,p-Xylene	20	Not Detected	87	Not Detected
o-Xylene	20	Not Detected	87	Not Detected
Styrene	20	Not Detected	86	Not Detected
Bromoform	20	Not Detected	210	Not Detected
Cumene	20	Not Detected	99	Not Detected
1,1,2,2-Tetrachloroethane	20	Not Detected	140	Not Detected
Propylbenzene	20	29	99	140
4-Ethyltoluene	20	Not Detected	99	Not Detected
1,3,5-Trimethylbenzene	20	Not Detected	99	Not Detected
1,2,4-Trimethylbenzene	20	Not Detected	99	Not Detected
1,3-Dichlorobenzene	20	Not Detected	120	Not Detected
1,4-Dichlorobenzene	20	Not Detected	120	Not Detected
alpha-Chlorotoluene	20	Not Detected	100	Not Detected
1,2-Dichlorobenzene	20	Not Detected	120	Not Detected
1,2,4-Trichlorobenzene	80	Not Detected	600	Not Detected
Hexachlorobutadiene	80	Not Detected	860	Not Detected
Naphthalene	80	Not Detected	420	Not Detected
TPH ref. to Gasoline (MW=100)	1000	400000	4100	1600000

E = Exceeds instrument calibration range.

Container Type: 1 Liter Summa Canister

		Wethod	
Surrogates	%Recovery	Limits	
Toluene-d8	110	70-130	
1,2-Dichloroethane-d4	116	70-130	
4-Bromofluorobenzene	96	70-130	



## Client Sample ID: Trip Blank Lab ID#: 1205132A-04A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j051011	Date of Collection: 5/4/12
Dil. Factor:	1.00	Date of Analysis: 5/10/12 02:58 PM

Dil. Factor:	Dil. Factor: 1.00 Date of Analysis: 5/10/12		/12 02:58 PM	
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected



## Client Sample ID: Trip Blank Lab ID#: 1205132A-04A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j051011	Date of Collection: 5/4/12
Dil. Factor:	1.00	Date of Analysis: 5/10/12 02:58 PM

	24.0	or maryolo. or for	
Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
0.50	Not Detected	4.2	Not Detected
0.50	Not Detected	3.8	Not Detected
0.50	Not Detected	2.3	Not Detected
0.50	Not Detected	2.2	Not Detected
0.50	Not Detected	2.2	Not Detected
0.50	Not Detected	2.2	Not Detected
0.50	Not Detected	2.1	Not Detected
0.50	Not Detected	5.2	Not Detected
0.50	Not Detected	2.4	Not Detected
0.50	Not Detected	3.4	Not Detected
0.50	Not Detected	2.4	Not Detected
0.50	Not Detected	2.4	Not Detected
0.50	Not Detected	2.4	Not Detected
0.50	Not Detected	2.4	Not Detected
0.50	Not Detected	3.0	Not Detected
0.50	Not Detected	3.0	Not Detected
0.50	Not Detected	2.6	Not Detected
0.50	Not Detected	3.0	Not Detected
2.0	Not Detected	15	Not Detected
2.0	Not Detected	21	Not Detected
2.0	Not Detected	10	Not Detected
25	Not Detected	100	Not Detected
	(ppbv)  0.50 0.50 0.50 0.50 0.50 0.50 0.50 0.	(ppbv)         (ppbv)           0.50         Not Detected           2.0         Not Detected           2.0         Not Detected           2.0         Not Detected	Rpt. Limit (ppbv)         Amount (ppbv)         Rpt. Limit (ug/m3)           0.50         Not Detected         4.2           0.50         Not Detected         3.8           0.50         Not Detected         2.3           0.50         Not Detected         2.2           0.50         Not Detected         2.2           0.50         Not Detected         2.1           0.50         Not Detected         5.2           0.50         Not Detected         2.4           0.50         Not Detected         3.0           0.50         Not Detected         3.0

#### **Container Type: 1 Liter Summa Canister**

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	108	70-130	
1,2-Dichloroethane-d4	98	70-130	
4-Bromofluorobenzene	94	70-130	



## Client Sample ID: Lab Blank Lab ID#: 1205132A-05A

#### EPA METHOD TO-15 GC/MS FULL SCAN

<u>r</u>	EPA METHOD TO-15 GC/MS FULL SCAN			
File Name: Dil. Factor:	j051007 1.00	Date of Collection: NA Date of Analysis: 5/10/12 12:13		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected
			- · <del>-</del>	



## Client Sample ID: Lab Blank Lab ID#: 1205132A-05A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j051007 Date of Collection: NA				
Dil. Factor:	1.00 Rpt. Limit	Date of Analysis: 5/10/12 12:13 PM  Amount Rpt. Limit Amount			
Compound	(nnhy)	(nnhy)	(ug/m3)	(ug/m3)	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

		Method
Surrogates	%Recovery	Limits
Toluene-d8	108	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	96	70-130



## Client Sample ID: CCV Lab ID#: 1205132A-06A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j051003 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/10/12 10:07 AM

Compound	%Recovery
Freon 12	87
Freon 114	83
Chloromethane	85
Vinyl Chloride	77
1,3-Butadiene	76
Bromomethane	82
Chloroethane	80
Freon 11	88
Ethanol	88
Freon 113	85
1,1-Dichloroethene	81
Acetone	76
2-Propanol	84
Carbon Disulfide	79
3-Chloropropene	84
Methylene Chloride	79
Methyl tert-butyl ether	91
trans-1,2-Dichloroethene	80
Hexane	82
1,1-Dichloroethane	84
2-Butanone (Methyl Ethyl Ketone)	92
cis-1,2-Dichloroethene	92
Tetrahydrofuran	86
Chloroform	94
1,1,1-Trichloroethane	98
Cyclohexane	96
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	100
Benzene	87
1,2-Dichloroethane	83
Heptane	88
Trichloroethene	90
1,2-Dichloropropane	97
1,4-Dioxane	98
Bromodichloromethane	94
cis-1,3-Dichloropropene	106
4-Methyl-2-pentanone	107
Toluene	104
trans-1,3-Dichloropropene	91
1,1,2-Trichloroethane	89
Tetrachloroethene	90
2-Hexanone	93



## Client Sample ID: CCV Lab ID#: 1205132A-06A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j051003 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/10/12 10:07 AM

Compound	%Recovery
Dibromochloromethane	91
1,2-Dibromoethane (EDB)	94
Chlorobenzene	87
Ethyl Benzene	96
m,p-Xylene	95
o-Xylene	100
Styrene	95
Bromoform	95
Cumene	99
1,1,2,2-Tetrachloroethane	98
Propylbenzene	102
4-Ethyltoluene	99
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	102
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	111
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	92
Hexachlorobutadiene	93
Naphthalene	101
TPH ref. to Gasoline (MW=100)	100

		Method
Surrogates	%Recovery	Limits
Toluene-d8	110	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	101	70-130



## Client Sample ID: LCS Lab ID#: 1205132A-07A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j051004 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/10/12 10:43 AM

Compound	%Recovery
Freon 12	90
Freon 114	87
Chloromethane	94
Vinyl Chloride	80
1,3-Butadiene	80
Bromomethane	85
Chloroethane	83
Freon 11	91
Ethanol	79
Freon 113	89
1,1-Dichloroethene	90
Acetone	74
2-Propanol	88
Carbon Disulfide	101
3-Chloropropene	97
Methylene Chloride	79
Methyl tert-butyl ether	94
trans-1,2-Dichloroethene	92
Hexane	82
1,1-Dichloroethane	85
2-Butanone (Methyl Ethyl Ketone)	94
cis-1,2-Dichloroethene	94
Tetrahydrofuran	86
Chloroform	97
1,1,1-Trichloroethane	101
Cyclohexane	98
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	99
Benzene	89
1,2-Dichloroethane	85
Heptane	89
Trichloroethene	93
1,2-Dichloropropane	99
1,4-Dioxane	97
Bromodichloromethane	98
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	106
Toluene	105
trans-1,3-Dichloropropene	92
1,1,2-Trichloroethane	90
Tetrachloroethene	91
2-Hexanone	94



## Client Sample ID: LCS Lab ID#: 1205132A-07A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j051004 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/10/12 10:43 AM

Compound	%Recovery
Dibromochloromethane	92
1,2-Dibromoethane (EDB)	97
Chlorobenzene	89
Ethyl Benzene	98
m,p-Xylene	99
o-Xylene	101
Styrene	105
Bromoform	96
Cumene	101
1,1,2,2-Tetrachloroethane	102
Propylbenzene	104
4-Ethyltoluene	99
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	103
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	95
alpha-Chlorotoluene	112
1,2-Dichlorobenzene	94
1,2,4-Trichlorobenzene	96
Hexachlorobutadiene	94
Naphthalene	95
TPH ref. to Gasoline (MW=100)	Not Spiked

		Method
Surrogates	%Recovery	Limits
Toluene-d8	110	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	100	70-130



## Client Sample ID: LCSD Lab ID#: 1205132A-07AA

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j051005 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/10/12 11:01 AM

Compound	%Recovery
Freon 12	89
Freon 114	85
Chloromethane	90
Vinyl Chloride	78
1,3-Butadiene	78
Bromomethane	84
Chloroethane	80
Freon 11	90
Ethanol	78
Freon 113	88
1,1-Dichloroethene	90
Acetone	74
2-Propanol	86
Carbon Disulfide	98
3-Chloropropene	95
Methylene Chloride	78
Methyl tert-butyl ether	93
trans-1,2-Dichloroethene	91
Hexane	83
1,1-Dichloroethane	86
2-Butanone (Methyl Ethyl Ketone)	94
cis-1,2-Dichloroethene	94
Tetrahydrofuran	86
Chloroform	97
1,1,1-Trichloroethane	100
Cyclohexane	98
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	99
Benzene	89
1,2-Dichloroethane	84
Heptane	88
Trichloroethene	93
1,2-Dichloropropane	99
1,4-Dioxane	97
Bromodichloromethane	96
cis-1,3-Dichloropropene	106
4-Methyl-2-pentanone	104
Toluene	103
trans-1,3-Dichloropropene	91
1,1,2-Trichloroethane	90
Tetrachloroethene	90
2-Hexanone	93



### Client Sample ID: LCSD Lab ID#: 1205132A-07AA

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j051005 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 5/10/12 11:01 AM

Compound	%Recovery
Dibromochloromethane	91
1,2-Dibromoethane (EDB)	96
Chlorobenzene	90
Ethyl Benzene	97
m,p-Xylene	98
o-Xylene	102
Styrene	103
Bromoform	94
Cumene	103
1,1,2,2-Tetrachloroethane	101
Propylbenzene	105
4-Ethyltoluene	99
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	111
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	98
Hexachlorobutadiene	97
Naphthalene	97
TPH ref. to Gasoline (MW=100)	Not Spiked

		Method
Surrogates	%Recovery	Limits
Toluene-d8	110	70-130
1,2-Dichloroethane-d4	99	70-130
4-Bromofluorobenzene	100	70-130



## CHAIN-OF-CUSTODY RECORD

## **Sample Transportation Notice**

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of FOLSOM. CA 95630-4719 any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

Project Manager Peters Longry	- 1	Proje	ct Info:		Turn Around	Lab Use	Only		
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Company Cornerstone Earth Gropemail plansty	1 Bearnersh	one en A. Co			Normal	Date:			
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Phone 925 988 9500 Suite 101 Fax 925 988 95	01	Projec	t Name Ash	land Youth Cento	5-Deg.		N <sub>2</sub> H		
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5V-3		6-6-12	1134-	BIEX, Naphose	ne, -29.3,	7-4.60	<u> </u>		50313
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6/14/2012 Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1206133C

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 6/7/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-14A/15 (5&20 ppbv) are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



#### **WORK ORDER #: 1206133C**

Work Order Summary

CLIENT: Mr. Peter Langtry BILL TO: Accounts Payable

Cornerstone Earth Group
2737 North Main St.
2737 North Main St.
259 Oakmead Parkway
Suite 10
Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

**DATE RECEIVED:** 06/07/2012 **CONTACT:** Kyle Vagadori **DATE COMPLETED:** 06/14/2012

			RECEIPT	FINAL
FRACTION #	NAME	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
05A	SV-3 (IPA)	Modified TO-14A/15 (5&20 <sub>1</sub>	3.5 "Hg	15 psi
06A	Lab Blank	Modified TO-14A/15 (5&20 <sub>1</sub>	NA	NA
07A	CCV	Modified TO-14A/15 (5&20 <sub>1</sub>	NA	NA
08A	LCS	Modified TO-14A/15 (5&20 <sub>1</sub>	NA	NA
08AA	LCSD	Modified TO-14A/15 (5&20 <sub>1</sub>	NA	NA

CERTIFIED BY: Sinda of Frumas DATE:

Laboratory Director

Certification numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP - CA009332011-1, WA NELAP - C935 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11, Expiration date: 06/30/12.

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

06/14/12

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630



#### LABORATORY NARRATIVE EPA Method TO-15 Soil Gas Cornerstone Earth Group Workorder# 1206133C

One PAC250 Canister sample was received on June 07, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

Dilution was performed on sample SV-3 (IPA) due to the presence of high level target species.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
  - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# **Summary of Detected Compounds EPA METHOD TO-15 GC/MS**

Client Sample ID: SV-3 (IPA)

Lab ID#: 1206133C-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
2-Propanol	570	110000	1400	280000	



## Client Sample ID: SV-3 (IPA) Lab ID#: 1206133C-05A

#### **EPA METHOD TO-15 GC/MS**

File Name:	14060816	Date of Collection: 6/6/12 11:38:00 AM		
Dil. Factor:	28.6	Date of Analysis: 6/8/12 04:46 PM		
•	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)

110000

1400

280000

570

**Container Type: PAC250 Canister** 

2-Propanol

7,1		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	94	70-130



## Client Sample ID: Lab Blank Lab ID#: 1206133C-06A

#### **EPA METHOD TO-15 GC/MS**

File Name: Dil. Factor:	14060806 1.00	Date of Collection: NA Date of Analysis: 6/8/12 10:32 AM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	20	Not Detected	49	Not Detected

		Method Limits	
Surrogates	%Recovery		
1,2-Dichloroethane-d4	115	70-130	
Toluene-d8	102	70-130	
4-Bromofluorobenzene	96	70-130	



## Client Sample ID: CCV Lab ID#: 1206133C-07A

### EPA METHOD TO-15 GC/MS

File Name: 14060802 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 6/8/12 09:02 AM

 Compound
 %Recovery

 2-Propanol
 125

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	117	70-130	
Toluene-d8	105	70-130	
4-Bromofluorobenzene	94	70-130	



## Client Sample ID: LCS Lab ID#: 1206133C-08A

### EPA METHOD TO-15 GC/MS

File Name: 14060803 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 6/8/12 09:20 AM

 Compound
 %Recovery

 2-Propanol
 121

остание туротти постъррновиче		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	114	70-130	
Toluene-d8	104	70-130	
4-Bromofluorobenzene	98	70-130	



## Client Sample ID: LCSD Lab ID#: 1206133C-08AA EPA METHOD TO-15 GC/MS

File Name: 14060804 Date of Collection: NA

Dil. Factor: 1.00 Date of Analysis: 6/8/12 09:39 AM

 Compound
 %Recovery

 2-Propanol
 128

		Method	
Surrogates	%Recovery	Limits	
1,2-Dichloroethane-d4	117	70-130	
Toluene-d8	104	70-130	
4-Bromofluorobenzene	97	70-130	



### **CHAIN-OF-CUSTODY RECORD**

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local. State, Federal, national, and international laws, regulations and ordinances of FOLSOM, CA 95630-4719 any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

(916) 985-1000 FAX (916) 985-1020

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6/14/2012 Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1206133B

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 6/7/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



#### **WORK ORDER #:** 1206133B

Work Order Summary

**CLIENT:** Mr. Peter Langtry **BILL TO:** Accounts Payable

> Cornerstone Earth Group Cornerstone Earth Group 2737 North Main St. 1259 Oakmead Parkway Suite 10 Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

DATE RECEIVED: 06/07/2012 **CONTACT:** Kyle Vagadori **DATE COMPLETED:** 06/14/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	SV-1	Modified ASTM D-1946	3.0 "Hg	5 psi
02A	SV-2	Modified ASTM D-1946	4.6 "Hg	5 psi
03A	SV-3	Modified ASTM D-1946	5.2 "Hg	5 psi
04A	Lab Blank	Modified ASTM D-1946	NA	NA
05A	LCS	Modified ASTM D-1946	NA	NA
05AA	LCSD	Modified ASTM D-1946	NA	NA

Linda d. Fruman 06/14/12 CERTIFIED BY: DATE:

Laboratory Director

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP - CA009332011-1, WA NELAP - C935 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11, Expiration date: 06/30/12. Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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#### LABORATORY NARRATIVE Modified ASTM D-1946 Cornerstone Earth Group Workorder# 1206133B

Three 1 Liter Summa Canister samples were received on June 07, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	ASTM D-1946	ATL Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

#### **Receiving Notes**

There were no receiving discrepancies.



#### **Analytical Notes**

There were no analytical discrepancies.

#### **Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B Compound present in laboratory blank greater than reporting limit.
- J Estimated value.
- E Exceeds instrument calibration range.
- S Saturated peak.
- Q Exceeds quality control limits.
- U Compound analyzed for but not detected above the detection limit.
- M Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



# Summary of Detected Compounds MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

Client Sample ID: SV-1 Lab ID#: 1206133B-01A

	Rpt. Limit	Amount
Compound	(%)	(%)
Oxygen	0.15	15
Methane	0.00015	0.00020
Carbon Dioxide	0.015	1.1

Client Sample ID: SV-2 Lab ID#: 1206133B-02A

	Rpt. Limit	Amount
Compound	(%)	(%)
Oxygen	0.16	1.9
Methane	0.00016	0.0027
Carbon Dioxide	0.016	1.5

Client Sample ID: SV-3

Lab ID#: 1206133B-03A

	Rpt. Limit	Amount
Compound	(%)	(%)
Oxygen	0.16	1.8
Methane	0.00016	0.20
Carbon Dioxide	0.016	4.2



## Client Sample ID: SV-1 Lab ID#: 1206133B-01A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9060815 1.49		tion:  6/6/12 10:24:00 AN sis:  6/8/12 02:26 PM	
O		Rpt. Limit	Amount	
Compound		(%)	(%)	
Oxygen		0.15	15	
Methane		0.00015	0.00020	
Carbon Dioxide		0.015	1 1	

**Container Type: 1 Liter Summa Canister** 



## Client Sample ID: SV-2 Lab ID#: 1206133B-02A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9060816 1.58		ction: 6/6/12 11:02:00 AN sis: 6/8/12 02:56 PM
		Rpt. Limit	Amount
Compound		(%)	(%)
Oxygen		0.16	1.9
Methane		0.00016	0.0027
Carbon Dioxide		0.016	1.5

Container Type: 1 Liter Summa Canister



## Client Sample ID: SV-3 Lab ID#: 1206133B-03A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9060817 1.62		etion: 6/6/12 11:39:00 AM sis: 6/8/12 03:23 PM	
		Rpt. Limit	Amount	
Compound		(%)	(%)	
Oxygen		0.16	1.8	
Methane		0.00016	0.20	

0.016

4.2

Container Type: 1 Liter Summa Canister

Carbon Dioxide



## Client Sample ID: Lab Blank Lab ID#: 1206133B-04A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9060805 1.00	Date of Colle Date of Analy	ection: NA ysis: 6/8/12 09:33 AM
Compound		Rpt. Limit (%)	Amount (%)
Oxygen		0.10	Not Detected
Methane		0.00010	Not Detected
Carbon Dioxide		0.010	Not Detected



## Client Sample ID: LCS Lab ID#: 1206133B-05A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9060802	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/8/12 07:49 AM

Compound	%Recovery
Oxygen	100
Methane	97
Carbon Dioxide	101



## Client Sample ID: LCSD Lab ID#: 1206133B-05AA

## MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9060829	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/8/12 08:28 PM

Compound	%Recovery
Oxygen	100
Methane	97
Carbon Dioxide	99



## **CHAIN-OF-CUSTODY RECORD**

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

Turn Around Lab Use Only

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6/20/2012

Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1206133A

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 6/7/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



#### WORK ORDER #: 1206133A

Work Order Summary

CLIENT: Mr. Peter Langtry BILL TO: Accounts Payable

Cornerstone Earth Group
2737 North Main St.
259 Oakmead Parkway
Suite 10
Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

**DATE RECEIVED:** 06/07/2012 **CONTACT:** Kyle Vagadori **DATE COMPLETED:** 06/19/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	SV-1	Modified TO-15	3.0 "Hg	5 psi
02A	SV-2	Modified TO-15	4.6 "Hg	5 psi
03A	SV-3	Modified TO-15	5.2 "Hg	5 psi
04A	Trip Blank	Modified TO-15	28.2 "Hg	5 psi
05A	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: DATE: 06/19/12

Laboratory Director

Certification numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP - CA009332011-1, WA NELAP - C935 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11, Expiration date: 06/30/12.

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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#### LABORATORY NARRATIVE EPA Method TO-15 Cornerstone Earth Group Workorder# 1206133A

Four 1 Liter Summa Canister samples were received on June 07, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

Dilution was performed on sample SV-3 due to the presence of high level target species.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
  - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



## **Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN**

Client Sample ID: SV-1

Lab ID#: 1206133A-01A

No Detections Were Found.

Client Sample ID: SV-2 Lab ID#: 1206133A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
2-Propanol	3.2	4.5	7.8	11
Hexane	0.79	1.1	2.8	3.8
Benzene	0.79	2.0	2.5	6.3
Tetrachloroethene	0.79	3.3	5.4	23
TPH ref. to Gasoline (MW=100)	40	420	160	1700

Client Sample ID: SV-3 Lab ID#: 1206133A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	81	560	280	2000
Cyclohexane	81	370	280	1300
2,2,4-Trimethylpentane	81	14000	380	64000
TPH ref. to Gasoline (MW=100)	4000	260000	16000	1100000

**Client Sample ID: Trip Blank** 

Lab ID#: 1206133A-04A
No Detections Were Found.



## Client Sample ID: SV-1 Lab ID#: 1206133A-01A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2060813	Date of Collection: 6/6/12 10:24:00 AM
Dil. Factor:	1.49	Date of Analysis: 6/8/12 10:30 PM

Dil. Factor:	1.49	Date	12 10:30 PM	
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.74	Not Detected	3.7	Not Detected
Freon 114	0.74	Not Detected	5.2	Not Detected
Chloromethane	7.4	Not Detected	15	Not Detected
Vinyl Chloride	0.74	Not Detected	1.9	Not Detected
1,3-Butadiene	0.74	Not Detected	1.6	Not Detected
Bromomethane	7.4	Not Detected	29	Not Detected
Chloroethane	3.0	Not Detected	7.9	Not Detected
Freon 11	0.74	Not Detected	4.2	Not Detected
Ethanol	3.0	Not Detected	5.6	Not Detected
Freon 113	0.74	Not Detected	5.7	Not Detected
1,1-Dichloroethene	0.74	Not Detected	3.0	Not Detected
Acetone	7.4	Not Detected	18	Not Detected
2-Propanol	3.0	Not Detected	7.3	Not Detected
Carbon Disulfide	3.0	Not Detected	9.3	Not Detected
3-Chloropropene	3.0	Not Detected	9.3	Not Detected
Methylene Chloride	7.4	Not Detected	26	Not Detected
Methyl tert-butyl ether	0.74	Not Detected	2.7	Not Detected
trans-1,2-Dichloroethene	0.74	Not Detected	3.0	Not Detected
Hexane	0.74	Not Detected	2.6	Not Detected
1,1-Dichloroethane	0.74	Not Detected	3.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.0	Not Detected	8.8	Not Detected
cis-1,2-Dichloroethene	0.74	Not Detected	3.0	Not Detected
Tetrahydrofuran	0.74	Not Detected	2.2	Not Detected
Chloroform	0.74	Not Detected	3.6	Not Detected
1,1,1-Trichloroethane	0.74	Not Detected	4.1	Not Detected
Cyclohexane	0.74	Not Detected	2.6	Not Detected
Carbon Tetrachloride	0.74	Not Detected	4.7	Not Detected
2,2,4-Trimethylpentane	0.74	Not Detected	3.5	Not Detected
Benzene	0.74	Not Detected	2.4	Not Detected
1,2-Dichloroethane	0.74	Not Detected	3.0	Not Detected
Heptane	0.74	Not Detected	3.0	Not Detected
Trichloroethene	0.74	Not Detected	4.0	Not Detected
1,2-Dichloropropane	0.74	Not Detected	3.4	Not Detected
1,4-Dioxane	3.0	Not Detected	11	Not Detected
Bromodichloromethane	0.74	Not Detected	5.0	Not Detected
cis-1,3-Dichloropropene	0.74	Not Detected	3.4	Not Detected
4-Methyl-2-pentanone	0.74	Not Detected	3.0	Not Detected
Toluene	0.74	Not Detected	2.8	Not Detected
trans-1,3-Dichloropropene	0.74	Not Detected	3.4	Not Detected
1,1,2-Trichloroethane	0.74	Not Detected	4.1	Not Detected
Tetrachloroethene	0.74	Not Detected	5.0	Not Detected
2-Hexanone	3.0	Not Detected	12	Not Detected



## Client Sample ID: SV-1 Lab ID#: 1206133A-01A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2060813	Date of Collection: 6/6/12 10:24:00 AM
Dil. Factor:	1.49	Date of Analysis: 6/8/12 10:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.74	Not Detected	6.3	Not Detected
1,2-Dibromoethane (EDB)	0.74	Not Detected	5.7	Not Detected
Chlorobenzene	0.74	Not Detected	3.4	Not Detected
Ethyl Benzene	0.74	Not Detected	3.2	Not Detected
m,p-Xylene	0.74	Not Detected	3.2	Not Detected
o-Xylene	0.74	Not Detected	3.2	Not Detected
Styrene	0.74	Not Detected	3.2	Not Detected
Bromoform	0.74	Not Detected	7.7	Not Detected
Cumene	0.74	Not Detected	3.7	Not Detected
1,1,2,2-Tetrachloroethane	0.74	Not Detected	5.1	Not Detected
Propylbenzene	0.74	Not Detected	3.7	Not Detected
4-Ethyltoluene	0.74	Not Detected	3.7	Not Detected
1,3,5-Trimethylbenzene	0.74	Not Detected	3.7	Not Detected
1,2,4-Trimethylbenzene	0.74	Not Detected	3.7	Not Detected
1,3-Dichlorobenzene	0.74	Not Detected	4.5	Not Detected
1,4-Dichlorobenzene	0.74	Not Detected	4.5	Not Detected
alpha-Chlorotoluene	0.74	Not Detected	3.8	Not Detected
1,2-Dichlorobenzene	0.74	Not Detected	4.5	Not Detected
1,2,4-Trichlorobenzene	3.0	Not Detected	22	Not Detected
Hexachlorobutadiene	3.0	Not Detected	32	Not Detected
Naphthalene	3.0	Not Detected	16	Not Detected
TPH ref. to Gasoline (MW=100)	37	Not Detected	150	Not Detected

#### **Container Type: 1 Liter Summa Canister**

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	102	70-130	
1,2-Dichloroethane-d4	92	70-130	
4-Bromofluorobenzene	95	70-130	



## Client Sample ID: SV-2 Lab ID#: 1206133A-02A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2060814	Date of Collection: 6/6/12 11:02:00 AM
Dil. Factor:	1.58	Date of Analysis: 6/8/12 11:15 PM

Compound         Rpt. Limit (ppbv)         Amount (ppbv)         Rpt. Limit (ug/m3)           Freon 12         0.79         Not Detected         3.9           Freon 114         0.79         Not Detected         5.5           Chloromethane         7.9         Not Detected         16           Vinyl Chloride         0.79         Not Detected         2.0           1,3-Butadiene         0.79         Not Detected         1.7           Bromomethane         7.9         Not Detected         31           Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0	Amount (ug/m3)  Not Detected
Freon 12         0.79         Not Detected         3.9           Freon 114         0.79         Not Detected         5.5           Chloromethane         7.9         Not Detected         16           Vinyl Chloride         0.79         Not Detected         2.0           1,3-Butadiene         0.79         Not Detected         1.7           Bromomethane         7.9         Not Detected         31           Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0	
Freon 114         0.79         Not Detected         5.5           Chloromethane         7.9         Not Detected         16           Vinyl Chloride         0.79         Not Detected         2.0           1,3-Butadiene         0.79         Not Detected         1.7           Bromomethane         7.9         Not Detected         31           Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0	Not Detected
Chloromethane         7.9         Not Detected         16           Vinyl Chloride         0.79         Not Detected         2.0           1,3-Butadiene         0.79         Not Detected         1.7           Bromomethane         7.9         Not Detected         31           Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0	
Vinyl Chloride         0.79         Not Detected         2.0           1,3-Butadiene         0.79         Not Detected         1.7           Bromomethane         7.9         Not Detected         31           Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0	Not Detected
1,3-Butadiene0.79Not Detected1.7Bromomethane7.9Not Detected31Chloroethane3.2Not Detected8.3Freon 110.79Not Detected4.4Ethanol3.2Not Detected6.0	Not Detected
Bromomethane 7.9 Not Detected 31 Chloroethane 3.2 Not Detected 8.3 Freon 11 0.79 Not Detected 4.4 Ethanol 3.2 Not Detected 6.0	Not Detected
Chloroethane3.2Not Detected8.3Freon 110.79Not Detected4.4Ethanol3.2Not Detected6.0	Not Detected
Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0	Not Detected
Ethanol 3.2 Not Detected 6.0	Not Detected
	Not Detected
	Not Detected
Freon 113 0.79 Not Detected 6.0	Not Detected
1,1-Dichloroethene 0.79 Not Detected 3.1	Not Detected
Acetone 7.9 Not Detected 19	Not Detected
2-Propanol 3.2 4.5 7.8	11
Carbon Disulfide 3.2 Not Detected 9.8	Not Detected
3-Chloropropene 3.2 Not Detected 9.9	Not Detected
Methylene Chloride 7.9 Not Detected 27	Not Detected
Methyl tert-butyl ether 0.79 Not Detected 2.8	Not Detected
trans-1,2-Dichloroethene 0.79 Not Detected 3.1	Not Detected
Hexane 0.79 1.1 2.8	3.8
1,1-Dichloroethane 0.79 Not Detected 3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone) 3.2 Not Detected 9.3	Not Detected
cis-1,2-Dichloroethene 0.79 Not Detected 3.1	Not Detected
Tetrahydrofuran 0.79 Not Detected 2.3	Not Detected
Chloroform 0.79 Not Detected 3.8	Not Detected
1,1,1-Trichloroethane 0.79 Not Detected 4.3	Not Detected
Cyclohexane 0.79 Not Detected 2.7	Not Detected
Carbon Tetrachloride 0.79 Not Detected 5.0	Not Detected
2,2,4-Trimethylpentane 0.79 Not Detected 3.7	Not Detected
Benzene 0.79 2.0 2.5	6.3
1,2-Dichloroethane 0.79 Not Detected 3.2	Not Detected
Heptane 0.79 Not Detected 3.2	Not Detected
Trichloroethene 0.79 Not Detected 4.2	Not Detected
1,2-Dichloropropane 0.79 Not Detected 3.6	Not Detected
1,4-Dioxane 3.2 Not Detected 11	Not Detected
Bromodichloromethane 0.79 Not Detected 5.3	Not Detected
cis-1,3-Dichloropropene 0.79 Not Detected 3.6	Not Detected
4-Methyl-2-pentanone 0.79 Not Detected 3.2	Not Detected
Toluene 0.79 Not Detected 3.0	Not Detected
trans-1,3-Dichloropropene 0.79 Not Detected 3.6	Not Detected
1,1,2-Trichloroethane 0.79 Not Detected 4.3	Not Detected
Tetrachloroethene 0.79 3.3 5.4	23
2-Hexanone 3.2 Not Detected 13	Not Detected



## Client Sample ID: SV-2 Lab ID#: 1206133A-02A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2060814	Date of Collection: 6/6/12 11:02:00 AM
Dil. Factor:	1.58	Date of Analysis: 6/8/12 11:15 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.79	Not Detected	6.7	Not Detected
1,2-Dibromoethane (EDB)	0.79	Not Detected	6.1	Not Detected
Chlorobenzene	0.79	Not Detected	3.6	Not Detected
Ethyl Benzene	0.79	Not Detected	3.4	Not Detected
m,p-Xylene	0.79	Not Detected	3.4	Not Detected
o-Xylene	0.79	Not Detected	3.4	Not Detected
Styrene	0.79	Not Detected	3.4	Not Detected
Bromoform	0.79	Not Detected	8.2	Not Detected
Cumene	0.79	Not Detected	3.9	Not Detected
1,1,2,2-Tetrachloroethane	0.79	Not Detected	5.4	Not Detected
Propylbenzene	0.79	Not Detected	3.9	Not Detected
4-Ethyltoluene	0.79	Not Detected	3.9	Not Detected
1,3,5-Trimethylbenzene	0.79	Not Detected	3.9	Not Detected
1,2,4-Trimethylbenzene	0.79	Not Detected	3.9	Not Detected
1,3-Dichlorobenzene	0.79	Not Detected	4.8	Not Detected
1,4-Dichlorobenzene	0.79	Not Detected	4.8	Not Detected
alpha-Chlorotoluene	0.79	Not Detected	4.1	Not Detected
1,2-Dichlorobenzene	0.79	Not Detected	4.7	Not Detected
1,2,4-Trichlorobenzene	3.2	Not Detected	23	Not Detected
Hexachlorobutadiene	3.2	Not Detected	34	Not Detected
Naphthalene	3.2	Not Detected	16	Not Detected
TPH ref. to Gasoline (MW=100)	40	420	160	1700

#### **Container Type: 1 Liter Summa Canister**

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	102	70-130	
1,2-Dichloroethane-d4	95	70-130	
4-Bromofluorobenzene	96	70-130	



## Client Sample ID: SV-3 Lab ID#: 1206133A-03A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2060816	Date of Collection: 6/6/12 11:39:00 AM
Dil. Factor:	162	Date of Analysis: 6/9/12 08:23 AM

Dil. Factor:	162	Date	of Analysis: 6/9/1	2 08:23 AM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	81	Not Detected	400	Not Detected
Freon 114	81	Not Detected	570	Not Detected
Chloromethane	810	Not Detected	1700	Not Detected
Vinyl Chloride	81	Not Detected	210	Not Detected
1,3-Butadiene	81	Not Detected	180	Not Detected
Bromomethane	810	Not Detected	3100	Not Detected
Chloroethane	320	Not Detected	850	Not Detected
Freon 11	81	Not Detected	460	Not Detected
Ethanol	320	Not Detected	610	Not Detected
Freon 113	81	Not Detected	620	Not Detected
1,1-Dichloroethene	81	Not Detected	320	Not Detected
Acetone	810	Not Detected	1900	Not Detected
2-Propanol	320	Not Detected	800	Not Detected
Carbon Disulfide	320	Not Detected	1000	Not Detected
3-Chloropropene	320	Not Detected	1000	Not Detected
Methylene Chloride	810	Not Detected	2800	Not Detected
Methyl tert-butyl ether	81	Not Detected	290	Not Detected
trans-1,2-Dichloroethene	81	Not Detected	320	Not Detected
Hexane	81	560	280	2000
1,1-Dichloroethane	81	Not Detected	330	Not Detected
2-Butanone (Methyl Ethyl Ketone)	320	Not Detected	960	Not Detected
cis-1,2-Dichloroethene	81	Not Detected	320	Not Detected
Tetrahydrofuran	81	Not Detected	240	Not Detected
Chloroform	81	Not Detected	400	Not Detected
1,1,1-Trichloroethane	81	Not Detected	440	Not Detected
Cyclohexane	81	370	280	1300
Carbon Tetrachloride	81	Not Detected	510	Not Detected
2,2,4-Trimethylpentane	81	14000	380	64000
Benzene	81	Not Detected	260	Not Detected
1,2-Dichloroethane	81	Not Detected	330	Not Detected
Heptane	81	Not Detected	330	Not Detected
Trichloroethene	81	Not Detected	440	Not Detected
1,2-Dichloropropane	81	Not Detected	370	Not Detected
1,4-Dioxane	320	Not Detected	1200	Not Detected
Bromodichloromethane	81	Not Detected	540	Not Detected
cis-1,3-Dichloropropene	81	Not Detected	370	Not Detected
4-Methyl-2-pentanone	81	Not Detected	330	Not Detected
Toluene	81	Not Detected	300	Not Detected
trans-1,3-Dichloropropene	81	Not Detected	370	Not Detected
1,1,2-Trichloroethane	81	Not Detected	440	Not Detected
Tetrachloroethene	81	Not Detected	550	Not Detected
2-Hexanone	320	Not Detected	1300	Not Detected



## Client Sample ID: SV-3 Lab ID#: 1206133A-03A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2060816 Date of Collection: 6/6/12 11:39:00 AM
Dil. Factor: 162 Date of Analysis: 6/9/12 08:23 AM

	·	24.0		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	81	Not Detected	690	Not Detected
1,2-Dibromoethane (EDB)	81	Not Detected	620	Not Detected
Chlorobenzene	81	Not Detected	370	Not Detected
Ethyl Benzene	81	Not Detected	350	Not Detected
m,p-Xylene	81	Not Detected	350	Not Detected
o-Xylene	81	Not Detected	350	Not Detected
Styrene	81	Not Detected	340	Not Detected
Bromoform	81	Not Detected	840	Not Detected
Cumene	81	Not Detected	400	Not Detected
1,1,2,2-Tetrachloroethane	81	Not Detected	560	Not Detected
Propylbenzene	81	Not Detected	400	Not Detected
4-Ethyltoluene	81	Not Detected	400	Not Detected
1,3,5-Trimethylbenzene	81	Not Detected	400	Not Detected
1,2,4-Trimethylbenzene	81	Not Detected	400	Not Detected
1,3-Dichlorobenzene	81	Not Detected	490	Not Detected
1,4-Dichlorobenzene	81	Not Detected	490	Not Detected
alpha-Chlorotoluene	81	Not Detected	420	Not Detected
1,2-Dichlorobenzene	81	Not Detected	490	Not Detected
1,2,4-Trichlorobenzene	320	Not Detected	2400	Not Detected
Hexachlorobutadiene	320	Not Detected	3400	Not Detected
Naphthalene	320	Not Detected	1700	Not Detected
TPH ref. to Gasoline (MW=100)	4000	260000	16000	1100000

#### **Container Type: 1 Liter Summa Canister**

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	107	70-130	
1,2-Dichloroethane-d4	93	70-130	
4-Bromofluorobenzene	94	70-130	



## Client Sample ID: Trip Blank Lab ID#: 1206133A-04A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2060815	Date of Collection: 6/6/12
Dil. Factor:	1.00	Date of Analysis: 6/9/12 07:44 AM

Dil. Factor:	1.00	Date of Analysis: 6/9/12 07:44 AM		12 07:44 AM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected



## Client Sample ID: Trip Blank Lab ID#: 1206133A-04A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2060815	Date of Collection: 6/6/12
Dil. Factor:	1.00	Date of Analysis: 6/9/12 07:44 AM

				_ • • • • • • • • • • • • • • • • • • •
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

#### **Container Type: 1 Liter Summa Canister**

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	105	70-130	
1,2-Dichloroethane-d4	90	70-130	
4-Bromofluorobenzene	96	70-130	



## Client Sample ID: Lab Blank Lab ID#: 1206133A-05A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	2060807 1.00		of Collection: NA of Analysis: 6/8/1	I2 04:32 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected



#### Client Sample ID: Lab Blank Lab ID#: 1206133A-05A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	2060807 1.00		of Collection: NA of Analysis: 6/8/1	2 04:32 PM
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected

Not Detected

Not Detected

Not Detected

Not Detected

Not Detected

2.1

5.2

2.4

3.0

100

Not Detected

Not Detected

Not Detected

Not Detected

Not Detected

1,1,2,2-Tetrachloroethane 0.50 Not Detected 3.4 Not Detected 0.50 2.4 Not Detected Propylbenzene Not Detected 4-Ethyltoluene 0.50 Not Detected 2.4 Not Detected 1,3,5-Trimethylbenzene 0.50 Not Detected 2.4 Not Detected 1,2,4-Trimethylbenzene 0.50 Not Detected 2.4 Not Detected 1,3-Dichlorobenzene 0.50 Not Detected 3.0 Not Detected

0.50

0.50

0.50

0.50

25

0.50 Not Detected 2.6 Not Detected alpha-Chlorotoluene 1,2-Dichlorobenzene 0.50 Not Detected 3.0 Not Detected Not Detected 2.0 15 Not Detected 1,2,4-Trichlorobenzene Hexachlorobutadiene 2.0 Not Detected 21 Not Detected Naphthalene 2.0 Not Detected 10 Not Detected

**Container Type: NA - Not Applicable** 

TPH ref. to Gasoline (MW=100)

Styrene

Cumene

**Bromoform** 

1,4-Dichlorobenzene

		Method
Surrogates	%Recovery	Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	95	70-130
4-Bromofluorobenzene	99	70-130



## Client Sample ID: CCV Lab ID#: 1206133A-06A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2060802 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 6/8/12 12:42 PM

Compound	%Recovery
Freon 12	84
Freon 114	90
Chloromethane	91
Vinyl Chloride	91
1,3-Butadiene	84
Bromomethane	92
Chloroethane	86
Freon 11	80
Ethanol	71
Freon 113	85
1,1-Dichloroethene	85
Acetone	86
2-Propanol	93
Carbon Disulfide	75
3-Chloropropene	82
Methylene Chloride	85
Methyl tert-butyl ether	79
trans-1,2-Dichloroethene	80
Hexane	84
1,1-Dichloroethane	80
2-Butanone (Methyl Ethyl Ketone)	83
cis-1,2-Dichloroethene	85
Tetrahydrofuran	82
Chloroform	78
1,1,1-Trichloroethane	79
Cyclohexane	87
Carbon Tetrachloride	84
2,2,4-Trimethylpentane	82
Benzene	88
1,2-Dichloroethane	79
Heptane	88
Trichloroethene	89
1,2-Dichloropropane	86
1,4-Dioxane	86
Bromodichloromethane	86
cis-1,3-Dichloropropene	88
4-Methyl-2-pentanone	89
Toluene	86
trans-1,3-Dichloropropene	86
1,1,2-Trichloroethane	87
Tetrachloroethene	84
2-Hexanone	82



## Client Sample ID: CCV Lab ID#: 1206133A-06A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2060802 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 6/8/12 12:42 PM

Compound	%Recovery
Dibromochloromethane	87
1,2-Dibromoethane (EDB)	84
Chlorobenzene	84
Ethyl Benzene	86
m,p-Xylene	84
o-Xylene	82
Styrene	82
Bromoform	89
Cumene	83
1,1,2,2-Tetrachloroethane	83
Propylbenzene	81
4-Ethyltoluene	79
1,3,5-Trimethylbenzene	78
1,2,4-Trimethylbenzene	78
1,3-Dichlorobenzene	80
1,4-Dichlorobenzene	77
alpha-Chlorotoluene	82
1,2-Dichlorobenzene	78
1,2,4-Trichlorobenzene	80
Hexachlorobutadiene	77
Naphthalene	68
TPH ref. to Gasoline (MW=100)	100

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	102	70-130	
1,2-Dichloroethane-d4	89	70-130	
4-Bromofluorobenzene	98	70-130	



## Client Sample ID: LCS Lab ID#: 1206133A-07A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2060803 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 6/8/12 01:21 PM

Compound	%Recovery
Freon 12	101
Freon 114	109
Chloromethane	112
Vinyl Chloride	112
1,3-Butadiene	101
Bromomethane	112
Chloroethane	108
Freon 11	98
Ethanol	95
Freon 113	105
1,1-Dichloroethene	116
Acetone	108
2-Propanol	108
Carbon Disulfide	110
3-Chloropropene	116
Methylene Chloride	104
Methyl tert-butyl ether	102
trans-1,2-Dichloroethene	114
Hexane	101
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	108
Tetrahydrofuran	99
Chloroform	99
1,1,1-Trichloroethane	100
Cyclohexane	109
Carbon Tetrachloride	105
2,2,4-Trimethylpentane	101
Benzene	105
1,2-Dichloroethane	94
Heptane	105
Trichloroethene	106
1,2-Dichloropropane	103
1,4-Dioxane	102
Bromodichloromethane	102
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	106
Toluene	102
trans-1,3-Dichloropropene	106
1,1,2-Trichloroethane	103
Tetrachloroethene	101
2-Hexanone	100



## Client Sample ID: LCS Lab ID#: 1206133A-07A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2060803 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 6/8/12 01:21 PM

Compound	%Recovery
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	103
Chlorobenzene	102
Ethyl Benzene	101
m,p-Xylene	101
o-Xylene	100
Styrene	102
Bromoform	106
Cumene	99
1,1,2,2-Tetrachloroethane	99
Propylbenzene	99
4-Ethyltoluene	90
1,3,5-Trimethylbenzene	94
1,2,4-Trimethylbenzene	92
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	96
Hexachlorobutadiene	87
Naphthalene	73
TPH ref. to Gasoline (MW=100)	Not Spiked

		Method
Surrogates	%Recovery	Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	91	70-130
4-Bromofluorobenzene	100	70-130



## Client Sample ID: LCSD Lab ID#: 1206133A-07AA

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2060804 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 6/8/12 02:07 PM

Compound	%Recovery
Freon 12	99
Freon 114	109
Chloromethane	111
Vinyl Chloride	111
1,3-Butadiene	103
Bromomethane	110
Chloroethane	105
Freon 11	98
Ethanol	98
Freon 113	106
1,1-Dichloroethene	116
Acetone	109
2-Propanol	106
Carbon Disulfide	107
3-Chloropropene	118
Methylene Chloride	105
Methyl tert-butyl ether	103
trans-1,2-Dichloroethene	116
Hexane	100
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	108
Tetrahydrofuran	100
Chloroform	96
1,1,1-Trichloroethane	98
Cyclohexane	107
Carbon Tetrachloride	103
2,2,4-Trimethylpentane	99
Benzene	107
1,2-Dichloroethane	94
Heptane	105
Trichloroethene	108
1,2-Dichloropropane	104
1,4-Dioxane	105
Bromodichloromethane	104
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	107
Toluene	102
trans-1,3-Dichloropropene	107
1,1,2-Trichloroethane	104
Tetrachloroethene	100
2-Hexanone	104



## Client Sample ID: LCSD Lab ID#: 1206133A-07AA

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2060804 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 6/8/12 02:07 PM

Compound	%Recovery
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	103
Chlorobenzene	102
Ethyl Benzene	100
m,p-Xylene	98
o-Xylene	95
Styrene	98
Bromoform	104
Cumene	96
1,1,2,2-Tetrachloroethane	100
Propylbenzene	92
4-Ethyltoluene	85
1,3,5-Trimethylbenzene	87
1,2,4-Trimethylbenzene	84
1,3-Dichlorobenzene	92
1,4-Dichlorobenzene	86
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	89
1,2,4-Trichlorobenzene	80
Hexachlorobutadiene	76
Naphthalene	63
TPH ref. to Gasoline (MW=100)	Not Spiked

		Method
Surrogates	%Recovery	Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	88	70-130
4-Bromofluorobenzene	97	70-130



## **CHAIN-OF-CUSTODY RECORD**

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

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7/15/2012 Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1207153C

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 7/10/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 (5&20 ppbv) are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



#### **WORK ORDER #: 1207153C**

Work Order Summary

CLIENT: Mr. Peter Langtry BILL TO: Accounts Payable

Cornerstone Earth Group
2737 North Main St.
259 Oakmead Parkway
Suite 10
Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

**DATE RECEIVED:** 07/10/2012 **CONTACT:** Kyle Vagadori 07/15/2012

			RECEIPT	FINAL
FRACTION #	NAME	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
05A	SV-3 (IPA)	Modified TO-15 (5&20 ppbv	2.9 "Hg	15 psi
06A	Lab Blank	Modified TO-15 (5&20 ppbv	NA	NA
07A	CCV	Modified TO-15 (5&20 ppbv	NA	NA
08A	LCS	Modified TO-15 (5&20 ppbv	NA	NA
08AA	LCSD	Modified TO-15 (5&20 ppbv	NA	NA

	The	ide Tlayer		
CERTIFIED BY:			DATE: 07/15/12	

Technical Director

Certification numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP - CA009332011-1, WA NELAP - C935 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11, Expiration date: 06/30/12.

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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#### LABORATORY NARRATIVE EPA Method TO-15 Soil Gas Cornerstone Earth Group Workorder# 1207153C

One PAC250 Canister sample was received on July 10, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

#### **Receiving Notes**

The Chain of Custody (COC) information for sample SV-3 (IPA) did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

#### **Analytical Notes**

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Dilution was performed on sample SV-3 (IPA) due to the presence of high level target species.

## **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
  - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# **Summary of Detected Compounds EPA METHOD TO-15 GC/MS**

Client Sample ID: SV-3 (IPA)

Lab ID#: 1207153C-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)	
2-Propanol	560	91000	1400	220000	



## Client Sample ID: SV-3 (IPA) Lab ID#: 1207153C-05A

## **EPA METHOD TO-15 GC/MS**

File Name:	14071113	Date of Collection: 7/9/12 3:07:00 AM
Dil. Factor:	28.0	Date of Analysis: 7/11/12 04:49 PM

	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
2-Propanol	560	91000	1400	220000

**Container Type: PAC250 Canister** 

••		Method		
Surrogates	%Recovery	Limits		
1,2-Dichloroethane-d4	113	70-130		
Toluene-d8	102	70-130		
4-Bromofluorobenzene	93	70-130		



## Client Sample ID: Lab Blank Lab ID#: 1207153C-06A

## **EPA METHOD TO-15 GC/MS**

File Name:	14071108	Date of Collection: NA				
Dil. Factor:	1.00	Date of Analysis: 7/11/12 02:0				
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)		
2-Propanol	20	Not Detected	49	Not Detected		

,		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	92	70-130



# Client Sample ID: CCV Lab ID#: 1207153C-07A

## **EPA METHOD TO-15 GC/MS**

File Name: 14071102 Date of Collection: NA

Dil. Factor: 1.00 Date of Analysis: 7/11/12 09:11 AM

 Compound
 %Recovery

 2-Propanol
 118

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	96	70-130



## Client Sample ID: LCS Lab ID#: 1207153C-08A

#### **EPA METHOD TO-15 GC/MS**

File Name: 14071103 Date of Collection: NA

Dil. Factor: 1.00 Date of Analysis: 7/11/12 09:53 AM

 Compound
 %Recovery

 2-Propanol
 131 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

 Surrogates
 %Recovery
 Limits

 1,2-Dichloroethane-d4
 110
 70-130

 Toluene-d8
 104
 70-130

 4-Bromofluorobenzene
 95
 70-130



## Client Sample ID: LCSD Lab ID#: 1207153C-08AA EPA METHOD TO-15 GC/MS

File Name: 14071104 Date of Collection: NA

Dil. Factor: 1.00 Date of Analysis: 7/11/12 10:20 AM

 Compound
 %Recovery

 2-Propanol
 130

		Method
Surrogates	%Recovery	Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	96	70-130



## **CHAIN-OF-CUSTODY RECORD**

Sample Transportation Notice

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Page / of /

Project Manager Peter LangTry			Project Info:				Time: Pressurized by:				
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7/17/2012 Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1207153B

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 7/10/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



#### WORK ORDER #: 1207153B

Work Order Summary

CLIENT: Mr. Peter Langtry BILL TO: Accounts Payable

Cornerstone Earth Group
2737 North Main St.
259 Oakmead Parkway
Suite 10
Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

**DATE RECEIVED:** 07/10/2012 **CONTACT:** Kyle Vagadori **DATE COMPLETED:** 07/17/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	SV-1	Modified ASTM D-1946	3.5 "Hg	5 psi
02A	SV-2	Modified ASTM D-1946	5.0 "Hg	5 psi
03A	SV-3	Modified ASTM D-1946	5.0 "Hg	5 psi
04A	Lab Blank	Modified ASTM D-1946	NA	NA
05A	LCS	Modified ASTM D-1946	NA	NA
05AA	LCSD	Modified ASTM D-1946	NA	NA

	The	ude Tlayer		
CERTIFIED BY:		0 0	DATE: $\frac{07/17/12}{}$	

Technical Director

Certification numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP - CA009332011-1, WA NELAP - C935 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11, Expiration date: 06/30/12.

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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#### LABORATORY NARRATIVE Modified ASTM D-1946 Cornerstone Earth Group Workorder# 1207153B

Three 1 Liter Summa Canister samples were received on July 10, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	ASTM D-1946	ATL Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

#### **Receiving Notes**

There were no receiving discrepancies.



## **Analytical Notes**

There were no analytical discrepancies.

#### **Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B Compound present in laboratory blank greater than reporting limit.
- J Estimated value.
- E Exceeds instrument calibration range.
- S Saturated peak.
- Q Exceeds quality control limits.
- U Compound analyzed for but not detected above the detection limit.
- M Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



# Summary of Detected Compounds MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

Client Sample ID: SV-1 Lab ID#: 1207153B-01A

	Rpt. Limit	Amount
Compound	(%)	(%)
Oxygen	0.15	11
Methane	0.00015	0.00019
Carbon Dioxide	0.015	1.4

Client Sample ID: SV-2 Lab ID#: 1207153B-02A

	Rpt. Limit	Amount	
Compound	(%)	(%)	
Oxygen	0.16	1.9	
Methane	0.00016	0.0025	
Carbon Dioxide	0.016	2.2	

Client Sample ID: SV-3 Lab ID#: 1207153B-03A

	Rpt. Limit	Amount
Compound	(%)	(%)
Oxygen	0.16	1.5
Methane	0.00016	0.16
Carbon Dioxide	0.016	6.0



## Client Sample ID: SV-1 Lab ID#: 1207153B-01A

## MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9071105 1.52		:tion:  7/9/12 2:00:00 AM sis:  7/11/12 09:58 AM
Compound		Rpt. Limit (%)	Amount (%)
Oxygen		0.15	11
Methane		0.00015	0.00019
Carbon Dioxide		0.015	1 4



## Client Sample ID: SV-2 Lab ID#: 1207153B-02A

## MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9071106 1.61		tion:  7/9/12 2:35:00 AM sis:   7/11/12 10:32 AM
Compound		Rpt. Limit (%)	Amount (%)
Oxygen		0.16	1.9
Methane		0.00016	0.0025
Carbon Dioxide		0.016	2.2



## Client Sample ID: SV-3 Lab ID#: 1207153B-03A

## MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9071107	Date of Collection: 7/9/12 3:09:00 A	ΔM
Dil. Factor:	1.61	Date of Analysis: 7/11/12 11:00 AM	l
		Rpt. Limit Amou	ınt
Compound		(%)	

 Compound
 (%)
 (%)

 Oxygen
 0.16
 1.5

 Methane
 0.00016
 0.16

 Carbon Dioxide
 0.016
 6.0



## Client Sample ID: Lab Blank Lab ID#: 1207153B-04A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9071104 1.00	Date of Colle Date of Analy	ction: NA ysis: 7/11/12 09:32 AM
Compound		Rpt. Limit (%)	Amount (%)
Oxygen		0.10	Not Detected
Methane		0.00010	Not Detected
Carbon Dioxide		0.010	Not Detected



## Client Sample ID: LCS Lab ID#: 1207153B-05A

## MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9071102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/11/12 08:46 AM

Compound	%Recovery
Oxygen	100
Methane	97
Carbon Dioxide	103



## Client Sample ID: LCSD Lab ID#: 1207153B-05AA

## MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9071118	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/11/12 03:38 PM

Compound	%Recovery
Oxygen	100
Methane	98
Carbon Dioxide	102



## **CHAIN-OF-CUSTODY RECORD**

**Sample Transportation Notice** 

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

Page \_\_\_\_ of \_\_\_

Project Mar		nA-	Proje	ct Info:		Turn Arour Time:	CECO - COMPONE A 2	e <i>Only</i> surized by:		
Collected by	r: (Print and Sign) Ross Tinha for ornerstone Earth Gp Email plan	Aru a cara	P.O. #	rthicon	Wer	Normal	Date:			
Address 27	137 N. Main St. City Walnutck	State CA Zip 9	Projec	et#	-11-2	Rush	Press	urization (	Gas:	
Phone <u>92</u>	5 988 9500 #10 Fax 925 988	3 9501	Projec	t Name <u>Ash</u>	land Youth Cont	5-Dey specify	_	N <sub>2</sub> H	e	FC #
			Date	Time	·		nister Pres	ssure/Vac	uum	
Lab I.D.	Field Sample I.D. (Location)	Can #		of Collection	Analyses Reque	sted Initia	al Final	Receipt	Final (psi)	-
012	SV-I	14527	7/1/12	1:542:00	TO15 - VOCS ?	nclude-29.8	7-4.5	2		20347
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a}∦	5V-3	2058	7/9/12	3:03-	naphthalene +	-29.3	30-4.78	1		20280
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					Cost nothing					
										4.4
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	Shipper Name Air Bill #	Participant	Temp (°C)	Conditio	n Custody S	eals Intact?	Work	Order #		
Lab Use	Tel7-1		A	(D~57	o Yes N	o. None	120	7153	3	-
Only				V ( -			.1			



7/17/2012 Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1207153A

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 7/10/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



#### WORK ORDER #: 1207153A

Work Order Summary

CLIENT: Mr. Peter Langtry BILL TO: Accounts Payable

Cornerstone Earth Group
2737 North Main St.

Suite 10

Cornerstone Earth Group
1259 Oakmead Parkway
Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

**DATE RECEIVED:** 07/10/2012 **CONTACT:** Kyle Vagadori **DATE COMPLETED:** 07/17/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	SV-1	Modified TO-15	3.5 "Hg	5 psi
02A	SV-2	Modified TO-15	5.0 "Hg	5 psi
03A	SV-3	Modified TO-15	5.0 "Hg	5 psi
04A	Trip blank	Modified TO-15	29.0 "Hg	5 psi
05A	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA

	TI	eide Thayes		
CERTIFIED BY:		0	DATE: 07/17/12	_

Technical Director

Certification numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP - CA009332011-1, WA NELAP - C935 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11, Expiration date: 06/30/12.

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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#### LABORATORY NARRATIVE EPA Method TO-15 Cornerstone Earth Group Workorder# 1207153A

Four 1 Liter Summa Canister samples were received on July 10, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

A single point calibration for TPH referenced to Gasoline was performed for each daily analytical batch. Recovery is reported as 100% in the associated results for each CCV.

## **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
  - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



# **Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN**

Client Sample ID: SV-1 Lab ID#: 1207153A-01A

Compound	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Tetrachloroethene	0.76	4.2	5.2	28

Client Sample ID: SV-2 Lab ID#: 1207153A-02A

Compound	Rpt. Limit (ppbv)	(ppbv)	(ug/m3)	(ug/m3)	
Hexane	0.80	0.98	2.8	3.5	
cis-1,2-Dichloroethene	0.80	0.86	3.2	3.4	
Benzene	0.80	0.83	2.6	2.6	
Tetrachloroethene	0.80	4.4	5.5	30	

Client Sample ID: SV-3 Lab ID#: 1207153A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Hexane	32	410	110	1400
Cyclohexane	32	210	110	730
2,2,4-Trimethylpentane	32	14000 E	150	66000 E
TPH ref. to Gasoline (MW=100)	1600	310000	6600	1300000

**Client Sample ID: Trip blank** 

Lab ID#: 1207153A-04A
No Detections Were Found.



## Client Sample ID: SV-1 Lab ID#: 1207153A-01A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2071119	Date of Collection: 7/9/12 2:00:00 AM
Dil. Factor:	1.52	Date of Analysis: 7/11/12 09:12 PM

Dil. Factor:	1.52	Date of Analysis: 7/11/12 09:12 PM		
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.76	Not Detected	3.8	Not Detected
Freon 114	0.76	Not Detected	5.3	Not Detected
Chloromethane	7.6	Not Detected	16	Not Detected
Vinyl Chloride	0.76	Not Detected	1.9	Not Detected
1,3-Butadiene	0.76	Not Detected	1.7	Not Detected
Bromomethane	7.6	Not Detected	30	Not Detected
Chloroethane	3.0	Not Detected	8.0	Not Detected
Freon 11	0.76	Not Detected	4.3	Not Detected
Ethanol	3.0	Not Detected	5.7	Not Detected
Freon 113	0.76	Not Detected	5.8	Not Detected
1,1-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Acetone	7.6	Not Detected	18	Not Detected
2-Propanol	3.0	Not Detected	7.5	Not Detected
Carbon Disulfide	3.0	Not Detected	9.5	Not Detected
3-Chloropropene	3.0	Not Detected	9.5	Not Detected
Methylene Chloride	7.6	Not Detected	26	Not Detected
Methyl tert-butyl ether	0.76	Not Detected	2.7	Not Detected
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Hexane	0.76	Not Detected	2.7	Not Detected
1,1-Dichloroethane	0.76	Not Detected	3.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.0	Not Detected	9.0	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Tetrahydrofuran	0.76	Not Detected	2.2	Not Detected
Chloroform	0.76	Not Detected	3.7	Not Detected
1,1,1-Trichloroethane	0.76	Not Detected	4.1	Not Detected
Cyclohexane	0.76	Not Detected	2.6	Not Detected
Carbon Tetrachloride	0.76	Not Detected	4.8	Not Detected
2,2,4-Trimethylpentane	0.76	Not Detected	3.6	Not Detected
Benzene	0.76	Not Detected	2.4	Not Detected
1,2-Dichloroethane	0.76	Not Detected	3.1	Not Detected
Heptane	0.76	Not Detected	3.1	Not Detected
Trichloroethene	0.76	Not Detected	4.1	Not Detected
1,2-Dichloropropane	0.76	Not Detected	3.5	Not Detected
1,4-Dioxane	3.0	Not Detected	11	Not Detected
Bromodichloromethane	0.76	Not Detected	5.1	Not Detected
cis-1,3-Dichloropropene	0.76	Not Detected	3.4	Not Detected
4-Methyl-2-pentanone	0.76	Not Detected	3.1	Not Detected
Toluene	0.76	Not Detected	2.9	Not Detected
trans-1,3-Dichloropropene	0.76	Not Detected	3.4	Not Detected
1,1,2-Trichloroethane	0.76	Not Detected	4.1	Not Detected
Tetrachloroethene	0.76	4.2	5.2	28
2-Hexanone	3.0	Not Detected	12	Not Detected



## Client Sample ID: SV-1 Lab ID#: 1207153A-01A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2071119	Date of Collection: 7/9/12 2:00:00 AM
Dil. Factor:	1.52	Date of Analysis: 7/11/12 09:12 PM

	Date 017(11a1)010: 1711712 00:121 111		
Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
0.76	Not Detected	6.5	Not Detected
0.76	Not Detected	5.8	Not Detected
0.76	Not Detected	3.5	Not Detected
0.76	Not Detected	3.3	Not Detected
0.76	Not Detected	3.3	Not Detected
0.76	Not Detected	3.3	Not Detected
0.76	Not Detected	3.2	Not Detected
0.76	Not Detected	7.8	Not Detected
0.76	Not Detected	3.7	Not Detected
0.76	Not Detected	5.2	Not Detected
0.76	Not Detected	3.7	Not Detected
0.76	Not Detected	3.7	Not Detected
0.76	Not Detected	3.7	Not Detected
0.76	Not Detected	3.7	Not Detected
0.76	Not Detected	4.6	Not Detected
0.76	Not Detected	4.6	Not Detected
0.76	Not Detected	3.9	Not Detected
0.76	Not Detected	4.6	Not Detected
3.0	Not Detected	22	Not Detected
3.0	Not Detected	32	Not Detected
3.0	Not Detected	16	Not Detected
38	Not Detected	160	Not Detected
	(ppbv)  0.76 0.76 0.76 0.76 0.76 0.76 0.76 0.7	(ppbv)         (ppbv)           0.76         Not Detected           3.0         Not Detected           3.0         Not Detected	(ppbv)         (ppbv)         (ug/m3)           0.76         Not Detected         6.5           0.76         Not Detected         5.8           0.76         Not Detected         3.5           0.76         Not Detected         3.3           0.76         Not Detected         3.3           0.76         Not Detected         3.2           0.76         Not Detected         7.8           0.76         Not Detected         3.7           0.76         Not Detected         4.6           0.76         Not Detected         3.9           0.76         Not Detected         4.6 <td< td=""></td<>

		Wethod	
Surrogates	%Recovery	Limits	
Toluene-d8	105	70-130	
1,2-Dichloroethane-d4	98	70-130	
4-Bromofluorobenzene	94	70-130	



## Client Sample ID: SV-2 Lab ID#: 1207153A-02A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2071120	Date of Collection: 7/9/12 2:35:00 AM
Dil. Factor:	1.61	Date of Analysis: 7/11/12 09:56 PM

Dil. Factor:	1.61	1 Date of Analysis: 7/11/12 09:56 P		/12 09:56 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.80	Not Detected	4.0	Not Detected
Freon 114	0.80	Not Detected	5.6	Not Detected
Chloromethane	8.0	Not Detected	17	Not Detected
Vinyl Chloride	0.80	Not Detected	2.0	Not Detected
1,3-Butadiene	0.80	Not Detected	1.8	Not Detected
Bromomethane	8.0	Not Detected	31	Not Detected
Chloroethane	3.2	Not Detected	8.5	Not Detected
Freon 11	0.80	Not Detected	4.5	Not Detected
Ethanol	3.2	Not Detected	6.1	Not Detected
Freon 113	0.80	Not Detected	6.2	Not Detected
1,1-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Acetone	8.0	Not Detected	19	Not Detected
2-Propanol	3.2	Not Detected	7.9	Not Detected
Carbon Disulfide	3.2	Not Detected	10	Not Detected
3-Chloropropene	3.2	Not Detected	10	Not Detected
Methylene Chloride	8.0	Not Detected	28	Not Detected
Methyl tert-butyl ether	0.80	Not Detected	2.9	Not Detected
trans-1,2-Dichloroethene	0.80	Not Detected	3.2	Not Detected
Hexane	0.80	0.98	2.8	3.5
1,1-Dichloroethane	0.80	Not Detected	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.2	Not Detected	9.5	Not Detected
cis-1,2-Dichloroethene	0.80	0.86	3.2	3.4
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.80	Not Detected	3.9	Not Detected
1,1,1-Trichloroethane	0.80	Not Detected	4.4	Not Detected
Cyclohexane	0.80	Not Detected	2.8	Not Detected
Carbon Tetrachloride	0.80	Not Detected	5.1	Not Detected
2,2,4-Trimethylpentane	0.80	Not Detected	3.8	Not Detected
Benzene	0.80	0.83	2.6	2.6
1,2-Dichloroethane	0.80	Not Detected	3.2	Not Detected
Heptane	0.80	Not Detected	3.3	Not Detected
Trichloroethene	0.80	Not Detected	4.3	Not Detected
1,2-Dichloropropane	0.80	Not Detected	3.7	Not Detected
1,4-Dioxane	3.2	Not Detected	12	Not Detected
Bromodichloromethane	0.80	Not Detected	5.4	Not Detected
cis-1,3-Dichloropropene	0.80	Not Detected	3.6	Not Detected
4-Methyl-2-pentanone	0.80	Not Detected	3.3	Not Detected
Toluene	0.80	Not Detected	3.0	Not Detected
trans-1,3-Dichloropropene	0.80	Not Detected	3.6	Not Detected
1,1,2-Trichloroethane	0.80	Not Detected	4.4	Not Detected
Tetrachloroethene	0.80	4.4	5.5	30
2-Hexanone	3.2	Not Detected	13	Not Detected



## Client Sample ID: SV-2 Lab ID#: 1207153A-02A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2071120	Date of Collection: 7/9/12 2:35:00 AM
Dil. Factor:	1.61	Date of Analysis: 7/11/12 09:56 PM

			12 00:00 T W
Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
0.80	Not Detected	6.8	Not Detected
0.80	Not Detected	6.2	Not Detected
0.80	Not Detected	3.7	Not Detected
0.80	Not Detected	3.5	Not Detected
0.80	Not Detected	3.5	Not Detected
0.80	Not Detected	3.5	Not Detected
0.80	Not Detected	3.4	Not Detected
0.80	Not Detected	8.3	Not Detected
0.80	Not Detected	4.0	Not Detected
0.80	Not Detected	5.5	Not Detected
0.80	Not Detected	4.0	Not Detected
0.80	Not Detected	4.0	Not Detected
0.80	Not Detected	4.0	Not Detected
0.80	Not Detected	4.0	Not Detected
0.80	Not Detected	4.8	Not Detected
0.80	Not Detected	4.8	Not Detected
0.80	Not Detected	4.2	Not Detected
0.80	Not Detected	4.8	Not Detected
3.2	Not Detected	24	Not Detected
3.2	Not Detected	34	Not Detected
3.2	Not Detected	17	Not Detected
40	Not Detected	160	Not Detected
	(ppbv)  0.80 0.80 0.80 0.80 0.80 0.80 0.80 0.	(ppbv)         (ppbv)           0.80         Not Detected           3.2         Not Detected           3.2         Not Detected	(ppbv)         (ppbv)         (ug/m3)           0.80         Not Detected         6.8           0.80         Not Detected         6.2           0.80         Not Detected         3.7           0.80         Not Detected         3.5           0.80         Not Detected         3.5           0.80         Not Detected         3.4           0.80         Not Detected         4.0           0.80         Not Detected         4.8           3.2         Not Detected         3.4

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	106	70-130	
1,2-Dichloroethane-d4	99	70-130	
4-Bromofluorobenzene	96	70-130	



## Client Sample ID: SV-3 Lab ID#: 1207153A-03A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2071121 Date of Collection: 7/9/12 3:09:00 AM Dil. Factor: 64.4 Date of Analysis: 7/11/12 10:32 PM

Dil. Factor:	64.4	Date	of Analysis: 7/11	/12 10:32 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	32	Not Detected	160	Not Detected
Freon 114	32	Not Detected	220	Not Detected
Chloromethane	320	Not Detected	660	Not Detected
Vinyl Chloride	32	Not Detected	82	Not Detected
1,3-Butadiene	32	Not Detected	71	Not Detected
Bromomethane	320	Not Detected	1200	Not Detected
Chloroethane	130	Not Detected	340	Not Detected
Freon 11	32	Not Detected	180	Not Detected
Ethanol	130	Not Detected	240	Not Detected
Freon 113	32	Not Detected	250	Not Detected
1,1-Dichloroethene	32	Not Detected	130	Not Detected
Acetone	320	Not Detected	760	Not Detected
2-Propanol	130	Not Detected	320	Not Detected
Carbon Disulfide	130	Not Detected	400	Not Detected
3-Chloropropene	130	Not Detected	400	Not Detected
Methylene Chloride	320	Not Detected	1100	Not Detected
Methyl tert-butyl ether	32	Not Detected	120	Not Detected
trans-1,2-Dichloroethene	32	Not Detected	130	Not Detected
Hexane	32	410	110	1400
1,1-Dichloroethane	32	Not Detected	130	Not Detected
2-Butanone (Methyl Ethyl Ketone)	130	Not Detected	380	Not Detected
cis-1,2-Dichloroethene	32	Not Detected	130	Not Detected
Tetrahydrofuran	32	Not Detected	95	Not Detected
Chloroform	32	Not Detected	160	Not Detected
1,1,1-Trichloroethane	32	Not Detected	180	Not Detected
Cyclohexane	32	210	110	730
Carbon Tetrachloride	32	Not Detected	200	Not Detected
2,2,4-Trimethylpentane	32	14000 E	150	66000 E
Benzene	32	Not Detected	100	Not Detected
1,2-Dichloroethane	32	Not Detected	130	Not Detected
Heptane	32	Not Detected	130	Not Detected
Trichloroethene	32	Not Detected	170	Not Detected
1,2-Dichloropropane	32	Not Detected	150	Not Detected
1,4-Dioxane	130	Not Detected	460	Not Detected
Bromodichloromethane	32	Not Detected	220	Not Detected
cis-1,3-Dichloropropene	32	Not Detected	150	Not Detected
4-Methyl-2-pentanone	32	Not Detected	130	Not Detected
Toluene	32	Not Detected	120	Not Detected
trans-1,3-Dichloropropene	32	Not Detected	150	Not Detected
1,1,2-Trichloroethane	32	Not Detected	180	Not Detected
Tetrachloroethene	32	Not Detected	220	Not Detected
2-Hexanone	130	Not Detected	530	Not Detected



## Client Sample ID: SV-3 Lab ID#: 1207153A-03A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2071121 Date of Collection: 7/9/12 3:09:00 AM Dil. Factor: 64.4 Date of Analysis: 7/11/12 10:32 PM

Dili. I dotor.	07.7	Date	Ol Allalysis. 1/11	12 10.32 1 10
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	32	Not Detected	270	Not Detected
1,2-Dibromoethane (EDB)	32	Not Detected	250	Not Detected
Chlorobenzene	32	Not Detected	150	Not Detected
Ethyl Benzene	32	Not Detected	140	Not Detected
m,p-Xylene	32	Not Detected	140	Not Detected
o-Xylene	32	Not Detected	140	Not Detected
Styrene	32	Not Detected	140	Not Detected
Bromoform	32	Not Detected	330	Not Detected
Cumene	32	Not Detected	160	Not Detected
1,1,2,2-Tetrachloroethane	32	Not Detected	220	Not Detected
Propylbenzene	32	Not Detected	160	Not Detected
4-Ethyltoluene	32	Not Detected	160	Not Detected
1,3,5-Trimethylbenzene	32	Not Detected	160	Not Detected
1,2,4-Trimethylbenzene	32	Not Detected	160	Not Detected
1,3-Dichlorobenzene	32	Not Detected	190	Not Detected
1,4-Dichlorobenzene	32	Not Detected	190	Not Detected
alpha-Chlorotoluene	32	Not Detected	170	Not Detected
1,2-Dichlorobenzene	32	Not Detected	190	Not Detected
1,2,4-Trichlorobenzene	130	Not Detected	960	Not Detected
Hexachlorobutadiene	130	Not Detected	1400	Not Detected
Naphthalene	130	Not Detected	680	Not Detected
TPH ref. to Gasoline (MW=100)	1600	310000	6600	1300000

E = Exceeds instrument calibration range.

,.		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	110	70-130	
1,2-Dichloroethane-d4	96	70-130	
4-Bromofluorobenzene	95	70-130	



## Client Sample ID: Trip blank Lab ID#: 1207153A-04A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2071118	Date of Collection: 7/9/12
Dil. Factor:	1.00	Date of Analysis: 7/11/12 08:37 PM

Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount
	(ppbv)	(ug/m3)	/ua/m2\
0.50		,	(ug/m3)
	Not Detected	2.5	Not Detected
0.50	Not Detected	3.5	Not Detected
5.0	Not Detected	10	Not Detected
0.50	Not Detected	1.3	Not Detected
0.50	Not Detected	1.1	Not Detected
5.0	Not Detected	19	Not Detected
2.0	Not Detected	5.3	Not Detected
0.50	Not Detected	2.8	Not Detected
2.0	Not Detected	3.8	Not Detected
0.50	Not Detected	3.8	Not Detected
0.50	Not Detected	2.0	Not Detected
5.0	Not Detected	12	Not Detected
2.0	Not Detected	4.9	Not Detected
2.0	Not Detected	6.2	Not Detected
2.0	Not Detected	6.3	Not Detected
5.0	Not Detected	17	Not Detected
0.50	Not Detected	1.8	Not Detected
0.50	Not Detected	2.0	Not Detected
0.50	Not Detected	1.8	Not Detected
0.50	Not Detected	2.0	Not Detected
2.0	Not Detected	5.9	Not Detected
0.50	Not Detected	2.0	Not Detected
0.50	Not Detected	1.5	Not Detected
0.50	Not Detected	2.4	Not Detected
0.50	Not Detected	2.7	Not Detected
0.50	Not Detected	1.7	Not Detected
0.50	Not Detected	3.1	Not Detected
0.50	Not Detected	2.3	Not Detected
0.50	Not Detected	1.6	Not Detected
0.50	Not Detected	2.0	Not Detected
0.50	Not Detected	2.0	Not Detected
0.50	Not Detected	2.7	Not Detected
0.50	Not Detected	2.3	Not Detected
2.0	Not Detected	7.2	Not Detected
0.50	Not Detected	3.4	Not Detected
0.50	Not Detected	2.3	Not Detected
0.50	Not Detected	2.0	Not Detected
0.50	Not Detected	1.9	Not Detected
0.50	Not Detected	2.3	Not Detected
0.50	Not Detected	2.7	Not Detected
0.50	Not Detected	3.4	Not Detected
2.0	Not Detected	8.2	Not Detected
	0.50 5.0 0.50 0.50 0.50 2.0 0.50 2.0 0.50 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 0.50 0.5	0.50         Not Detected           5.0         Not Detected           0.50         Not Detected           0.50         Not Detected           5.0         Not Detected           2.0         Not Detected           0.50         Not Detected           2.0         Not Detected           0.50         Not Detected           2.0         Not Detected           0.50         Not Detected	0.50         Not Detected         3.5           5.0         Not Detected         10           0.50         Not Detected         1.3           0.50         Not Detected         1.1           5.0         Not Detected         19           2.0         Not Detected         5.3           0.50         Not Detected         2.8           2.0         Not Detected         3.8           0.50         Not Detected         3.8           0.50         Not Detected         2.0           5.0         Not Detected         2.0           5.0         Not Detected         4.9           2.0         Not Detected         6.2           2.0         Not Detected         6.3           5.0         Not Detected         1.7           0.50         Not Detected         1.8           0.50         Not Detected         1.8           0.50         Not Detected         2.0           0.50         Not Detected         2.0           0.50         Not Detected         2.0           0.50         Not Detected         2.7           0.50         Not Detected         2.7           0.50



## Client Sample ID: Trip blank Lab ID#: 1207153A-04A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2071118	Date of Collection: 7/9/12
Dil. Factor:	1.00	Date of Analysis: 7/11/12 08:37 PM

Dili. i dotoi.	1.00	Date of Analysis. 1711/12 00:57 1 W		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

		Method Limits	
Surrogates	%Recovery		
Toluene-d8	105	70-130	
1,2-Dichloroethane-d4	93	70-130	
4-Bromofluorobenzene	91	70-130	



Tetrachloroethene

2-Hexanone

## Client Sample ID: Lab Blank Lab ID#: 1207153A-05A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	2071107 1.00 Rpt. Limit (ppbv)	Date of Collection: NA Date of Analysis: 7/11/12 12:22 PM		
		Amount Rpt. Limit Amount		
Compound		(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
	0.50	N. ( D. ( ) L		

Not Detected

Not Detected

3.4

8.2

Not Detected

Not Detected

0.50

2.0



# Client Sample ID: Lab Blank Lab ID#: 1207153A-05A

### EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	2071107	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/11/12 12:22 PM

		24.0		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected
TPH ref. to Gasoline (MW=100)	25	Not Detected	100	Not Detected

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	102	70-130	
1,2-Dichloroethane-d4	88	70-130	
4-Bromofluorobenzene	93	70-130	



# Client Sample ID: CCV Lab ID#: 1207153A-06A

# EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2071102 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/11/12 09:44 AM

Compound	%Recovery
Freon 12	91
Freon 114	102
Chloromethane	110
Vinyl Chloride	107
1,3-Butadiene	99
Bromomethane	112
Chloroethane	104
Freon 11	83
Ethanol	90
Freon 113	96
1,1-Dichloroethene	102
Acetone	102
2-Propanol	91
Carbon Disulfide	72
3-Chloropropene	99
Methylene Chloride	99
Methyl tert-butyl ether	94
trans-1,2-Dichloroethene	95
Hexane	99
1,1-Dichloroethane	93
2-Butanone (Methyl Ethyl Ketone)	101
cis-1,2-Dichloroethene	100
Tetrahydrofuran	94
Chloroform	85
1,1,1-Trichloroethane	84
Cyclohexane	102
Carbon Tetrachloride	85
2,2,4-Trimethylpentane	96
Benzene	100
1,2-Dichloroethane	80
Heptane	100
Trichloroethene	99
1,2-Dichloropropane	100
1,4-Dioxane	100
Bromodichloromethane	88
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	99
Toluene	97
trans-1,3-Dichloropropene	95
1,1,2-Trichloroethane	95
Tetrachloroethene	92
2-Hexanone	96



# Client Sample ID: CCV Lab ID#: 1207153A-06A

### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2071102 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/11/12 09:44 AM

Compound	%Recovery
Dibromochloromethane	91
1,2-Dibromoethane (EDB)	92
Chlorobenzene	95
Ethyl Benzene	97
m,p-Xylene	100
o-Xylene	95
Styrene	100
Bromoform	94
Cumene	93
1,1,2,2-Tetrachloroethane	90
Propylbenzene	93
4-Ethyltoluene	92
1,3,5-Trimethylbenzene	94
1,2,4-Trimethylbenzene	94
1,3-Dichlorobenzene	94
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	93
1,2-Dichlorobenzene	92
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	86
Naphthalene	111
TPH ref. to Gasoline (MW=100)	100

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	101	70-130	
1,2-Dichloroethane-d4	82	70-130	
4-Bromofluorobenzene	99	70-130	



# Client Sample ID: LCS Lab ID#: 1207153A-07A

# EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2071103 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/11/12 10:14 AM

Compound	%Recovery
Freon 12	91
Freon 114	102
Chloromethane	107
Vinyl Chloride	109
1,3-Butadiene	100
Bromomethane	114
Chloroethane	104
Freon 11	88
Ethanol	92
Freon 113	104
1,1-Dichloroethene	114
Acetone	111
2-Propanol	95
Carbon Disulfide	95
3-Chloropropene	117
Methylene Chloride	103
Methyl tert-butyl ether	106
trans-1,2-Dichloroethene	117
Hexane	104
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	107
cis-1,2-Dichloroethene	113
Tetrahydrofuran	103
Chloroform	94
1,1,1-Trichloroethane	96
Cyclohexane	112
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	106
Benzene	107
1,2-Dichloroethane	84
Heptane	105
Trichloroethene	107
1,2-Dichloropropane	104
1,4-Dioxane	102
Bromodichloromethane	94
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	100
Toluene	103
trans-1,3-Dichloropropene	103
1,1,2-Trichloroethane	105
Tetrachloroethene	100
2-Hexanone	94



# Client Sample ID: LCS Lab ID#: 1207153A-07A

### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2071103 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/11/12 10:14 AM

Compound	%Recovery
Dibromochloromethane	97
1,2-Dibromoethane (EDB)	102
Chlorobenzene	103
Ethyl Benzene	105
m,p-Xylene	107
o-Xylene	102
Styrene	103
Bromoform	100
Cumene	99
1,1,2,2-Tetrachloroethane	101
Propylbenzene	99
4-Ethyltoluene	92
1,3,5-Trimethylbenzene	95
1,2,4-Trimethylbenzene	93
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	95
alpha-Chlorotoluene	97
1,2-Dichlorobenzene	97
1,2,4-Trichlorobenzene	102
Hexachlorobutadiene	88
Naphthalene	94
TPH ref. to Gasoline (MW=100)	Not Spiked

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	102	70-130	
1,2-Dichloroethane-d4	83	70-130	
4-Bromofluorobenzene	98	70-130	



# Client Sample ID: LCSD Lab ID#: 1207153A-07AA

### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2071104 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/11/12 10:43 AM

Compound	%Recovery
Freon 12	88
Freon 114	98
Chloromethane	104
Vinyl Chloride	107
1,3-Butadiene	99
Bromomethane	112
Chloroethane	102
Freon 11	87
Ethanol	89
Freon 113	103
1,1-Dichloroethene	114
Acetone	108
2-Propanol	95
Carbon Disulfide	96
3-Chloropropene	116
Methylene Chloride	104
Methyl tert-butyl ether	104
trans-1,2-Dichloroethene	116
Hexane	104
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	107
cis-1,2-Dichloroethene	109
Tetrahydrofuran	102
Chloroform	92
1,1,1-Trichloroethane	93
Cyclohexane	111
Carbon Tetrachloride	95
2,2,4-Trimethylpentane	102
Benzene	108
1,2-Dichloroethane	84
Heptane	106
Trichloroethene	107
1,2-Dichloropropane	106
1,4-Dioxane	105
Bromodichloromethane	96
cis-1,3-Dichloropropene	109
4-Methyl-2-pentanone	100
Toluene	103
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	106
Tetrachloroethene	101
2-Hexanone	94



# Client Sample ID: LCSD Lab ID#: 1207153A-07AA

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 2071104 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/11/12 10:43 AM

Compound	%Recovery
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	103
Chlorobenzene	105
Ethyl Benzene	104
m,p-Xylene	106
o-Xylene	101
Styrene	102
Bromoform	101
Cumene	99
1,1,2,2-Tetrachloroethane	100
Propylbenzene	97
4-Ethyltoluene	90
1,3,5-Trimethylbenzene	94
1,2,4-Trimethylbenzene	91
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	100
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	103
Hexachlorobutadiene	88
Naphthalene	90
TPH ref. to Gasoline (MW=100)	Not Spiked

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	103	70-130	
1,2-Dichloroethane-d4	81	70-130	
4-Bromofluorobenzene	98	70-130	



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Page of \_\_\_\_

	ger Peter Lantey	101	Projec	ct Info:		Turn Around Time:	Lab Use Only Pressurized b	Dy:
Collected by:		from for the second	P.O. #			Mormal Normal	Date:	
	ornerstone Eath GEmail pla		Project	17 - COS	man   man	Rush	Pressurization	n Gas:
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			Date	Time	4.		ter Pressure/V	
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7/26/2012

Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1207367C

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 7/19/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-3 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



#### **WORK ORDER #: 1207367C**

Work Order Summary

CLIENT: Mr. Peter Langtry BILL TO: Accounts Payable

Cornerstone Earth Group
2737 North Main St.
259 Oakmead Parkway
Suite 10
Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

**DATE RECEIVED:** 07/19/2012 **CONTACT:** Kyle Vagadori 07/26/2012

			RECEIPT	FINAL
FRACTION #	NAME	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	V-3	Modified TO-3	4.0 "Hg	5 psi
02A	V-5	Modified TO-3	4.5 "Hg	5 psi
03A	V-4	Modified TO-3	4.5 "Hg	5 psi
04A	V-2	Modified TO-3	4.5 "Hg	5 psi
05A	V-1	Modified TO-3	4.5 "Hg	5 psi
06A	Lab Blank	Modified TO-3	NA	NA
07A	LCS	Modified TO-3	NA	NA
07AA	LCSD	Modified TO-3	NA	NA

	10	eide Tlayer		
CERTIFIED BY:			DATE: $\frac{07/26/12}{}$	

Technical Director

Certfication numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP - CA009332011-1, WA NELAP - C935 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11, Expiration date: 06/30/12.

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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# LABORATORY NARRATIVE Modified TO-3 Cornerstone Earth Group Workorder# 1207367C

Five 1 Liter Summa Canister samples were received on July 19, 2012. The laboratory performed analysis for volatile organic compounds in air via modified EPA Method TO-3 using gas chromatography with flame ionization detection. The method involves concentrating up to 200 mL of sample. The concentrated aliquot is then dry purged to remove water vapor prior to entering the chromatographic system. The TPH (Gasoline Range) results are calculated using the response factor of Gasoline. A molecular weight of 100 is used to convert the TPH (Gasoline Range) ppmv result to ug/L.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	TO-3	ATL Modifications
Daily Calibration Standard Frequency	Prior to sample analysis and every 4 - 6 hrs	Prior to sample analysis and after the analytical batch = 20 samples</td
Initial Calibration Calculation	4-point calibration using a linear regression model	5-point calibration using average Response Factor
Initial Calibration Frequency	Weekly	When daily calibration standard recovery is outside 75 - 125 %, or upon significant changes to procedure or instrumentation
Moisture Control	Nafion system	Sorbent system
Minimum Detection Limit (MDL)	Calculated using the equation DL = A+3.3S, where A is intercept of calibration line and S is the standard deviation of at least 3 reps of low level standard	40 CFR Pt. 136 App. B
Preparation of Standards	Levels achieved through dilution of gas mixture	Levels achieved through loading various volumes of the gas mixture

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

There were no analytical discrepancies.

#### **Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:



- B Compound present in laboratory blank greater than reporting limit.
- J Estimated value.
- E Exceeds instrument calibration range.
- S Saturated peak.
- Q Exceeds quality control limits.
- U Compound analyzed for but not detected above the detection limit.
- M Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



# **Summary of Detected Compounds MODIFIED EPA METHOD TO-3 GC/FID**

Client Sample ID: V-3 Lab ID#: 1207367C-01A

Compound

TPH (Gasoline Range)

Lab ID#: 1207367C-01A				
Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.053	0.22	0.54	2.2
Client Sample ID: V-5				
Lab ID#: 1207367C-02A				
Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.054	0.22	0.21	0.84
Client Sample ID: V-4				
Lab ID#: 1207367C-03A				
Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.054	0.22	0.61	2.5
Client Sample ID: V-2				
Lab ID#: 1207367C-04A				
Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.055	0.22	0.81	3.3
Client Sample ID: V-1				
Lab ID#: 1207367C-05A				
	Rpt. Limit	Rpt. Limit	Amount	Amount

(ppmv)

0.054

(ug/L)

0.22

(ppmv)

0.62

(ug/L)

2.5



# Client Sample ID: V-3 Lab ID#: 1207367C-01A

File Name: Dil. Factor:	d072505 2.11		of Collection: 7/18 of Analysis: 7/25/	
Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.053	0.22	0.54	2.2
Container Type: 1 Liter Summ	a Canister			Method
Surrogates		%Recovery		Limits
Fluorobenzene (FID)		84		75-150



# Client Sample ID: V-5 Lab ID#: 1207367C-02A

Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
0.22	0.04	
J.22	0.21	0.84
%Recovery		Method Limits
	<b>%Recovery</b> 89	<u> </u>



# Client Sample ID: V-4 Lab ID#: 1207367C-03A

File Name: Dil. Factor:	d072507 2.15	Date of Collection: 7/18/12 10:50:00 AN Date of Analysis: 7/25/12 01:55 PM		
Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.054	0.22	0.61	2.5
Container Type: 1 Liter Sumn	na Canister			
Surrogates		%Recovery		Method Limits
Fluorobenzene (FID)		90		75-150



# Client Sample ID: V-2 Lab ID#: 1207367C-04A

File Name: Dil. Factor:	d072508 2.20		e of Collection: 7/18 e of Analysis: 7/25/	
Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.055	0.22	0.81	3.3
Container Type: 1 Liter Summa	Canister	%Recovery		Method Limits



# Client Sample ID: V-1 Lab ID#: 1207367C-05A

File Name: Dil. Factor:	d072509 2.15		of Collection: 7/18 of Analysis: 7/25/	
Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.054	0.22	0.62	2.5
Container Type: 1 Liter Summ	a Canister	% Pagayary		Method
Surrogates Fluorobenzene (FID)		<b>%Recovery</b> 90		75-150



# Client Sample ID: Lab Blank Lab ID#: 1207367C-06A

File Name: Dil. Factor:	d072504 1.00		e of Collection: NA e of Analysis: 7/25/	12 11:35 AM
Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.025	0.10	Not Detected	Not Detected
Container Type: NA - Not App	olicable			
Surrogates		%Recovery		Method Limits
Fluorobenzene (FID)		88	_	75-150



# Client Sample ID: LCS Lab ID#: 1207367C-07A

# MODIFIED EPA METHOD TO-3 GC/FID

File Name:	d072502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/25/12 10:04 AM

Compound%RecoveryTPH (Gasoline Range)113

		Method
Surrogates	%Recovery	Limits
Fluorobenzene (FID)	84	75-150



# Client Sample ID: LCSD Lab ID#: 1207367C-07AA

# MODIFIED EPA METHOD TO-3 GC/FID

File Name: d072510 Date of Collection: NA

Dil. Factor: 1.00 Date of Analysis: 7/25/12 03:49 PM

Compound %Recovery

TPH (Gasoline Range)

**Container Type: NA - Not Applicable** 

Surrogates%RecoveryMethod<br/>LimitsFluorobenzene (FID)9175-150



# CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice
Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

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7/26/2012

Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1207367B

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 7/19/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



#### WORK ORDER #: 1207367B

Work Order Summary

CLIENT: Mr. Peter Langtry BILL TO: Accounts Payable

Cornerstone Earth Group
2737 North Main St.
259 Oakmead Parkway
Suite 10
Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

**DATE RECEIVED:** 07/19/2012 **CONTACT:** Kyle Vagadori 07/26/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	V-3	Modified ASTM D-1946	4.0 "Hg	5 psi
02A	V-5	Modified ASTM D-1946	4.5 "Hg	5 psi
03A	V-4	Modified ASTM D-1946	4.5 "Hg	5 psi
04A	V-2	Modified ASTM D-1946	4.5 "Hg	5 psi
05A	V-1	Modified ASTM D-1946	4.5 "Hg	5 psi
06A	Lab Blank	Modified ASTM D-1946	NA	NA
07A	LCS	Modified ASTM D-1946	NA	NA
07AA	LCSD	Modified ASTM D-1946	NA	NA

	Meide Thayes	
CERTIFIED BY:	0 00	DATE: $\frac{07/26/12}{}$

Technical Director

Certification numbers: AZ Licensure AZ0719, CA NELAP - 02110CA, LA NELAP - 02089, NY NELAP - 11291, TX NELAP - T104704434-11-3, UT NELAP - CA009332011-1, WA NELAP - C935 Name of Accrediting Agency: NELAP/Florida Department of Health, Scope of Application: Clean Air Act, Accreditation number: E87680, Effective date: 07/01/11, Expiration date: 06/30/12.

Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

All Toxics Etd. Certifies that the test results contained in this report meet an requirements of the NELAC standard

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#### LABORATORY NARRATIVE Modified ASTM D-1946 Cornerstone Earth Group Workorder# 1207367B

Five 1 Liter Summa Canister samples were received on July 19, 2012. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

Requirement	ASTM D-1946	ATL Modifications
Calibration	A single point calibration is performed using a reference standard closely matching the composition of the unknown.	A 3-point calibration curve is performed. Quantitation is based on a daily calibration standard which may or may not resemble the composition of the associated samples.
Reference Standard	The composition of any reference standard must be known to within 0.01 mol % for any component.	The standards used by ATL are blended to a >/= 95% accuracy.
Sample Injection Volume	Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL.	The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum.
Normalization	Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%.	Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix.
Precision	Precision requirements established at each concentration level.	Duplicates should agree within 25% RPD for detections > 5 X's the RL.

#### **Receiving Notes**

There were no receiving discrepancies.



### **Analytical Notes**

There were no analytical discrepancies.

#### **Definition of Data Qualifying Flags**

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

- B Compound present in laboratory blank greater than reporting limit.
- J Estimated value.
- E Exceeds instrument calibration range.
- S Saturated peak.
- Q Exceeds quality control limits.
- U Compound analyzed for but not detected above the detection limit.
- M Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



# Summary of Detected Compounds MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

Client Sample ID: V-3 Lab ID#: 1207367B-01A

Rpt. Limit	Amount	
(%)	(%)	
0.21	21	
0.00021	0.00031	
0.021	0.039	
	(%) 0.21 0.00021	

Client Sample ID: V-5 Lab ID#: 1207367B-02A

	Rpt. Limit	Amount	
Compound	(%)	(%)	
Oxygen	0.22	21	
Methane	0.00022	0.00024	
Carbon Dioxide	0.022	0.052	

Client Sample ID: V-4

Lab ID#: 1207367B-03A

	Rpt. Limit	Amount	
Compound	(%)	(%)	
Oxygen	0.22	20	
Methane	0.00022	0.00022	
Carbon Dioxide	0.022	0.047	

Client Sample ID: V-2

Lab ID#: 1207367B-04A

	Rpt. Limit	Amount	
Compound	(%)	(%)	
Oxygen	0.22	20	
Carbon Dioxide	0.022	0.075	

Client Sample ID: V-1

Lab ID#: 1207367B-05A

	Rpt. Limit	Amount
Compound	(%)	(%)
Oxygen	0.22	21



# Summary of Detected Compounds MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

Client Sample ID: V-1 Lab ID#: 1207367B-05A

Carbon Dioxide 0.022 0.073



# Client Sample ID: V-3 Lab ID#: 1207367B-01A

### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9072514 2.11		tion:  7/18/12 9:42:00 AN sis:  7/25/12 12:28 PM
		Rpt. Limit	Amount
Compound		(%)	(%)
Oxygen		0.21	21
Methane		0.00021	0.00031
Carbon Dioxide		0.021	0.039

**Container Type: 1 Liter Summa Canister** 



# Client Sample ID: V-5 Lab ID#: 1207367B-02A

### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

	9072515 2.15		tion:  7/18/12 10:17:00 AN sis:   7/25/12 12:52 PM
		Rpt. Limit (%)	Amount (%)
Oxygen		0.22	21
Methane		0.00022	0.00024
Carbon Dioxide		0.022	0.052

**Container Type: 1 Liter Summa Canister** 



# Client Sample ID: V-4 Lab ID#: 1207367B-03A

### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9072516 2.15		ction: 7/18/12 10:50:00 AN sis: 7/25/12 01:42 PM
		Rpt. Limit	Amount
Compound		(%)	(%)
Oxygen		0.22	20
Methane		0.00022	0.00022

0.022

0.047

**Container Type: 1 Liter Summa Canister** 

Carbon Dioxide



# Client Sample ID: V-2 Lab ID#: 1207367B-04A

### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9072517 2.20		ection: 7/18/12 11:21:00 AM ysis: 7/25/12 02:09 PM
		Rpt. Limit	Amount
Compound		(%)	(%)
Oxygen		0.22	20
Methane		0.00022	Not Detected
Carbon Dioxide		0.022	0.075

**Container Type: 1 Liter Summa Canister** 



# Client Sample ID: V-1 Lab ID#: 1207367B-05A

### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9072518 2.15		ection:  7/18/12 12:01:00 PM ysis:  7/25/12 02:30 PM
Compound		Rpt. Limit (%)	Amount (%)
Oxygen		0.22	21
Methane		0.00022	Not Detected
Carbon Dioxide		0.022	0.073

**Container Type: 1 Liter Summa Canister** 



# Client Sample ID: Lab Blank Lab ID#: 1207367B-06A

#### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name: Dil. Factor:	9072504 1.00	Date of Colle Date of Analy	ction: NA /sis:  7/25/12 08:27 AM
Compound		Rpt. Limit (%)	Amount (%)
Oxygen		0.10	Not Detected
Methane		0.00010	Not Detected
Carbon Dioxide		0.010	Not Detected



# Client Sample ID: LCS Lab ID#: 1207367B-07A

### MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	9072502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/24/12 10:01 PM

Compound	%Recovery
Oxygen	100
Methane	99
Carbon Dioxide	103



# Client Sample ID: LCSD Lab ID#: 1207367B-07AA

# MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

ı			
	File Name:	9072525	Date of Collection: NA
	Dil. Factor:	1.00	Date of Analysis: 7/25/12 06:21 PM

Compound	%Recovery
Oxygen	100
Methane	99
Carbon Dioxide	102



#### **CHAIN-OF-CUSTODY RECORD**

**Sample Transportation Notice** 

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA 95630-4719 (916) 985-1000 FAX (916) 985-1020

Page \_\_\_\_of \_\_\_

Project Manager Peter Langtry	71	Projec	ct Info:			Around ime:	Lab Use Press	<i>Only</i> urized by:		
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Lab I.D. Field Sample I.D. (Location)	Can #	of Collection	of Collection	Analyses Requ	ested	Initial	Final	Receipt	Final (psi)	
014 V-3	23835	7-18-12	936,742	TOIS VOCS	incl.	-29.16	-4.57			2031Z
2-A V-5	31754	7-18-12	1012 -	6000102000)	BIEX	-29.25	-5.00			20340
07A V-4	33638	7-18-12	1045-50	naphthalene &	- '.	-29.25	-5.00			20327
04A V-2	13392	7-18-12		ASTM 1946 fo		-29,00	-5.00			20249
05A V-1	33715	7-18-12	1157-	Coz quetlar	- 4	-2217	-4.98			20261
	GRACO	THE STATES	0000	and TPHa by						
of the Blank	9477	7-18-12		VOCS (TO15	)					-
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			AND		mangal anggaan wan wat in 2000 ang ang ang ang					
Relinquished by: (signature) Date/Time Re	ceived by: (signated by: (sign	ature) Date/Tin	ne 9:12 /3	Notes:			``			
Lab Shipper Name Air Bill #		Temp (°C)	Condition	n Custody	Seals In	tact?	Work	Order #		
Use Conly		NO	G-	Yes	KJ ON	one )	12(	736	7	



7/26/2012

Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek CA 94597

Project Name: Ashland Youth Center

Project #: 165-11-2 Workorder #: 1207367A

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 7/19/2012 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,

Kyle Vagadori

**Project Manager** 

Kya Vych



#### **WORK ORDER #: 1207367A**

#### Work Order Summary

CLIENT: Mr. Peter Langtry BILL TO: Accounts Payable

Cornerstone Earth Group
2737 North Main St.

Suite 10

Cornerstone Earth Group
1259 Oakmead Parkway
Sunnyvale, CA 94085

Walnut Creek, CA 94597

PHONE: 925-988-9500 P.O. #

FAX: PROJECT # 165-11-2 Ashland Youth Center

**DATE RECEIVED:** 07/19/2012 **CONTACT:** Kyle Vagadori 07/26/2012

			RECEIPT	FINAL
FRACTION #	<u>NAME</u>	<u>TEST</u>	VAC./PRES.	<b>PRESSURE</b>
01A	V-3	Modified TO-15	4.0 "Hg	5 psi
02A	V-5	Modified TO-15	4.5 "Hg	5 psi
03A	V-4	Modified TO-15	4.5 "Hg	5 psi
04A	V-2	Modified TO-15	4.5 "Hg	5 psi
05A	V-1	Modified TO-15	4.5 "Hg	5 psi
06A	Trip Blank	Modified TO-15	29.5 "Hg	5 psi
07A	Lab Blank	Modified TO-15	NA	NA
07B	Lab Blank	Modified TO-15	NA	NA
08A	CCV	Modified TO-15	NA	NA
08B	CCV	Modified TO-15	NA	NA
09A	LCS	Modified TO-15	NA	NA
09AA	LCSD	Modified TO-15	NA	NA
09B	LCS	Modified TO-15	NA	NA
09BB	LCSD	Modified TO-15	NA	NA

	fleide/jea	yes	
CERTIFIED BY:		DATE:	07/26/12
CERTIFIED DIT			

Technical Director

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NY NELAP - 11291, TX NELAP - T104704434-12-5, UT NELAP CA009332012-3, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2011, Expiration date: 10/17/2012.

Eurofins Air Toxics Ltd. certifies that the test results contained in this report meet all requirements of the NELAC standards

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#### LABORATORY NARRATIVE EPA Method TO-15 Cornerstone Earth Group Workorder# 1207367A

Six 1 Liter Summa Canister samples were received on July 19, 2012. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

#### **Receiving Notes**

There were no receiving discrepancies.

#### **Analytical Notes**

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

#### **Definition of Data Qualifying Flags**

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
  - J Estimated value.
  - E Exceeds instrument calibration range.
  - S Saturated peak.
  - Q Exceeds quality control limits.
  - U Compound analyzed for but not detected above the reporting limit.
  - UJ- Non-detected compound associated with low bias in the CCV and/or LCS.
  - N The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue



# **Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN**

Client Sample ID: V-3 Lab ID#: 1207367A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	7.8	67	18	160
2-Propanol	3.1	4.0	7.6	10
Carbon Disulfide	3.1	18	9.6	56
Hexane	0.78	0.82	2.7	2.9
2-Butanone (Methyl Ethyl Ketone)	3.1	4.2	9.1	12
Cyclohexane	0.78	1.4	2.7	4.9
4-Methyl-2-pentanone	0.78	4.4	3.2	18
Toluene	0.78	1.9	2.9	7.1
Ethyl Benzene	0.78	3.7	3.4	16
m,p-Xylene	0.78	1.1	3.4	4.8
Styrene	0.78	33	3.3	140
Cumene	0.78	1.5	3.8	7.3

Client Sample ID: V-5 Lab ID#: 1207367A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	7.9	11	19	26
Carbon Disulfide	3.2	13	9.8	39
Hexane	0.79	1.3	2.8	4.5
Cyclohexane	0.79	1.2	2.7	4.2
Toluene	0.79	1.0	3.0	3.8
Styrene	0.79	4.3	3.4	18

Client Sample ID: V-4 Lab ID#: 1207367A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.79	0.80	3.9	3.9
Acetone	7.9	50	19	120
Carbon Disulfide	3.2	6.5	9.8	20
Hexane	0.79	1.4	2.8	5.0
2-Butanone (Methyl Ethyl Ketone)	3.2	4.4	9.3	13



# **Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN**

**Client Sample ID: V-4** 

Lab ID#: 1207367A-03A				
Cyclohexane	0.79	2.2	2.7	7.5
Heptane	0.79	0.80	3.2	3.3
4-Methyl-2-pentanone	0.79	1.2	3.2	5.1
Toluene	0.79	0.87	3.0	3.3
Ethyl Benzene	0.79	0.84	3.4	3.6
Styrene	0.79	6.6	3.4	28

Client Sample ID: V-2 Lab ID#: 1207367A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	3.2	19	6.0	36
Acetone	7.9	40	19	96
Carbon Disulfide	3.2	7.4	9.8	23
Hexane	0.79	1.4	2.8	4.8
2-Butanone (Methyl Ethyl Ketone)	3.2	4.5	9.3	13
Heptane	0.79	3.3	3.2	14
4-Methyl-2-pentanone	0.79	2.2	3.2	9.0
Toluene	0.79	1.4	3.0	5.3
Ethyl Benzene	0.79	1.4	3.4	5.9
m,p-Xylene	0.79	1.9	3.4	8.3
o-Xylene	0.79	0.85	3.4	3.7
Styrene	0.79	10	3.4	42

Client Sample ID: V-1 Lab ID#: 1207367A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	7.9	97	19	230
Carbon Disulfide	3.2	8.1	9.8	25
Hexane	0.79	1.0	2.8	3.6
2-Butanone (Methyl Ethyl Ketone)	3.2	4.4	9.3	13
Cyclohexane	0.79	0.89	2.7	3.0
Heptane	0.79	0.96	3.2	3.9



# **Summary of Detected Compounds EPA METHOD TO-15 GC/MS FULL SCAN**

Client Sample ID: V-1

Lab ID#: 1207367A-05A				
4-Methyl-2-pentanone	0.79	4.2	3.2	17
Toluene	0.79	1.4	3.0	5.4
Ethyl Benzene	0.79	0.81	3.4	3.5
m,p-Xylene	0.79	0.79	3.4	3.4
Styrene	0.79	6.5	3.4	28

**Client Sample ID: Trip Blank** 

Lab ID#: 1207367A-06A
No Detections Were Found.



# Client Sample ID: V-3 Lab ID#: 1207367A-01A

File Name:	j072112	Date of Collection: 7/18/12 9:42:00 AM
Dil. Factor:	1.55	Date of Analysis: 7/21/12 06:06 PM

Dil. Factor:	1.55	Date	of Analysis: 7/21	/12 06:06 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.78	Not Detected	3.8	Not Detected
Freon 114	0.78	Not Detected	5.4	Not Detected
Chloromethane	7.8	Not Detected	16	Not Detected
Vinyl Chloride	0.78	Not Detected	2.0	Not Detected
1,3-Butadiene	0.78	Not Detected	1.7	Not Detected
Bromomethane	7.8	Not Detected	30	Not Detected
Chloroethane	3.1	Not Detected	8.2	Not Detected
Freon 11	0.78	Not Detected	4.4	Not Detected
Ethanol	3.1	Not Detected	5.8	Not Detected
Freon 113	0.78	Not Detected	5.9	Not Detected
1,1-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Acetone	7.8	67	18	160
2-Propanol	3.1	4.0	7.6	10
Carbon Disulfide	3.1	18	9.6	56
3-Chloropropene	3.1	Not Detected	9.7	Not Detected
Methylene Chloride	7.8	Not Detected	27	Not Detected
Methyl tert-butyl ether	0.78	Not Detected	2.8	Not Detected
trans-1,2-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Hexane	0.78	0.82	2.7	2.9
1,1-Dichloroethane	0.78	Not Detected	3.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.1	4.2	9.1	12
cis-1,2-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Tetrahydrofuran	0.78	Not Detected	2.3	Not Detected
Chloroform	0.78	Not Detected	3.8	Not Detected
1,1,1-Trichloroethane	0.78	Not Detected	4.2	Not Detected
Cyclohexane	0.78	1.4	2.7	4.9
Carbon Tetrachloride	0.78	Not Detected	4.9	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.6	Not Detected
Benzene	0.78	Not Detected	2.5	Not Detected
1,2-Dichloroethane	0.78	Not Detected	3.1	Not Detected
Heptane	0.78	Not Detected	3.2	Not Detected
Trichloroethene	0.78	Not Detected	4.2	Not Detected
1,2-Dichloropropane	0.78	Not Detected	3.6	Not Detected
1,4-Dioxane	3.1	Not Detected	11	Not Detected
Bromodichloromethane	0.78	Not Detected	5.2	Not Detected
cis-1,3-Dichloropropene	0.78	Not Detected	3.5	Not Detected
4-Methyl-2-pentanone	0.78	4.4	3.2	18
Toluene	0.78	1.9	2.9	7.1
trans-1,3-Dichloropropene	0.78	Not Detected	3.5	Not Detected
1,1,2-Trichloroethane	0.78	Not Detected	4.2	Not Detected
Tetrachloroethene	0.78	Not Detected	5.2	Not Detected
2-Hexanone	3.1	Not Detected	13	Not Detected



## Client Sample ID: V-3 Lab ID#: 1207367A-01A

#### EPA METHOD TO-15 GC/MS FULL SCAN

 File Name:
 j072112
 Date of Collection: 7/18/12 9:42:00 AM

 Dil. Factor:
 1.55
 Date of Analysis: 7/21/12 06:06 PM

J 1 4010	1.55	Date	Of Allalysis. 11211	12 00.00 T W
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.78	Not Detected	6.6	Not Detected
1,2-Dibromoethane (EDB)	0.78	Not Detected	6.0	Not Detected
Chlorobenzene	0.78	Not Detected	3.6	Not Detected
Ethyl Benzene	0.78	3.7	3.4	16
m,p-Xylene	0.78	1.1	3.4	4.8
o-Xylene	0.78	Not Detected	3.4	Not Detected
Styrene	0.78	33	3.3	140
Bromoform	0.78	Not Detected	8.0	Not Detected
Cumene	0.78	1.5	3.8	7.3
1,1,2,2-Tetrachloroethane	0.78	Not Detected	5.3	Not Detected
Propylbenzene	0.78	Not Detected	3.8	Not Detected
4-Ethyltoluene	0.78	Not Detected	3.8	Not Detected
1,3,5-Trimethylbenzene	0.78	Not Detected	3.8	Not Detected
1,2,4-Trimethylbenzene	0.78	Not Detected	3.8	Not Detected
1,3-Dichlorobenzene	0.78	Not Detected	4.6	Not Detected
1,4-Dichlorobenzene	0.78	Not Detected	4.6	Not Detected
alpha-Chlorotoluene	0.78	Not Detected	4.0	Not Detected
1,2-Dichlorobenzene	0.78	Not Detected	4.6	Not Detected
1,2,4-Trichlorobenzene	3.1	Not Detected	23	Not Detected
Hexachlorobutadiene	3.1	Not Detected	33	Not Detected
Naphthalene	3.1	Not Detected	16	Not Detected

#### Container Type: 1 Liter Summa Canister

•		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	100	70-130	
1,2-Dichloroethane-d4	97	70-130	
4-Bromofluorobenzene	102	70-130	



# Client Sample ID: V-5 Lab ID#: 1207367A-02A

File Name:	j072320	Date of Collection: 7/18/12 10:17:00 AM
Dil. Factor:	1.58	Date of Analysis: 7/23/12 07:59 PM

Compound         Rpt. Limit (ppbv)         Amount (ppbv)         Rpt. Limit (ug/m3)           Freon 12         0.79         Not Detected         3.9           Freon 114         0.79         Not Detected         5.5           Chloromethane         7.9         Not Detected         16           Vinyl Chloride         0.79         Not Detected         2.0           1,3-Butadiene         0.79         Not Detected         3.1           Chloroethane         7.9         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0           Freon 113         0.79         Not Detected         6.0           1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	07:59 PM
Freon 12         0.79         Not Detected         3.9           Freon 114         0.79         Not Detected         5.5           Chloromethane         7.9         Not Detected         16           Vinyl Chloride         0.79         Not Detected         2.0           1,3-Butadiene         0.79         Not Detected         1.7           Bromomethane         7.9         Not Detected         31           Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0           Freon 113         0.79         Not Detected         6.0           1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	Amount
Freon 114         0.79         Not Detected         5.5           Chloromethane         7.9         Not Detected         16           Vinyl Chloride         0.79         Not Detected         2.0           1,3-Butadiene         0.79         Not Detected         1.7           Bromomethane         7.9         Not Detected         31           Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0           Freon 113         0.79         Not Detected         6.0           1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	(ug/m3)
Chloromethane         7.9         Not Detected         16           Vinyl Chloride         0.79         Not Detected         2.0           1,3-Butadiene         0.79         Not Detected         1.7           Bromomethane         7.9         Not Detected         31           Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0           Freon 113         0.79         Not Detected         6.0           1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	Not Detected
Vinyl Chloride         0.79         Not Detected         2.0           1,3-Butadiene         0.79         Not Detected         1.7           Bromomethane         7.9         Not Detected         31           Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0           Freon 113         0.79         Not Detected         6.0           1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	Not Detected
1,3-Butadiene         0.79         Not Detected         1.7           Bromomethane         7.9         Not Detected         31           Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0           Freon 113         0.79         Not Detected         6.0           1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	Not Detected
Bromomethane         7.9         Not Detected         31           Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0           Freon 113         0.79         Not Detected         6.0           1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	Not Detected
Chloroethane         3.2         Not Detected         8.3           Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0           Freon 113         0.79         Not Detected         6.0           1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	Not Detected
Freon 11         0.79         Not Detected         4.4           Ethanol         3.2         Not Detected         6.0           Freon 113         0.79         Not Detected         6.0           1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	Not Detected
Ethanol         3.2         Not Detected         6.0           Freon 113         0.79         Not Detected         6.0           1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	Not Detected
Freon 113         0.79         Not Detected         6.0           1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	Not Detected
1,1-Dichloroethene         0.79         Not Detected         3.1           Acetone         7.9         11         19	Not Detected
Acetone 7.9 11 19	Not Detected
	Not Detected
	26
2-Propanol 3.2 Not Detected 7.8	Not Detected
Carbon Disulfide 3.2 13 9.8	39
3-Chloropropene 3.2 Not Detected 9.9	Not Detected
Methylene Chloride 7.9 Not Detected 27	Not Detected
Methyl tert-butyl ether 0.79 Not Detected 2.8	Not Detected
trans-1,2-Dichloroethene 0.79 Not Detected 3.1	Not Detected
Hexane 0.79 1.3 2.8	4.5
1,1-Dichloroethane 0.79 Not Detected 3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone) 3.2 Not Detected 9.3	Not Detected
cis-1,2-Dichloroethene 0.79 Not Detected 3.1	Not Detected
Tetrahydrofuran 0.79 Not Detected 2.3	Not Detected
Chloroform 0.79 Not Detected 3.8	Not Detected
1,1,1-Trichloroethane 0.79 Not Detected 4.3	Not Detected
Cyclohexane 0.79 1.2 2.7	4.2
Carbon Tetrachloride 0.79 Not Detected 5.0	Not Detected
2,2,4-Trimethylpentane 0.79 Not Detected 3.7	Not Detected
Benzene 0.79 Not Detected 2.5	Not Detected
1,2-Dichloroethane 0.79 Not Detected 3.2	Not Detected
Heptane 0.79 Not Detected 3.2	Not Detected
Trichloroethene 0.79 Not Detected 4.2	Not Detected
1,2-Dichloropropane 0.79 Not Detected 3.6	Not Detected
1,4-Dioxane 3.2 Not Detected 11	Not Detected
Bromodichloromethane 0.79 Not Detected 5.3	Not Detected
cis-1,3-Dichloropropene 0.79 Not Detected 3.6	Not Detected
4-Methyl-2-pentanone 0.79 Not Detected 3.2	
Toluene 0.79 1.0 3.0	Not Detected
trans-1,3-Dichloropropene 0.79 Not Detected 3.6	Not Detected 3.8
1,1,2-Trichloroethane 0.79 Not Detected 4.3	
Tetrachloroethene 0.79 Not Detected 5.4	3.8
2-Hexanone 3.2 Not Detected 13	3.8 Not Detected



# Client Sample ID: V-5 Lab ID#: 1207367A-02A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j072320	Date of Collection: 7/18/12 10:17:00 AM
Dil. Factor:	1.58	Date of Analysis: 7/23/12 07:59 PM

	1100	2410	or randing order traes	12 01 100 1 111
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.79	Not Detected	6.7	Not Detected
1,2-Dibromoethane (EDB)	0.79	Not Detected	6.1	Not Detected
Chlorobenzene	0.79	Not Detected	3.6	Not Detected
Ethyl Benzene	0.79	Not Detected	3.4	Not Detected
m,p-Xylene	0.79	Not Detected	3.4	Not Detected
o-Xylene	0.79	Not Detected	3.4	Not Detected
Styrene	0.79	4.3	3.4	18
Bromoform	0.79	Not Detected	8.2	Not Detected
Cumene	0.79	Not Detected	3.9	Not Detected
1,1,2,2-Tetrachloroethane	0.79	Not Detected	5.4	Not Detected
Propylbenzene	0.79	Not Detected	3.9	Not Detected
4-Ethyltoluene	0.79	Not Detected	3.9	Not Detected
1,3,5-Trimethylbenzene	0.79	Not Detected	3.9	Not Detected
1,2,4-Trimethylbenzene	0.79	Not Detected	3.9	Not Detected
1,3-Dichlorobenzene	0.79	Not Detected	4.8	Not Detected
1,4-Dichlorobenzene	0.79	Not Detected	4.8	Not Detected
alpha-Chlorotoluene	0.79	Not Detected	4.1	Not Detected
1,2-Dichlorobenzene	0.79	Not Detected	4.7	Not Detected
1,2,4-Trichlorobenzene	3.2	Not Detected	23	Not Detected
Hexachlorobutadiene	3.2	Not Detected	34	Not Detected
Naphthalene	3.2	Not Detected	16	Not Detected

#### **Container Type: 1 Liter Summa Canister**

••		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	93	70-130	
1,2-Dichloroethane-d4	102	70-130	
4-Bromofluorobenzene	105	70-130	



cis-1,3-Dichloropropene

trans-1,3-Dichloropropene

4-Methyl-2-pentanone

1,1,2-Trichloroethane

Tetrachloroethene

2-Hexanone

Toluene

### Client Sample ID: V-4 Lab ID#: 1207367A-03A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: Dil. Factor:	j072321 1.58	Date of Collection: 7/18/12 10:50:00 Date of Analysis: 7/23/12 08:26 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.79	0.80	3.9	3.9
Freon 114	0.79	Not Detected	5.5	Not Detected
Chloromethane	7.9	Not Detected	16	Not Detected
Vinyl Chloride	0.79	Not Detected	2.0	Not Detected
1,3-Butadiene	0.79	Not Detected	1.7	Not Detected
Bromomethane	7.9	Not Detected	31	Not Detected
Chloroethane	3.2	Not Detected	8.3	Not Detected
Freon 11	0.79	Not Detected	4.4	Not Detected
Ethanol	3.2	Not Detected	6.0	Not Detected
Freon 113	0.79	Not Detected	6.0	Not Detected
1,1-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Acetone	7.9	50	19	120
2-Propanol	3.2	Not Detected	7.8	Not Detected
Carbon Disulfide	3.2	6.5	9.8	20
3-Chloropropene	3.2	Not Detected	9.9	Not Detected
Methylene Chloride	7.9	Not Detected	27	Not Detected
Methyl tert-butyl ether	0.79	Not Detected	2.8	Not Detected
trans-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Hexane	0.79	1.4	2.8	5.0
1,1-Dichloroethane	0.79	Not Detected	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.2	4.4	9.3	13
cis-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Tetrahydrofuran	0.79	Not Detected	2.3	Not Detected
Chloroform	0.79	Not Detected	3.8	Not Detected
1,1,1-Trichloroethane	0.79	Not Detected	4.3	Not Detected
Cyclohexane	0.79	2.2	2.7	7.5
Carbon Tetrachloride	0.79	Not Detected	5.0	Not Detected
2,2,4-Trimethylpentane	0.79	Not Detected	3.7	Not Detected
Benzene	0.79	Not Detected	2.5	Not Detected
1,2-Dichloroethane	0.79	Not Detected	3.2	Not Detected
Heptane	0.79	0.80	3.2	3.3
Trichloroethene	0.79	Not Detected	4.2	Not Detected
1,2-Dichloropropane	0.79	Not Detected	3.6	Not Detected
1,4-Dioxane	3.2	Not Detected	11	Not Detected
Bromodichloromethane	0.79	Not Detected	5.3	Not Detected

Not Detected

1.2

0.87

Not Detected

Not Detected

Not Detected

Not Detected

3.6

3.2

3.0

3.6

4.3

5.4

13

Not Detected

5.1

3.3

Not Detected

Not Detected

Not Detected

Not Detected

0.79

0.79

0.79

0.79

0.79

0.79

3.2



## Client Sample ID: V-4 Lab ID#: 1207367A-03A

#### EPA METHOD TO-15 GC/MS FULL SCAN

 File Name:
 j072321
 Date of Collection: 7/18/12 10:50:00 AM

 Dil. Factor:
 1.58
 Date of Analysis: 7/23/12 08:26 PM

J 1 4010	1.50	Dutc	Ol Allalysis. 1123	12 00.20 1 W
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.79	Not Detected	6.7	Not Detected
1,2-Dibromoethane (EDB)	0.79	Not Detected	6.1	Not Detected
Chlorobenzene	0.79	Not Detected	3.6	Not Detected
Ethyl Benzene	0.79	0.84	3.4	3.6
m,p-Xylene	0.79	Not Detected	3.4	Not Detected
o-Xylene	0.79	Not Detected	3.4	Not Detected
Styrene	0.79	6.6	3.4	28
Bromoform	0.79	Not Detected	8.2	Not Detected
Cumene	0.79	Not Detected	3.9	Not Detected
1,1,2,2-Tetrachloroethane	0.79	Not Detected	5.4	Not Detected
Propylbenzene	0.79	Not Detected	3.9	Not Detected
4-Ethyltoluene	0.79	Not Detected	3.9	Not Detected
1,3,5-Trimethylbenzene	0.79	Not Detected	3.9	Not Detected
1,2,4-Trimethylbenzene	0.79	Not Detected	3.9	Not Detected
1,3-Dichlorobenzene	0.79	Not Detected	4.8	Not Detected
1,4-Dichlorobenzene	0.79	Not Detected	4.8	Not Detected
alpha-Chlorotoluene	0.79	Not Detected	4.1	Not Detected
1,2-Dichlorobenzene	0.79	Not Detected	4.7	Not Detected
1,2,4-Trichlorobenzene	3.2	Not Detected	23	Not Detected
Hexachlorobutadiene	3.2	Not Detected	34	Not Detected
Naphthalene	3.2	Not Detected	16	Not Detected

#### Container Type: 1 Liter Summa Canister

••		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	96	70-130	
1,2-Dichloroethane-d4	101	70-130	
4-Bromofluorobenzene	104	70-130	



# Client Sample ID: V-2 Lab ID#: 1207367A-04A

File Name:	j072322	Date of Collection: 7/18/12 11:21:00 AM
Dil. Factor:	1.58	Date of Analysis: 7/23/12 08:59 PM

Dil. Factor:	1.58	Date of Analysis: 7/23/12 08:59 PM		
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.79	Not Detected	3.9	Not Detected
Freon 114	0.79	Not Detected	5.5	Not Detected
Chloromethane	7.9	Not Detected	16	Not Detected
Vinyl Chloride	0.79	Not Detected	2.0	Not Detected
1,3-Butadiene	0.79	Not Detected	1.7	Not Detected
Bromomethane	7.9	Not Detected	31	Not Detected
Chloroethane	3.2	Not Detected	8.3	Not Detected
Freon 11	0.79	Not Detected	4.4	Not Detected
Ethanol	3.2	19	6.0	36
Freon 113	0.79	Not Detected	6.0	Not Detected
1,1-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Acetone	7.9	40	19	96
2-Propanol	3.2	Not Detected	7.8	Not Detected
Carbon Disulfide	3.2	7.4	9.8	23
3-Chloropropene	3.2	Not Detected	9.9	Not Detected
Methylene Chloride	7.9	Not Detected	27	Not Detected
Methyl tert-butyl ether	0.79	Not Detected	2.8	Not Detected
trans-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Hexane	0.79	1.4	2.8	4.8
1,1-Dichloroethane	0.79	Not Detected	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.2	4.5	9.3	13
cis-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Tetrahydrofuran	0.79	Not Detected	2.3	Not Detected
Chloroform	0.79	Not Detected	3.8	Not Detected
1,1,1-Trichloroethane	0.79	Not Detected	4.3	Not Detected
Cyclohexane	0.79	Not Detected	2.7	Not Detected
Carbon Tetrachloride	0.79	Not Detected	5.0	Not Detected
2,2,4-Trimethylpentane	0.79	Not Detected	3.7	Not Detected
Benzene	0.79	Not Detected	2.5	Not Detected
1,2-Dichloroethane	0.79	Not Detected	3.2	Not Detected
Heptane	0.79	3.3	3.2	14
Trichloroethene	0.79	Not Detected	4.2	Not Detected
1,2-Dichloropropane	0.79	Not Detected	3.6	Not Detected
1,4-Dioxane	3.2	Not Detected	11	Not Detected
Bromodichloromethane	0.79	Not Detected	5.3	Not Detected
cis-1,3-Dichloropropene	0.79	Not Detected	3.6	Not Detected
4-Methyl-2-pentanone	0.79	2.2	3.2	9.0
Toluene	0.79	1.4	3.0	5.3
trans-1,3-Dichloropropene	0.79	Not Detected	3.6	Not Detected
1,1,2-Trichloroethane	0.79	Not Detected	4.3	Not Detected
Tetrachloroethene	0.79	Not Detected	5.4	Not Detected
2-Hexanone	3.2	Not Detected	13	Not Detected



## Client Sample ID: V-2 Lab ID#: 1207367A-04A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072322 Date of Collection: 7/18/12 11:21:00 AM
Dil. Factor: 1.58 Date of Analysis: 7/23/12 08:59 PM

Z 1 W. 4.4.1.1	1.50	Date	Ol Allalysis. 1120	12 00.00 1 10
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.79	Not Detected	6.7	Not Detected
1,2-Dibromoethane (EDB)	0.79	Not Detected	6.1	Not Detected
Chlorobenzene	0.79	Not Detected	3.6	Not Detected
Ethyl Benzene	0.79	1.4	3.4	5.9
m,p-Xylene	0.79	1.9	3.4	8.3
o-Xylene	0.79	0.85	3.4	3.7
Styrene	0.79	10	3.4	42
Bromoform	0.79	Not Detected	8.2	Not Detected
Cumene	0.79	Not Detected	3.9	Not Detected
1,1,2,2-Tetrachloroethane	0.79	Not Detected	5.4	Not Detected
Propylbenzene	0.79	Not Detected	3.9	Not Detected
4-Ethyltoluene	0.79	Not Detected	3.9	Not Detected
1,3,5-Trimethylbenzene	0.79	Not Detected	3.9	Not Detected
1,2,4-Trimethylbenzene	0.79	Not Detected	3.9	Not Detected
1,3-Dichlorobenzene	0.79	Not Detected	4.8	Not Detected
1,4-Dichlorobenzene	0.79	Not Detected	4.8	Not Detected
alpha-Chlorotoluene	0.79	Not Detected	4.1	Not Detected
1,2-Dichlorobenzene	0.79	Not Detected	4.7	Not Detected
1,2,4-Trichlorobenzene	3.2	Not Detected	23	Not Detected
Hexachlorobutadiene	3.2	Not Detected	34	Not Detected
Naphthalene	3.2	Not Detected	16	Not Detected

#### Container Type: 1 Liter Summa Canister

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	98	70-130	
1,2-Dichloroethane-d4	98	70-130	
4-Bromofluorobenzene	100	70-130	



# Client Sample ID: V-1 Lab ID#: 1207367A-05A

File Name:	j072323	Date of Collection: 7/18/12 12:01:00 PM
Dil. Factor:	1.58	Date of Analysis: 7/23/12 10:11 PM

Dil. Factor:	1.58	Date of Analysis: 7/23/12 10:11 PM		/12 10:11 PM
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.79	Not Detected	3.9	Not Detected
Freon 114	0.79	Not Detected	5.5	Not Detected
Chloromethane	7.9	Not Detected	16	Not Detected
Vinyl Chloride	0.79	Not Detected	2.0	Not Detected
1,3-Butadiene	0.79	Not Detected	1.7	Not Detected
Bromomethane	7.9	Not Detected	31	Not Detected
Chloroethane	3.2	Not Detected	8.3	Not Detected
Freon 11	0.79	Not Detected	4.4	Not Detected
Ethanol	3.2	Not Detected	6.0	Not Detected
Freon 113	0.79	Not Detected	6.0	Not Detected
1,1-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Acetone	7.9	97	19	230
2-Propanol	3.2	Not Detected	7.8	Not Detected
Carbon Disulfide	3.2	8.1	9.8	25
3-Chloropropene	3.2	Not Detected	9.9	Not Detected
Methylene Chloride	7.9	Not Detected	27	Not Detected
Methyl tert-butyl ether	0.79	Not Detected	2.8	Not Detected
trans-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Hexane	0.79	1.0	2.8	3.6
1,1-Dichloroethane	0.79	Not Detected	3.2	Not Detected
2-Butanone (Methyl Ethyl Ketone)	3.2	4.4	9.3	13
cis-1,2-Dichloroethene	0.79	Not Detected	3.1	Not Detected
Tetrahydrofuran	0.79	Not Detected	2.3	Not Detected
Chloroform	0.79	Not Detected	3.8	Not Detected
1,1,1-Trichloroethane	0.79	Not Detected	4.3	Not Detected
Cyclohexane	0.79	0.89	2.7	3.0
Carbon Tetrachloride	0.79	Not Detected	5.0	Not Detected
2,2,4-Trimethylpentane	0.79	Not Detected	3.7	Not Detected
Benzene	0.79	Not Detected	2.5	Not Detected
1,2-Dichloroethane	0.79	Not Detected	3.2	Not Detected
Heptane	0.79	0.96	3.2	3.9
Trichloroethene	0.79	Not Detected	4.2	Not Detected
1,2-Dichloropropane	0.79	Not Detected	3.6	Not Detected
1,4-Dioxane	3.2	Not Detected	11	Not Detected
Bromodichloromethane	0.79	Not Detected	5.3	Not Detected
cis-1,3-Dichloropropene	0.79	Not Detected	3.6	Not Detected
4-Methyl-2-pentanone	0.79	4.2	3.2	17
Toluene	0.79	1.4	3.0	5.4
trans-1,3-Dichloropropene	0.79	Not Detected	3.6	Not Detected
1,1,2-Trichloroethane	0.79	Not Detected	4.3	Not Detected
Tetrachloroethene	0.79	Not Detected	5.4	Not Detected
2-Hexanone	3.2	Not Detected	13	Not Detected



## Client Sample ID: V-1 Lab ID#: 1207367A-05A

#### EPA METHOD TO-15 GC/MS FULL SCAN

 File Name:
 j072323
 Date of Collection: 7/18/12 12:01:00 PM

 Dil. Factor:
 1.58
 Date of Analysis: 7/23/12 10:11 PM

J 1 4010	1.50	Date	Of Affaiysis. 1123	12 10.11111
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.79	Not Detected	6.7	Not Detected
1,2-Dibromoethane (EDB)	0.79	Not Detected	6.1	Not Detected
Chlorobenzene	0.79	Not Detected	3.6	Not Detected
Ethyl Benzene	0.79	0.81	3.4	3.5
m,p-Xylene	0.79	0.79	3.4	3.4
o-Xylene	0.79	Not Detected	3.4	Not Detected
Styrene	0.79	6.5	3.4	28
Bromoform	0.79	Not Detected	8.2	Not Detected
Cumene	0.79	Not Detected	3.9	Not Detected
1,1,2,2-Tetrachloroethane	0.79	Not Detected	5.4	Not Detected
Propylbenzene	0.79	Not Detected	3.9	Not Detected
4-Ethyltoluene	0.79	Not Detected	3.9	Not Detected
1,3,5-Trimethylbenzene	0.79	Not Detected	3.9	Not Detected
1,2,4-Trimethylbenzene	0.79	Not Detected	3.9	Not Detected
1,3-Dichlorobenzene	0.79	Not Detected	4.8	Not Detected
1,4-Dichlorobenzene	0.79	Not Detected	4.8	Not Detected
alpha-Chlorotoluene	0.79	Not Detected	4.1	Not Detected
1,2-Dichlorobenzene	0.79	Not Detected	4.7	Not Detected
1,2,4-Trichlorobenzene	3.2	Not Detected	23	Not Detected
Hexachlorobutadiene	3.2	Not Detected	34	Not Detected
Naphthalene	3.2	Not Detected	16	Not Detected

#### Container Type: 1 Liter Summa Canister

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	100	70-130	
1,2-Dichloroethane-d4	97	70-130	
4-Bromofluorobenzene	104	70-130	



# Client Sample ID: Trip Blank Lab ID#: 1207367A-06A

File Name:	j072111	Date of Collection: 7/18/12
Dil. Factor:	1.46	Date of Analysis: 7/21/12 05:35 PM

Dil. Factor:	1.46 Date of Analysis: 7/21/12 05:35		/12 05:35 PM	
	Rpt. Limit	Amount	Rpt. Limit	Amount
Compound	(ppbv)	(ppbv)	(ug/m3)	(ug/m3)
Freon 12	0.73	Not Detected	3.6	Not Detected
Freon 114	0.73	Not Detected	5.1	Not Detected
Chloromethane	7.3	Not Detected	15	Not Detected
Vinyl Chloride	0.73	Not Detected	1.9	Not Detected
1,3-Butadiene	0.73	Not Detected	1.6	Not Detected
Bromomethane	7.3	Not Detected	28	Not Detected
Chloroethane	2.9	Not Detected	7.7	Not Detected
Freon 11	0.73	Not Detected	4.1	Not Detected
Ethanol	2.9	Not Detected	5.5	Not Detected
Freon 113	0.73	Not Detected	5.6	Not Detected
1,1-Dichloroethene	0.73	Not Detected	2.9	Not Detected
Acetone	7.3	Not Detected	17	Not Detected
2-Propanol	2.9	Not Detected	7.2	Not Detected
Carbon Disulfide	2.9	Not Detected	9.1	Not Detected
3-Chloropropene	2.9	Not Detected	9.1	Not Detected
Methylene Chloride	7.3	Not Detected	25	Not Detected
Methyl tert-butyl ether	0.73	Not Detected	2.6	Not Detected
trans-1,2-Dichloroethene	0.73	Not Detected	2.9	Not Detected
Hexane	0.73	Not Detected	2.6	Not Detected
1,1-Dichloroethane	0.73	Not Detected	3.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.9	Not Detected	8.6	Not Detected
cis-1,2-Dichloroethene	0.73	Not Detected	2.9	Not Detected
Tetrahydrofuran	0.73	Not Detected	2.2	Not Detected
Chloroform	0.73	Not Detected	3.6	Not Detected
1,1,1-Trichloroethane	0.73	Not Detected	4.0	Not Detected
Cyclohexane	0.73	Not Detected	2.5	Not Detected
Carbon Tetrachloride	0.73	Not Detected	4.6	Not Detected
2,2,4-Trimethylpentane	0.73	Not Detected	3.4	Not Detected
Benzene	0.73	Not Detected	2.3	Not Detected
1,2-Dichloroethane	0.73	Not Detected	3.0	Not Detected
Heptane	0.73	Not Detected	3.0	Not Detected
Trichloroethene	0.73	Not Detected	3.9	Not Detected
1,2-Dichloropropane	0.73	Not Detected	3.4	Not Detected
1,4-Dioxane	2.9	Not Detected	10	Not Detected
Bromodichloromethane	0.73	Not Detected	4.9	Not Detected
cis-1,3-Dichloropropene	0.73	Not Detected	3.3	Not Detected
4-Methyl-2-pentanone	0.73	Not Detected	3.0	Not Detected
Toluene	0.73	Not Detected	2.8	Not Detected
trans-1,3-Dichloropropene	0.73	Not Detected	3.3	Not Detected
1,1,2-Trichloroethane	0.73	Not Detected	4.0	Not Detected
Tetrachloroethene	0.73	Not Detected	5.0	Not Detected
2-Hexanone	2.9	Not Detected	12	Not Detected



## Client Sample ID: Trip Blank Lab ID#: 1207367A-06A

#### EPA METHOD TO-15 GC/MS FULL SCAN

 File Name:
 j072111
 Date of Collection: 7/18/12

 Dil. Factor:
 1.46
 Date of Analysis: 7/21/12 05:35 PM

		Ol Milalyolo: 1/21/	
Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
0.73	Not Detected	6.2	Not Detected
0.73	Not Detected	5.6	Not Detected
0.73	Not Detected	3.4	Not Detected
0.73	Not Detected	3.2	Not Detected
0.73	Not Detected	3.2	Not Detected
0.73	Not Detected	3.2	Not Detected
0.73	Not Detected	3.1	Not Detected
0.73	Not Detected	7.5	Not Detected
0.73	Not Detected	3.6	Not Detected
0.73	Not Detected	5.0	Not Detected
0.73	Not Detected	3.6	Not Detected
0.73	Not Detected	3.6	Not Detected
0.73	Not Detected	3.6	Not Detected
0.73	Not Detected	3.6	Not Detected
0.73	Not Detected	4.4	Not Detected
0.73	Not Detected	4.4	Not Detected
0.73	Not Detected	3.8	Not Detected
0.73	Not Detected	4.4	Not Detected
2.9	Not Detected	22	Not Detected
2.9	Not Detected	31	Not Detected
2.9	Not Detected	15	Not Detected
	(ppbv)  0.73 0.73 0.73 0.73 0.73 0.73 0.73 0.7	(ppbv)         (ppbv)           0.73         Not Detected           0.73         Not Detected	Rpt. Limit (ppbv)         Amount (ppbv)         Rpt. Limit (ug/m3)           0.73         Not Detected         6.2           0.73         Not Detected         5.6           0.73         Not Detected         3.4           0.73         Not Detected         3.2           0.73         Not Detected         3.2           0.73         Not Detected         3.1           0.73         Not Detected         7.5           0.73         Not Detected         3.6           0.73         Not Detected         4.4           2.9         Not Detected         3.1

#### Container Type: 1 Liter Summa Canister

		Metnoa
Surrogates	%Recovery	Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	102	70-130
4-Bromofluorobenzene	96	70-130



# Client Sample ID: Lab Blank Lab ID#: 1207367A-07A

File Name: Dil. Factor:	j072108 1.00	Date of Collection: NA Date of Analysis: 7/21/12 02:57 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
2-Hexanone	2.0	Not Detected	8.2	Not Detected



# Client Sample ID: Lab Blank Lab ID#: 1207367A-07A

#### EPA METHOD TO-15 GC/MS FULL SCAN

	Dest. I leads	Assessed But Unit Assessed
Dil. Factor:	1.00	Date of Analysis: 7/21/12 02:57 PM
File Name:	j072108	Date of Collection: NA

Z : WO.CO	1.00	Date of Analysis. 1721/12 02:57 1 W		12 02.07 1 10
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	103	70-130	
1,2-Dichloroethane-d4	98	70-130	
4-Bromofluorobenzene	94	70-130	



## Client Sample ID: Lab Blank Lab ID#: 1207367A-07B

EPA METHOD TO-15 GC/MS FULL SCAN				
File Name: Dil. Factor:	j072310 1.00	Date of Collection: NA Date of Analysis: 7/23/12 12:44 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.50	Not Detected	3.5	Not Detected
Chloromethane	5.0	Not Detected	10	Not Detected
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
1,3-Butadiene	0.50	Not Detected	1.1	Not Detected
Bromomethane	5.0	Not Detected	19	Not Detected
Chloroethane	2.0	Not Detected	5.3	Not Detected
Freon 11	0.50	Not Detected	2.8	Not Detected
Ethanol	2.0	Not Detected	3.8	Not Detected
Freon 113	0.50	Not Detected	3.8	Not Detected
1,1-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Acetone	5.0	Not Detected	12	Not Detected
2-Propanol	2.0	Not Detected	4.9	Not Detected
Carbon Disulfide	2.0	Not Detected	6.2	Not Detected
3-Chloropropene	2.0	Not Detected	6.3	Not Detected
Methylene Chloride	5.0	Not Detected	17	Not Detected
Methyl tert-butyl ether	0.50	Not Detected	1.8	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Hexane	0.50	Not Detected	1.8	Not Detected
1,1-Dichloroethane	0.50	Not Detected	2.0	Not Detected
2-Butanone (Methyl Ethyl Ketone)	2.0	Not Detected	5.9	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.50	Not Detected	2.4	Not Detected
1,1,1-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Cyclohexane	0.50	Not Detected	1.7	Not Detected
Carbon Tetrachloride	0.50	Not Detected	3.1	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.50	Not Detected	1.6	Not Detected
1,2-Dichloroethane	0.50	Not Detected	2.0	Not Detected
Heptane	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
1,2-Dichloropropane	0.50	Not Detected	2.3	Not Detected
1,4-Dioxane	2.0	Not Detected	7.2	Not Detected
Bromodichloromethane	0.50	Not Detected	3.4	Not Detected
cis-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
4-Methyl-2-pentanone	0.50	Not Detected	2.0	Not Detected
Toluene	0.50	Not Detected	1.9	Not Detected
trans-1,3-Dichloropropene	0.50	Not Detected	2.3	Not Detected
1,1,2-Trichloroethane	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected



# Client Sample ID: Lab Blank Lab ID#: 1207367A-07B

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	j072310	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/23/12 12:44 PM

- m : wo.c.:	1.00	Date of Analysis. 1723/12 12:44 1 W		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.50	Not Detected	4.2	Not Detected
1,2-Dibromoethane (EDB)	0.50	Not Detected	3.8	Not Detected
Chlorobenzene	0.50	Not Detected	2.3	Not Detected
Ethyl Benzene	0.50	Not Detected	2.2	Not Detected
m,p-Xylene	0.50	Not Detected	2.2	Not Detected
o-Xylene	0.50	Not Detected	2.2	Not Detected
Styrene	0.50	Not Detected	2.1	Not Detected
Bromoform	0.50	Not Detected	5.2	Not Detected
Cumene	0.50	Not Detected	2.4	Not Detected
1,1,2,2-Tetrachloroethane	0.50	Not Detected	3.4	Not Detected
Propylbenzene	0.50	Not Detected	2.4	Not Detected
4-Ethyltoluene	0.50	Not Detected	2.4	Not Detected
1,3,5-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,2,4-Trimethylbenzene	0.50	Not Detected	2.4	Not Detected
1,3-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,4-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
alpha-Chlorotoluene	0.50	Not Detected	2.6	Not Detected
1,2-Dichlorobenzene	0.50	Not Detected	3.0	Not Detected
1,2,4-Trichlorobenzene	2.0	Not Detected	15	Not Detected
Hexachlorobutadiene	2.0	Not Detected	21	Not Detected
Naphthalene	2.0	Not Detected	10	Not Detected

<i>,</i>		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	96	70-130	
1,2-Dichloroethane-d4	103	70-130	
4-Bromofluorobenzene	98	70-130	



# Client Sample ID: CCV Lab ID#: 1207367A-08A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072102 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/21/12 12:03 PM

Compound	%Recovery
Freon 12	101
Freon 114	101
Chloromethane	92
Vinyl Chloride	99
1,3-Butadiene	99
Bromomethane	139 Q
Chloroethane	97
Freon 11	98
Ethanol	107
Freon 113	98
1,1-Dichloroethene	101
Acetone	102
2-Propanol	99
Carbon Disulfide	94
3-Chloropropene	97
Methylene Chloride	92
Methyl tert-butyl ether	96
trans-1,2-Dichloroethene	90
Hexane	98
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	96
cis-1,2-Dichloroethene	99
Tetrahydrofuran	105
Chloroform	98
1,1,1-Trichloroethane	97
Cyclohexane	104
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	102
Benzene	101
1,2-Dichloroethane	100
Heptane	101
Trichloroethene	95
1,2-Dichloropropane	99
1,4-Dioxane	108
Bromodichloromethane	99
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	100
Toluene	101
trans-1,3-Dichloropropene	102
1,1,2-Trichloroethane	98
Tetrachloroethene	94
2-Hexanone	95



## Client Sample ID: CCV Lab ID#: 1207367A-08A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072102 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/21/12 12:03 PM

Compound	%Recovery
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	100
Chlorobenzene	86
Ethyl Benzene	102
m,p-Xylene	102
o-Xylene	104
Styrene	101
Bromoform	102
Cumene	104
1,1,2,2-Tetrachloroethane	100
Propylbenzene	101
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	103
1,2,4-Trimethylbenzene	103
1,3-Dichlorobenzene	97
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	100
1,2,4-Trichlorobenzene	98
Hexachlorobutadiene	98
Naphthalene	93

#### Q = Exceeds Quality Control limits.

		Method
Surrogates	%Recovery	Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	99	70-130



# Client Sample ID: CCV Lab ID#: 1207367A-08B

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072302 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/23/12 07:40 AM

Compound	%Recovery
Freon 12	105
Freon 114	104
Chloromethane	100
Vinyl Chloride	101
1,3-Butadiene	101
Bromomethane	143 Q
Chloroethane	100
Freon 11	101
Ethanol	103
Freon 113	100
1,1-Dichloroethene	100
Acetone	107
2-Propanol	102
Carbon Disulfide	99
3-Chloropropene	105
Methylene Chloride	93
Methyl tert-butyl ether	101
trans-1,2-Dichloroethene	98
Hexane	100
1,1-Dichloroethane	105
2-Butanone (Methyl Ethyl Ketone)	95
cis-1,2-Dichloroethene	102
Tetrahydrofuran	102
Chloroform	102
1,1,1-Trichloroethane	98
Cyclohexane	104
Carbon Tetrachloride	100
2,2,4-Trimethylpentane	103
Benzene	99
1,2-Dichloroethane	100
Heptane	95
Trichloroethene	95
1,2-Dichloropropane	97
1,4-Dioxane	102
Bromodichloromethane	99
cis-1,3-Dichloropropene	101
4-Methyl-2-pentanone	97
Toluene	97
trans-1,3-Dichloropropene	102
1,1,2-Trichloroethane	97
Tetrachloroethene	93
2-Hexanone	97



## Client Sample ID: CCV Lab ID#: 1207367A-08B

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072302 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/23/12 07:40 AM

Compound	%Recovery
Dibromochloromethane	103
1,2-Dibromoethane (EDB)	101
Chlorobenzene	86
Ethyl Benzene	99
m,p-Xylene	102
o-Xylene	103
Styrene	101
Bromoform	101
Cumene	104
1,1,2,2-Tetrachloroethane	99
Propylbenzene	102
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	101
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	100
1,2,4-Trichlorobenzene	101
Hexachlorobutadiene	102
Naphthalene	94

### Q = Exceeds Quality Control limits.

Surrogates	%Recovery	Method Limits
Toluene-d8	97	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	100	70-130



# Client Sample ID: LCS Lab ID#: 1207367A-09A

## EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072103 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/21/12 12:41 PM

eon 12	112
eon 114	110
nloromethane	108
nyl Chloride	106
3-Butadiene	106
omomethane	149 Q
nloroethane	103
eon 11	106
hanol	103
eon 113	107
1-Dichloroethene	120
cetone	106
Propanol	110
arbon Disulfide	126
Chloropropene	115
ethylene Chloride	96
ethyl tert-butyl ether	104
ans-1,2-Dichloroethene	111
exane	105
1-Dichloroethane	109
Butanone (Methyl Ethyl Ketone)	102
s-1,2-Dichloroethene	99
etrahydrofuran	104
nloroform	104
1,1-Trichloroethane	106
vclohexane	108
arbon Tetrachloride	108
2,4-Trimethylpentane	105
enzene	103
2-Dichloroethane	106
eptane	101
ichloroethene	100
2-Dichloropropane	101
4-Dioxane	105
omodichloromethane	105
s-1,3-Dichloropropene	107
Methyl-2-pentanone	105
oluene	102
ans-1,3-Dichloropropene	104
1,2-Trichloroethane	100
etrachloroethene	94
Hexanone	101



## Client Sample ID: LCS Lab ID#: 1207367A-09A

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072103 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/21/12 12:41 PM

Compound	%Recovery
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	103
Chlorobenzene	89
Ethyl Benzene	103
m,p-Xylene	105
o-Xylene	106
Styrene	107
Bromoform	103
Cumene	108
1,1,2,2-Tetrachloroethane	104
Propylbenzene	106
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	105
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	101
1,2-Dichlorobenzene	103
1,2,4-Trichlorobenzene	91
Hexachlorobutadiene	94
Naphthalene	89

#### Q = Exceeds Quality Control limits.

		Method	
Surrogates	%Recovery	Limits	
Toluene-d8	102	70-130	
1,2-Dichloroethane-d4	105	70-130	
4-Bromofluorobenzene	101	70-130	



# Client Sample ID: LCSD Lab ID#: 1207367A-09AA

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072104 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/21/12 01:00 PM

Compound	%Recovery
Freon 12	102
Freon 114	100
Chloromethane	101
Vinyl Chloride	99
1,3-Butadiene	99
Bromomethane	139 Q
Chloroethane	97
Freon 11	102
Ethanol	103
Freon 113	101
1,1-Dichloroethene	109
Acetone	102
2-Propanol	105
Carbon Disulfide	121
3-Chloropropene	112
Methylene Chloride	95
Methyl tert-butyl ether	103
trans-1,2-Dichloroethene	111
Hexane	102
1,1-Dichloroethane	106
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	103
Tetrahydrofuran	102
Chloroform	103
1,1,1-Trichloroethane	102
Cyclohexane	108
Carbon Tetrachloride	105
2,2,4-Trimethylpentane	103
Benzene	103
1,2-Dichloroethane	103
Heptane	99
Trichloroethene	100
1,2-Dichloropropane	100
1,4-Dioxane	104
Bromodichloromethane	102
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	98
Toluene	101
trans-1,3-Dichloropropene	108
1,1,2-Trichloroethane	101
Tetrachloroethene	98
2-Hexanone	102



## Client Sample ID: LCSD Lab ID#: 1207367A-09AA

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072104 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/21/12 01:00 PM

Compound	%Recovery
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	107
Chlorobenzene	90
Ethyl Benzene	106
m,p-Xylene	109
o-Xylene	110
Styrene	110
Bromoform	104
Cumene	110
1,1,2,2-Tetrachloroethane	105
Propylbenzene	107
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	104
alpha-Chlorotoluene	101
1,2-Dichlorobenzene	105
1,2,4-Trichlorobenzene	103
Hexachlorobutadiene	103
Naphthalene	96

#### Q = Exceeds Quality Control limits.

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	104	70-130



# Client Sample ID: LCS Lab ID#: 1207367A-09B

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072304 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/23/12 10:01 AM

Compound	%Recovery
Freon 12	104
Freon 114	103
Chloromethane	101
Vinyl Chloride	99
1,3-Butadiene	100
Bromomethane	146 Q
Chloroethane	98
Freon 11	101
Ethanol	98
Freon 113	100
1,1-Dichloroethene	107
Acetone	101
2-Propanol	106
Carbon Disulfide	119
3-Chloropropene	118
Methylene Chloride	92
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	109
Hexane	102
1,1-Dichloroethane	106
2-Butanone (Methyl Ethyl Ketone)	92
cis-1,2-Dichloroethene	99
Tetrahydrofuran	102
Chloroform	102
1,1,1-Trichloroethane	101
Cyclohexane	107
Carbon Tetrachloride	107
2,2,4-Trimethylpentane	102
Benzene	105
1,2-Dichloroethane	104
Heptane	98
Trichloroethene	101
1,2-Dichloropropane	103
1,4-Dioxane	107
Bromodichloromethane	103
cis-1,3-Dichloropropene	105
4-Methyl-2-pentanone	100
Toluene	100
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	102
Tetrachloroethene	97
2-Hexanone	102



## Client Sample ID: LCS Lab ID#: 1207367A-09B

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072304 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/23/12 10:01 AM

Compound	%Recovery
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	106
Chlorobenzene	88
Ethyl Benzene	102
m,p-Xylene	106
o-Xylene	107
Styrene	107
Bromoform	104
Cumene	109
1,1,2,2-Tetrachloroethane	102
Propylbenzene	104
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	105
1,2,4-Trimethylbenzene	103
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	100
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	102
Hexachlorobutadiene	103
Naphthalene	94

### Q = Exceeds Quality Control limits.

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	100	70-130



# Client Sample ID: LCSD Lab ID#: 1207367A-09BB

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072306 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/23/12 10:53 AM

Compound	%Recovery
Freon 12	103
Freon 114	99
Chloromethane	105
Vinyl Chloride	97
1,3-Butadiene	99
Bromomethane	136 Q
Chloroethane	92
Freon 11	100
Ethanol	97
Freon 113	100
1,1-Dichloroethene	110
Acetone	96
2-Propanol	101
Carbon Disulfide	121
3-Chloropropene	112
Methylene Chloride	91
Methyl tert-butyl ether	99
trans-1,2-Dichloroethene	107
Hexane	100
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	99
Tetrahydrofuran	98
Chloroform	99
1,1,1-Trichloroethane	98
Cyclohexane	106
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	100
Benzene	102
1,2-Dichloroethane	102
Heptane	100
Trichloroethene	99
1,2-Dichloropropane	99
1,4-Dioxane	104
Bromodichloromethane	101
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	99
Toluene	100
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	100
Tetrachloroethene	97
2-Hexanone	100



## Client Sample ID: LCSD Lab ID#: 1207367A-09BB

#### EPA METHOD TO-15 GC/MS FULL SCAN

File Name: j072306 Date of Collection: NA
Dil. Factor: 1.00 Date of Analysis: 7/23/12 10:53 AM

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	102
Chlorobenzene	87
Ethyl Benzene	104
m,p-Xylene	105
o-Xylene	105
Styrene	108
Bromoform	102
Cumene	107
1,1,2,2-Tetrachloroethane	101
Propylbenzene	105
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	105
1,2,4-Trimethylbenzene	102
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	99
1,2-Dichlorobenzene	103
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	99
Naphthalene	91

#### Q = Exceeds Quality Control limits.

Surrogates	%Recovery	Method Limits
Toluene-d8	98	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	102	70-130