AKI K. NAKAO, Director

1401 LAKESIDE DRIVE, OAKLAND, CALIFORNIA 94612 510 208 9700 FAX 510 208 9711 www.acgov.org/gsa/

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 October 9, 2012, are true and correct to the best of my knowledge.

Aki K. Nakao
Director, General Services Agency

11/5/12
Date

Chris Bazar
Director, Community Development Agency

11-8-12
Date

CORNERSTONE EARTH GROUP

Type of Services	**Sub-Slab Vapor Quality Monitoring Report**
Location	**Ashland Youth Center** **16335 East 14th 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	**165-11-3**
Date	**October 9, 2012**

Prepared by **Peter M. Langtry, P.G.**
Principal Geologist

Kurt M. Soenen, P.E.
Principal Engineer
Quality Assurance Reviewer

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CORNERSTONE EARTH GROUP

Table of Contents

CORNERSTONE EARTH GROUP

Type of Services	**Sub-Slab Vapor Quality Monitoring Report**
Location	**Ashland Youth Center** **16335 East 14th Street** **San Lorenzo, California**

SECTION 1: INTRODUCTION

This report presents the results of the sub-slab 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 have been constructed. A tot-lot is planned adjacent to the northeast corner of the building, adjacent to East 14th 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 14th 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 and was approved for reuse at the Site by the Alameda County Health Services Agency. 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 2 of 5 soil samples collected from the base of the excavation and exceeded its residential ESL in one of the samples. At location VS-5 (8), located approximately 20 feet outside the building footprint, benzene was detected at a concentration of 0.65 parts per million (ppm). The residential ESL for benzene is 0.044 ppm and is based on soil leaching concerns; the direct exposure residential ESL is 0.12 ppm. For comparison, the residential Regional Screening Level (RSL) established by USEPA Region 9 is 1.1 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 in-place. 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 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 (at the approximate edge of the new building) on March 26 and 27, 2012 (Figure 2). The probes installed at an approximate depth of 5 feet and were sampled on a monthly basis for four consecutive months on April 6, May 4, June 6, and July 9, 2012. Water was present in the SV-2 vapor probe at the time of the April sampling event; no soil vapor sample was collected at this location at that time. Additional details regarding the probe installation and sampling are presented in the May 1, 2012 report prepared by Cornerstone (Cornerstone, 2012).

TPHg was detected in soil vapor probe SV-3 at estimated concentrations ranging from 1,200,000 µg/m^3 to 1,600,000 µg/m^3. The unrestricted ESL for TPHg is 10,000 µg/m^3. TPHg was detected above the laboratory reporting limit in samples collected from soil vapor probe SV-1 during 1 of 4 sampling events (290 µg/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 µg/m^3 detected in samples collected on May 4 and June 6, 2012) (Cornerstone, 2012).

Benzene was not detected in soil vapor samples collected from probe SV-1 and was detected in the SV-2 soil vapor samples ranging from 2.6 µg/m^3 to 6.3 µg/m^3. Benzene was detected in the soil vapor sample collected from probe SV-3 in April (200 µg/m^3) but was not detected in May, June or July; however, the June and July laboratory detection limits (up to 260 µg/m^3) exceeded the unrestricted CHHSL. The residential (unrestricted) CHHSL for benzene is 85 µg/m^3 (Cornerstone, 2012).

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 RSLs are established for some of the VOCs detected.

Oxygen concentrations detected in the soil vapor ranged from 1.5 percent to 15 percent and methane concentrations ranged from 0.00019 to 0.27 percent. In addition, carbon dioxide concentrations detected ranged from 0.78 to 6.0 percent (Cornerstone, 2012).

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 in an approximate 4 to 6 inch thick gravel bed and was connected to 4-inch cast iron ventilation risers that 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 sub-slab depressurization and vapor barrier system was designed to operate as a passive system but can be converted to active ventilation, if needed. 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 2.

1.4 VENT RISER VAPOR QUALITY EVALUATION – JULY 2012

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. At the time of the sampling, the vent risers extended approximately 1 to 2 feet above the concrete floor slab. On July 18, after allowing the ventilation risers to equilibrate with sub-slab soil vapor, sampling was performed by a California registered Professional Geologist. Sampling protocol is presented in the August 27, 2012 report (Cornerstone). Sub-slab vapor samples were analyzed for VOCs, TPHg, oxygen, methane and carbon dioxide.

Department of Toxic Substances Control (DTSC, 2011) vapor intrusion guidance suggests using sub-slab screening criterion that are 20 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 were compared to residential/unrestricted soil vapor ESLs or CHHSLs.

Analytical results of the July 2012 sampling are summarized in Tables 1 and 2 in the Data Tables section of this report. TPHg was detected in all five vent riser sub-slab soil vapor samples above their respective laboratory reporting levels at concentrations ranging from 840 µg/m^3 (V-5) to 3,300 µg/m^3 (V-2). The unrestricted soil vapor ESL for TPHg is 10,000 µg/m^3.

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 indicated an oxygenated, aerobic atmosphere within the vent risers and sub-slab ventilation conduits (Cornerstone, 2012), likely representative of conditions beneath the concrete slab and vapor barrier system.

1.5 PURPOSE

County Health issued letter on September 12, 2012 requesting an additional sampling of sub-slab vapor to confirm the initial analytical results prior to County Health's consideration of case closure. Therefore, the purpose of this work was to evaluate sub-slab soil vapor quality as requested by County Health.

1.6 SCOPE OF WORK

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

- Collection and laboratory analyses air 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 4.

SECTION 2: SUB-SLAB VAPOR SAMPLING

2.1 VENT RISER VAPOR SAMPLING

As requested by County Health, Cornerstone collected additional air samples from the five ventilation risers described in Section 1.3.

At the time of the sampling, the vent risers extended to the youth center building rooftop and had been sealed with 4-inch diameter rubber caps and secured with stainless steel band clamps. Sampling was performed on September 18, 2012 by a California registered Professional Geologist. Teflon tubing (¼-inch diameter) was inserted through the rubber vent

riser caps, extending 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 pump 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. A DryCal DC Lite vacuum pump was used to purge approximately one vent riser casing volume at each location prior to sampling. The volume of vapor removed was estimated by the calculated versus the calibrated pump rate of the vacuum pump. The purge volume was calculated based on the length and inner diameter of the vent riser pipe.

2.2 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 1 and 2 in the Tables section of this report. The laboratory analytical reports are presented in Appendix A.

2.3 DISCUSSION OF RESULTS

TPHg was detected in the five riser sub-slab soil vapor samples at concentrations ranging from 2,200 µg/m^3 to 7,200 µg/m^3. The unrestricted soil vapor ESL for TPHg is 10,000 µg/m^3. Detected TPHg concentrations in vent risers V-1 and V-2 (located on the west side of the building) were within range of concentrations detected during the July 2012 event. Concentrations in the other vent risers (located on the east side of the building) were greater than concentrations detected during the July sampling event. TPHg concentrations in the five vent riser samples collected during the July 18, 2012 sampling event ranged from 840 µg/m^3 (V-5) to 2,500 µg/m^3 (V-1).

Benzene was not detected in the vent riser vapor samples. Several VOCs, including toluene, ethylbenzene, and xylenes were detected in the ten vent riser vapor samples at concentrations below their respective unrestricted soil vapor CHHSLs. The detected VOC concentrations were comparable to the VOCs detected during the July 2012 sampling event.

Oxygen concentrations ranged between 15 to 21 percent. Methane was detected in two of five vent riser sub-slab soil vapor samples at concentrations between 0.00023 and 0.00025 percent. Carbon dioxide was detected in the five samples at concentrations ranging from 0.042 to 0.54 percent.

SECTION 3: CONCLUSIONS AND RECOMMENDATIONS

Laboratory analyses of air samples collected from the sub-slab ventilation system detected TPHg at concentrations (7,200 µg/m^3 maximum) significantly below concentrations previously detected soil vapor samples collected from vapor probe SV-3 (1,600,000 µg/m^3 maximum). In addition, benzene was not detected in the sub-slab vapor samples and none of the detected VOCs contained concentrations that exceeded their respective residential screening criteria.

Based on the analytical results, sub-slab vapor does not appear to be significantly impacted by the volatile constituents detected in subsurface soil vapor (from an approximate depth of 5 feet). In addition, the benzene that was previously detected in soil above the unrestricted ESL following the 2011 soil removal activities (sample VS-5; Figure 2) also does not appear to be significantly impacting sub-slab vapor quality. The sub-slab vapor barrier and passive depressurization system installed will help to significantly limit the potential for vapor intrusion into the on-Site building. Based on the soil vapor oxygen data, an aerobic biodegradation zone appears present below the sub-slab. 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 County Health consider no further action for the Site.

SECTION 4: 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 5: 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.

CalEPA, 2011. *Final Guidance or the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (Vapor Intrusion Guidance),* October 2011.

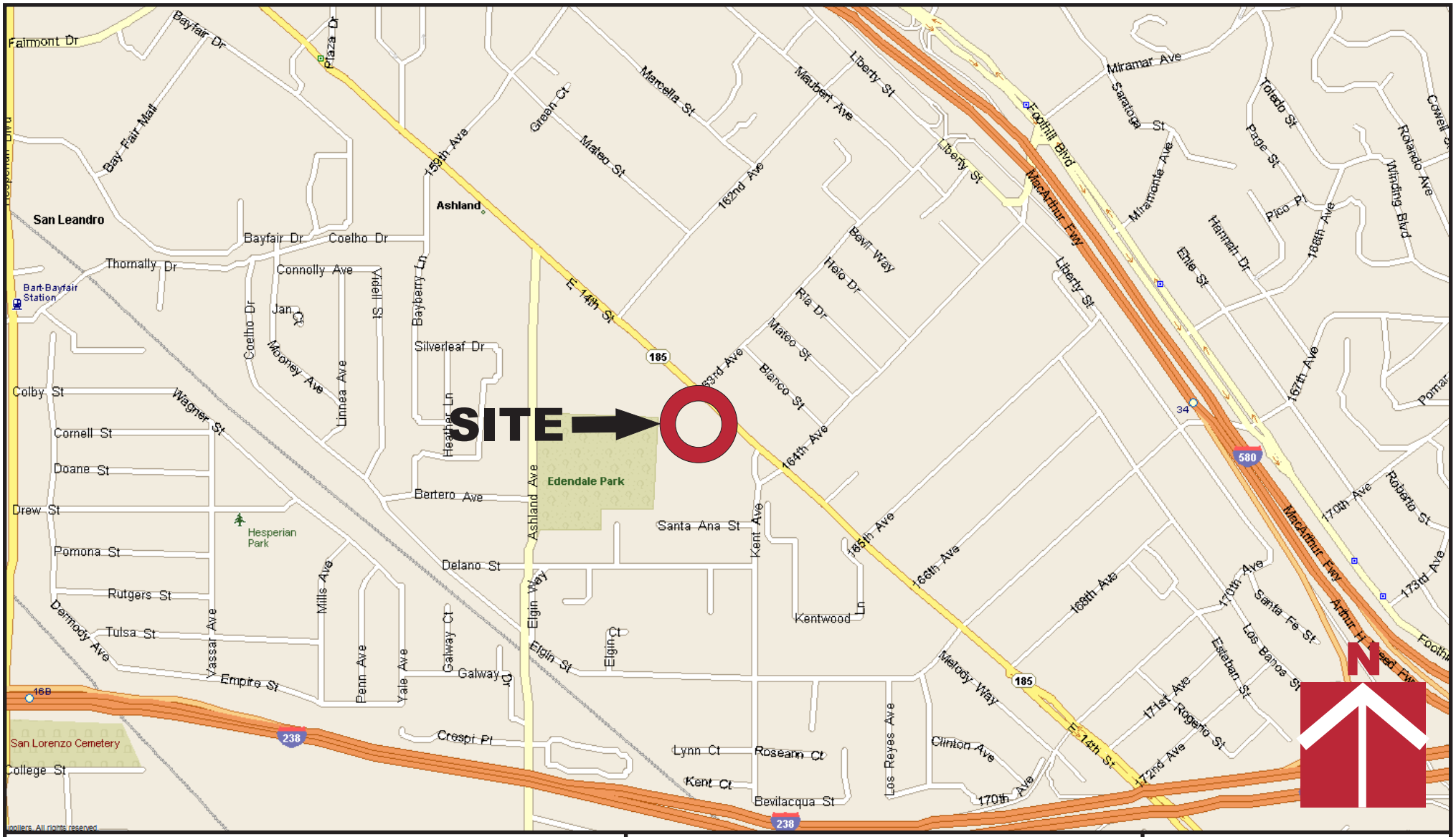
Cornerstone Earth Group. February 1, 2012. *Completion Report, Soil Removal Activities, Ashland Youth Center, 16335 East 14th Street, San Lorenzo, California*.

Cornerstone Earth Group. May 1, 2012. *Soil Vapor Probe Installation and Sampling Report, Ashland Youth Center, 16335 East 14th Street, San Lorenzo, California.*

Cornerstone Earth Group. August 27, 2012. *Soil Vapor Quality Monitoring Report, Ashland Youth Center, 16335 East 14th 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, http://www.waterboards.ca.gov/sanfranciscobay/esl.htm, updated May 2008.

USEPA, 2012. *Petroleum Hydrocarbons and Chlorinated Hydrocarbons Differ in Their Potential For Vapor Intrusion, March 2012.*



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Vicinity Map

Ashland Youth Center
16335 East 14th Street
San Lorenzo, CA

Project Number	165-11-2
Figure Number	Figure 1
Date	April 2012
Drawn By	RRN

EAST 14TH STREET
(STATE HIGHWAY 185)

CALTRANS R/W

PROPERTY LINE

YOUTH CENTER
FF=38.50
(SEE ARCHITECTURAL PLANS FOR ALL BUILDING DETAILS)

V-1
V-2
V-3
V-4
V-5

SV-1
SV-2
SV-3

VS-5

Approximate Site Boundary

Legend

- Approximate location of Soil Vapor Probe (SV)
- Approximate location of former soil sample VS-5
- Approximate location of vent riser

N

0 30 60
APPROXIMATE SCALE (FEET)

Project Number	165-11-3
Figure Number	Figure 2
Date	October 2012
Drawn By	RRN

Site Plan

Ashland Youth Center
16335 East 14th Street
San Lorenzo, CA

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ANALYTICAL DATA SUMMARY TABLES

Ashland Youth Center
San Lorenzo, California
165-11-2

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Table 1. Analytical Results of Selected Vent Riser Samples

(Concentrations in µg/m^3)

Sample Location	Date	TPHg	Benzene	Freon-12	Ethanol	Acetone	2-Propanol	Carbon Disulfide	Hexane	2-Butonone (Methyl Ethyl Ketone)	Cyclohexane	Heptane	4-Methyl-2-penatone	Toulene	2-Hexanone	Ethyl Benzene	m,p-Xylene	o-Xylene	Styrene	Cumene	4-Ethyltoluene
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	<13	3.5	3.4	<3.4	28	<3.9	<3.9
	9/18/2012	2,200	<38	<5.9	<9.0	79	<12	85	6.7	<14	<4.1	<4.9	<4.9	<4.5	<19	<5.2	<5.2	<5.2	<5.1	<5.8	5.9
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	<13	5.9	8.3	3.7	42	<3.9	<3.9
	9/18/2012	3,800	<3.6	<5.7	<8.6	<27	<11	240	6.9	<14	4.1	<4.7	5	9.1	<19	<5.0	11	<5.0	11	<5.6	<5.6
V-3	7/18/2012	2,200	<2.5	160	<5.8	160	10	56	3	12	4.9	<3.2	18	7	<13	16	4.8	<3.4	140	7.3	<3.8
	9/18/2012	5,000	<3.7	<5.8	<8.8	880	22	190	8.4	45	4.6	7.7	24	4.4	38	13	19	12	75	<5.7	<5.7
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	<13	3.6	<3.4	<3.4	28	<3.9	<3.9
	9/18/2012	7,200	<3.6	<5.5	11	80	<11	92	5.7	<13	5	5	6.2	5.9	<18	<4.9	<4.9	<4.9	16	15	<5.5
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	<13	<3.4	<3.4	<3.4	18	<3.9	<3.9
	9/18/2012	5,000	<3.8	<5.9	<9.0	46	<12	110	11	<14	4.1	8.7	<4.9	8.9	<19	6.5	26	9.9	9.5	<12	<5.8
Residential Soil Vapor CHHSL[1]		10,000 [2]	85	NE	NE	660,000 [2]	NE	NE	NE	NE	NE	NE	NE	320,000	NE	1,100	850,000	740,000	190,000	NE	NE

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

NE Not Established

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Table 2. Analytical Results of Selected Vent Riser Vapor Samples - Oxygen, Methane, and Carbon

(Concentrations in %)

Sample Location	Date	Oxygen	Methane	Carbon Dioxide
V-1	7/18/2012	21	<0.00022	0.073
	9/18/2012	21	<0.00024	0.042
V-2	7/18/2012	20	<0.00022	0.075
	9/18/2012	15	<0.00023	0.023
V-3	7/18/2012	21	0.00031	0.039
	9/18/2012	20	<0.00023	0.074
V-4	7/18/2012	20	0.00022	0.047
	9/18/2012	20	0.00023	0.12
V-5	7/18/2012	21	0.00024	0.052
	9/18/2012	18	0.00025	0.097

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APPENDIX A – LABORATORY ANALYTICAL REPORTS

eurofins | Air Toxics

9/26/2012

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 #: 1209366A

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 9/19/2012 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

eurofins | Air Toxics

WORK ORDER #: 1209366A

Work Order Summary

CLIENT:	Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable Cornerstone Earth Group 1259 Oakmead Parkway Sunnyvale, CA 94085
PHONE:	925-988-9500	**P.O. #**	
FAX:		**PROJECT #**	165-11-2 Ashland Youth Center
DATE RECEIVED:	09/19/2012	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	09/26/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	V-1	Modified TO-15	4.5 "Hg	15 psi
02A	V-2	Modified TO-15	3.5 "Hg	15 psi
03A	V-3	Modified TO-15	4.0 "Hg	15 psi
04A	V-4	Modified TO-15	3.0 "Hg	15 psi
05A	V-5	Modified TO-15	4.5 "Hg	15 psi
06A	Trip Blank	Modified TO-15	29.5 "Hg	15 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

CERTIFIED BY: Heidi Mayo DATE: 09/26/12

Technical Director

Certfication 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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
Cornerstone Earth Group
Workorder# 1209366A

Six 1 Liter Summa Canister samples were received on September 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

The reported result for 4-Ethyltoluene in sample V-1 may be biased high due to co-elution with a non target compound with similar characteristic ions. Both the primary and secondary ion for 4-Ethyltoluene exhibited potential interference.

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

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

Client Sample ID: V-1

Lab ID#: 1209366A-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	12	33	28	79
Carbon Disulfide	4.8	27	15	85
Hexane	1.2	1.9	4.2	6.7
4-Ethyltoluene	1.2	1.2	5.8	5.9

Client Sample ID: V-2

Lab ID#: 1209366A-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Carbon Disulfide	4.6	77	14	240
Hexane	1.1	2.0	4.0	6.9
Cyclohexane	1.1	1.2	3.9	4.1
4-Methyl-2-pentanone	1.1	1.2	4.7	5.0
Toluene	1.1	2.4	4.3	9.1
m,p-Xylene	1.1	2.5	5.0	11
Styrene	1.1	2.6	4.9	11

Client Sample ID: V-3

Lab ID#: 1209366A-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	12	370	28	880
2-Propanol	4.7	8.9	11	22
Carbon Disulfide	4.7	61	14	190
Hexane	1.2	2.4	4.1	8.4
2-Butanone (Methyl Ethyl Ketone)	4.7	15	14	45
Cyclohexane	1.2	1.3	4.0	4.6
Heptane	1.2	1.9	4.8	7.7
4-Methyl-2-pentanone	1.2	5.8	4.8	24
Toluene	1.2	1.2	4.4	4.4
2-Hexanone	4.7	9.4	19	38
Ethyl Benzene	1.2	3.0	5.0	13
m,p-Xylene	1.2	4.5	5.0	19

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

Client Sample ID: V-3

Lab ID#: 1209366A-03A

o-Xylene	1.2	2.8	5.0	12
Styrene	1.2	18	5.0	75

Client Sample ID: V-4

Lab ID#: 1209366A-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	4.5	6.0	8.4	11
Acetone	11	34	27	80
Carbon Disulfide	4.5	29	14	92
Hexane	1.1	1.6	3.9	5.7
Cyclohexane	1.1	1.5	3.8	5.0
Heptane	1.1	1.2	4.6	5.0
4-Methyl-2-pentanone	1.1	1.5	4.6	6.2
Toluene	1.1	1.6	4.2	5.9
Styrene	1.1	3.7	4.8	16
Cumene	1.1	3.1	5.5	15

Client Sample ID: V-5

Lab ID#: 1209366A-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Acetone	12	19	28	46
Carbon Disulfide	4.8	36	15	110
Hexane	1.2	3.1	4.2	11
Cyclohexane	1.2	1.2	4.1	4.1
Heptane	1.2	2.1	4.9	8.7
Toluene	1.2	2.4	4.5	8.9
Ethyl Benzene	1.2	1.5	5.2	6.5
m,p-Xylene	1.2	6.0	5.2	26
o-Xylene	1.2	2.3	5.2	9.9
Styrene	1.2	2.2	5.1	9.5

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

Client Sample ID: Trip Blank

Lab ID#: 1209366A-06A

No Detections Were Found.

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Client Sample ID: V-1

Lab ID#: 1209366A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092120**	**Date of Collection:**	**9/18/12 2:48:00 AM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**9/22/12 07:35 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.9	Not Detected
Freon 114	1.2	Not Detected	8.3	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	46	Not Detected
Chloroethane	4.8	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.7	Not Detected
Ethanol	4.8	Not Detected	9.0	Not Detected
Freon 113	1.2	Not Detected	9.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Acetone	12	33	28	79
2-Propanol	4.8	Not Detected	12	Not Detected
Carbon Disulfide	4.8	27	15	85
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.3	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Hexane	1.2	1.9	4.2	6.7
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.8	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.5	Not Detected
Chloroform	1.2	Not Detected	5.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Cyclohexane	1.2	Not Detected	4.1	Not Detected
Carbon Tetrachloride	1.2	Not Detected	7.5	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.6	Not Detected
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Heptane	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	Not Detected	6.4	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.5	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	8.0	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.9	Not Detected
Toluene	1.2	Not Detected	4.5	Not Detected
trans-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	Not Detected	8.1	Not Detected
2-Hexanone	4.8	Not Detected	19	Not Detected

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Client Sample ID: V-1

Lab ID#: 1209366A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092120**	**Date of Collection:**	**9/18/12 2:48:00 AM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**9/22/12 07:35 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.1	Not Detected
Chlorobenzene	1.2	Not Detected	5.5	Not Detected
Ethyl Benzene	1.2	Not Detected	5.2	Not Detected
m,p-Xylene	1.2	Not Detected	5.2	Not Detected
o-Xylene	1.2	Not Detected	5.2	Not Detected
Styrene	1.2	Not Detected	5.1	Not Detected
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.8	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.2	Not Detected
Propylbenzene	1.2	Not Detected	5.8	Not Detected
4-Ethyltoluene	1.2	1.2	5.8	5.9
1,3,5-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.2	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,2,4-Trichlorobenzene	4.8	Not Detected	35	Not Detected
Hexachlorobutadiene	4.8	Not Detected	51	Not Detected
Naphthalene	4.8	Not Detected	25	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	103	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: V-2

Lab ID#: 1209366A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092121**	**Date of Collection:**	**9/18/12 3:12:00 AM**
Dil. Factor:	**2.29**	**Date of Analysis:**	**9/22/12 08:01 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.7	Not Detected
Freon 114	1.1	Not Detected	8.0	Not Detected
Chloromethane	11	Not Detected	24	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,3-Butadiene	1.1	Not Detected	2.5	Not Detected
Bromomethane	11	Not Detected	44	Not Detected
Chloroethane	4.6	Not Detected	12	Not Detected
Freon 11	1.1	Not Detected	6.4	Not Detected
Ethanol	4.6	Not Detected	8.6	Not Detected
Freon 113	1.1	Not Detected	8.8	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Acetone	11	Not Detected	27	Not Detected
2-Propanol	4.6	Not Detected	11	Not Detected
Carbon Disulfide	4.6	77	14	240
3-Chloropropene	4.6	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	40	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.1	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Hexane	1.1	2.0	4.0	6.9
1,1-Dichloroethane	1.1	Not Detected	4.6	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.6	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.5	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.4	Not Detected
Chloroform	1.1	Not Detected	5.6	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Cyclohexane	1.1	1.2	3.9	4.1
Carbon Tetrachloride	1.1	Not Detected	7.2	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.3	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.6	Not Detected
Heptane	1.1	Not Detected	4.7	Not Detected
Trichloroethene	1.1	Not Detected	6.2	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.3	Not Detected
1,4-Dioxane	4.6	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.7	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected
4-Methyl-2-pentanone	1.1	1.2	4.7	5.0
Toluene	1.1	2.4	4.3	9.1
trans-1,3-Dichloropropene	1.1	Not Detected	5.2	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.2	Not Detected
Tetrachloroethene	1.1	Not Detected	7.8	Not Detected
2-Hexanone	4.6	Not Detected	19	Not Detected

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Client Sample ID: V-2

Lab ID#: 1209366A-02A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092121**	**Date of Collection:**	**9/18/12 3:12:00 AM**
Dil. Factor:	**2.29**	**Date of Analysis:**	**9/22/12 08:01 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.1	Not Detected	9.8	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.8	Not Detected
Chlorobenzene	1.1	Not Detected	5.3	Not Detected
Ethyl Benzene	1.1	Not Detected	5.0	Not Detected
m,p-Xylene	1.1	2.5	5.0	11
o-Xylene	1.1	Not Detected	5.0	Not Detected
Styrene	1.1	2.6	4.9	11
Bromoform	1.1	Not Detected	12	Not Detected
Cumene	1.1	Not Detected	5.6	Not Detected
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.9	Not Detected
Propylbenzene	1.1	Not Detected	5.6	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.6	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.6	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.6	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.9	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.9	Not Detected
1,2,4-Trichlorobenzene	4.6	Not Detected	34	Not Detected
Hexachlorobutadiene	4.6	Not Detected	49	Not Detected
Naphthalene	4.6	Not Detected	24	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: V-3

Lab ID#: 1209366A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092122**	**Date of Collection:**	**9/18/12 3:38:00 AM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**9/22/12 08:32 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.8	Not Detected
Freon 114	1.2	Not Detected	8.1	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	45	Not Detected
Chloroethane	4.7	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.5	Not Detected
Ethanol	4.7	Not Detected	8.8	Not Detected
Freon 113	1.2	Not Detected	8.9	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Acetone	12	370	28	880
2-Propanol	4.7	8.9	11	22
Carbon Disulfide	4.7	61	14	190
3-Chloropropene	4.7	Not Detected	14	Not Detected
Methylene Chloride	12	Not Detected	40	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.2	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Hexane	1.2	2.4	4.1	8.4
1,1-Dichloroethane	1.2	Not Detected	4.7	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.7	15	14	45
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.4	Not Detected
Chloroform	1.2	Not Detected	5.7	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Cyclohexane	1.2	1.3	4.0	4.6
Carbon Tetrachloride	1.2	Not Detected	7.3	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.4	Not Detected
Benzene	1.2	Not Detected	3.7	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.7	Not Detected
Heptane	1.2	1.9	4.8	7.7
Trichloroethene	1.2	Not Detected	6.3	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.4	Not Detected
1,4-Dioxane	4.7	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	7.8	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
4-Methyl-2-pentanone	1.2	5.8	4.8	24
Toluene	1.2	1.2	4.4	4.4
trans-1,3-Dichloropropene	1.2	Not Detected	5.3	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.4	Not Detected
Tetrachloroethene	1.2	Not Detected	7.9	Not Detected
2-Hexanone	4.7	9.4	19	38

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Client Sample ID: V-3

Lab ID#: 1209366A-03A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092122**	**Date of Collection:**	**9/18/12 3:38:00 AM**
Dil. Factor:	**2.33**	**Date of Analysis:**	**9/22/12 08:32 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	9.9	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.0	Not Detected
Chlorobenzene	1.2	Not Detected	5.4	Not Detected
Ethyl Benzene	1.2	3.0	5.0	13
m,p-Xylene	1.2	4.5	5.0	19
o-Xylene	1.2	2.8	5.0	12
Styrene	1.2	18	5.0	75
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.7	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.0	Not Detected
Propylbenzene	1.2	Not Detected	5.7	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.7	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.7	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.0	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.0	Not Detected
1,2,4-Trichlorobenzene	4.7	Not Detected	34	Not Detected
Hexachlorobutadiene	4.7	Not Detected	50	Not Detected
Naphthalene	4.7	Not Detected	24	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: V-4

Lab ID#: 1209366A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092123**	**Date of Collection:**	**9/18/12 4:24:00 AM**
Dil. Factor:	**2.24**	**Date of Analysis:**	**9/22/12 08:58 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.1	Not Detected	5.5	Not Detected
Freon 114	1.1	Not Detected	7.8	Not Detected
Chloromethane	11	Not Detected	23	Not Detected
Vinyl Chloride	1.1	Not Detected	2.9	Not Detected
1,3-Butadiene	1.1	Not Detected	2.5	Not Detected
Bromomethane	11	Not Detected	43	Not Detected
Chloroethane	4.5	Not Detected	12	Not Detected
Freon 11	1.1	Not Detected	6.3	Not Detected
Ethanol	4.5	6.0	8.4	11
Freon 113	1.1	Not Detected	8.6	Not Detected
1,1-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Acetone	11	34	27	80
2-Propanol	4.5	Not Detected	11	Not Detected
Carbon Disulfide	4.5	29	14	92
3-Chloropropene	4.5	Not Detected	14	Not Detected
Methylene Chloride	11	Not Detected	39	Not Detected
Methyl tert-butyl ether	1.1	Not Detected	4.0	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Hexane	1.1	1.6	3.9	5.7
1,1-Dichloroethane	1.1	Not Detected	4.5	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.5	Not Detected	13	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.4	Not Detected
Tetrahydrofuran	1.1	Not Detected	3.3	Not Detected
Chloroform	1.1	Not Detected	5.5	Not Detected
1,1,1-Trichloroethane	1.1	Not Detected	6.1	Not Detected
Cyclohexane	1.1	1.5	3.8	5.0
Carbon Tetrachloride	1.1	Not Detected	7.0	Not Detected
2,2,4-Trimethylpentane	1.1	Not Detected	5.2	Not Detected
Benzene	1.1	Not Detected	3.6	Not Detected
1,2-Dichloroethane	1.1	Not Detected	4.5	Not Detected
Heptane	1.1	1.2	4.6	5.0
Trichloroethene	1.1	Not Detected	6.0	Not Detected
1,2-Dichloropropane	1.1	Not Detected	5.2	Not Detected
1,4-Dioxane	4.5	Not Detected	16	Not Detected
Bromodichloromethane	1.1	Not Detected	7.5	Not Detected
cis-1,3-Dichloropropene	1.1	Not Detected	5.1	Not Detected
4-Methyl-2-pentanone	1.1	1.5	4.6	6.2
Toluene	1.1	1.6	4.2	5.9
trans-1,3-Dichloropropene	1.1	Not Detected	5.1	Not Detected
1,1,2-Trichloroethane	1.1	Not Detected	6.1	Not Detected
Tetrachloroethene	1.1	Not Detected	7.6	Not Detected
2-Hexanone	4.5	Not Detected	18	Not Detected

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Client Sample ID: V-4

Lab ID#: 1209366A-04A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092123**	**Date of Collection:**	**9/18/12 4:24:00 AM**
Dil. Factor:	**2.24**	**Date of Analysis:**	**9/22/12 08:58 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.1	Not Detected	9.5	Not Detected
1,2-Dibromoethane (EDB)	1.1	Not Detected	8.6	Not Detected
Chlorobenzene	1.1	Not Detected	5.2	Not Detected
Ethyl Benzene	1.1	Not Detected	4.9	Not Detected
m,p-Xylene	1.1	Not Detected	4.9	Not Detected
o-Xylene	1.1	Not Detected	4.9	Not Detected
Styrene	1.1	3.7	4.8	16
Bromoform	1.1	Not Detected	12	Not Detected
Cumene	1.1	3.1	5.5	15
1,1,2,2-Tetrachloroethane	1.1	Not Detected	7.7	Not Detected
Propylbenzene	1.1	Not Detected	5.5	Not Detected
4-Ethyltoluene	1.1	Not Detected	5.5	Not Detected
1,3,5-Trimethylbenzene	1.1	Not Detected	5.5	Not Detected
1,2,4-Trimethylbenzene	1.1	Not Detected	5.5	Not Detected
1,3-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
1,4-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
alpha-Chlorotoluene	1.1	Not Detected	5.8	Not Detected
1,2-Dichlorobenzene	1.1	Not Detected	6.7	Not Detected
1,2,4-Trichlorobenzene	4.5	Not Detected	33	Not Detected
Hexachlorobutadiene	4.5	Not Detected	48	Not Detected
Naphthalene	4.5	Not Detected	23	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: V-5

Lab ID#: 1209366A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092124**	**Date of Collection:**	**9/18/12 4:14:00 AM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**9/22/12 09:23 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.2	Not Detected	5.9	Not Detected
Freon 114	1.2	Not Detected	8.3	Not Detected
Chloromethane	12	Not Detected	24	Not Detected
Vinyl Chloride	1.2	Not Detected	3.0	Not Detected
1,3-Butadiene	1.2	Not Detected	2.6	Not Detected
Bromomethane	12	Not Detected	46	Not Detected
Chloroethane	4.8	Not Detected	12	Not Detected
Freon 11	1.2	Not Detected	6.7	Not Detected
Ethanol	4.8	Not Detected	9.0	Not Detected
Freon 113	1.2	Not Detected	9.1	Not Detected
1,1-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Acetone	12	19	28	46
2-Propanol	4.8	Not Detected	12	Not Detected
Carbon Disulfide	4.8	36	15	110
3-Chloropropene	4.8	Not Detected	15	Not Detected
Methylene Chloride	12	Not Detected	41	Not Detected
Methyl tert-butyl ether	1.2	Not Detected	4.3	Not Detected
trans-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Hexane	1.2	3.1	4.2	11
1,1-Dichloroethane	1.2	Not Detected	4.8	Not Detected
2-Butanone (Methyl Ethyl Ketone)	4.8	Not Detected	14	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.7	Not Detected
Tetrahydrofuran	1.2	Not Detected	3.5	Not Detected
Chloroform	1.2	Not Detected	5.8	Not Detected
1,1,1-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Cyclohexane	1.2	1.2	4.1	4.1
Carbon Tetrachloride	1.2	Not Detected	7.5	Not Detected
2,2,4-Trimethylpentane	1.2	Not Detected	5.6	Not Detected
Benzene	1.2	Not Detected	3.8	Not Detected
1,2-Dichloroethane	1.2	Not Detected	4.8	Not Detected
Heptane	1.2	2.1	4.9	8.7
Trichloroethene	1.2	Not Detected	6.4	Not Detected
1,2-Dichloropropane	1.2	Not Detected	5.5	Not Detected
1,4-Dioxane	4.8	Not Detected	17	Not Detected
Bromodichloromethane	1.2	Not Detected	8.0	Not Detected
cis-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
4-Methyl-2-pentanone	1.2	Not Detected	4.9	Not Detected
Toluene	1.2	2.4	4.5	8.9
trans-1,3-Dichloropropene	1.2	Not Detected	5.4	Not Detected
1,1,2-Trichloroethane	1.2	Not Detected	6.5	Not Detected
Tetrachloroethene	1.2	Not Detected	8.1	Not Detected
2-Hexanone	4.8	Not Detected	19	Not Detected

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Client Sample ID: V-5

Lab ID#: 1209366A-05A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092124**	**Date of Collection:**	**9/18/12 4:14:00 AM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**9/22/12 09:23 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	1.2	Not Detected	10	Not Detected
1,2-Dibromoethane (EDB)	1.2	Not Detected	9.1	Not Detected
Chlorobenzene	1.2	Not Detected	5.5	Not Detected
Ethyl Benzene	1.2	1.5	5.2	6.5
m,p-Xylene	1.2	6.0	5.2	26
o-Xylene	1.2	2.3	5.2	9.9
Styrene	1.2	2.2	5.1	9.5
Bromoform	1.2	Not Detected	12	Not Detected
Cumene	1.2	Not Detected	5.8	Not Detected
1,1,2,2-Tetrachloroethane	1.2	Not Detected	8.2	Not Detected
Propylbenzene	1.2	Not Detected	5.8	Not Detected
4-Ethyltoluene	1.2	Not Detected	5.8	Not Detected
1,3,5-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,2,4-Trimethylbenzene	1.2	Not Detected	5.8	Not Detected
1,3-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,4-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
alpha-Chlorotoluene	1.2	Not Detected	6.2	Not Detected
1,2-Dichlorobenzene	1.2	Not Detected	7.2	Not Detected
1,2,4-Trichlorobenzene	4.8	Not Detected	35	Not Detected
Hexachlorobutadiene	4.8	Not Detected	51	Not Detected
Naphthalene	4.8	Not Detected	25	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	102	70-130
1,2-Dichloroethane-d4	96	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Trip Blank

Lab ID#: 1209366A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092207**	**Date of Collection:**	**9/18/12**
Dil. Factor:	**1.00**	**Date of Analysis:**	**9/22/12 03:03 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

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Client Sample ID: Trip Blank

Lab ID#: 1209366A-06A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092207**	**Date of Collection: 9/18/12**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/22/12 03:03 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
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

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1209366A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092107**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 01:01 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

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Client Sample ID: Lab Blank

Lab ID#: 1209366A-07A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092107**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 01:01 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
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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	97	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1209366A-07B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092206**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/22/12 02:13 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

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Client Sample ID: Lab Blank

Lab ID#: 1209366A-07B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092206**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/22/12 02:13 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
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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	99	70-130
1,2-Dichloroethane-d4	97	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: CCV

Lab ID#: 1209366A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 10:15 AM**	

Compound	%Recovery
Freon 12	97
Freon 114	97
Chloromethane	89
Vinyl Chloride	94
1,3-Butadiene	79
Bromomethane	108
Chloroethane	95
Freon 11	97
Ethanol	94
Freon 113	96
1,1-Dichloroethene	100
Acetone	97
2-Propanol	95
Carbon Disulfide	98
3-Chloropropene	97
Methylene Chloride	94
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	97
Hexane	98
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	100
Tetrahydrofuran	94
Chloroform	95
1,1,1-Trichloroethane	96
Cyclohexane	97
Carbon Tetrachloride	94
2,2,4-Trimethylpentane	94
Benzene	96
1,2-Dichloroethane	96
Heptane	100
Trichloroethene	94
1,2-Dichloropropane	94
1,4-Dioxane	85
Bromodichloromethane	96
cis-1,3-Dichloropropene	97
4-Methyl-2-pentanone	101
Toluene	98
trans-1,3-Dichloropropene	96
1,1,2-Trichloroethane	93
Tetrachloroethene	94
2-Hexanone	101

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Client Sample ID: CCV

Lab ID#: 1209366A-08A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 10:15 AM**	

Compound	%Recovery
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	94
Chlorobenzene	94
Ethyl Benzene	95
m,p-Xylene	98
o-Xylene	98
Styrene	99
Bromoform	97
Cumene	97
1,1,2,2-Tetrachloroethane	92
Propylbenzene	96
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	101
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	95
Hexachlorobutadiene	90
Naphthalene	95

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	105	70-130
1,2-Dichloroethane-d4	103	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: CCV

Lab ID#: 1209366A-08B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/22/12 10:36 AM**	

Compound	%Recovery
Freon 12	94
Freon 114	95
Chloromethane	84
Vinyl Chloride	91
1,3-Butadiene	77
Bromomethane	102
Chloroethane	94
Freon 11	94
Ethanol	89
Freon 113	95
1,1-Dichloroethene	96
Acetone	94
2-Propanol	90
Carbon Disulfide	96
3-Chloropropene	96
Methylene Chloride	88
Methyl tert-butyl ether	95
trans-1,2-Dichloroethene	94
Hexane	95
1,1-Dichloroethane	93
2-Butanone (Methyl Ethyl Ketone)	95
cis-1,2-Dichloroethene	99
Tetrahydrofuran	92
Chloroform	94
1,1,1-Trichloroethane	94
Cyclohexane	95
Carbon Tetrachloride	83
2,2,4-Trimethylpentane	93
Benzene	92
1,2-Dichloroethane	91
Heptane	96
Trichloroethene	91
1,2-Dichloropropane	89
1,4-Dioxane	83
Bromodichloromethane	92
cis-1,3-Dichloropropene	94
4-Methyl-2-pentanone	97
Toluene	94
trans-1,3-Dichloropropene	97
1,1,2-Trichloroethane	93
Tetrachloroethene	94
2-Hexanone	98

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Client Sample ID: CCV

Lab ID#: 1209366A-08B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092202**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/22/12 10:36 AM**	

Compound	%Recovery
Dibromochloromethane	94
1,2-Dibromoethane (EDB)	93
Chlorobenzene	92
Ethyl Benzene	92
m,p-Xylene	96
o-Xylene	96
Styrene	98
Bromoform	98
Cumene	95
1,1,2,2-Tetrachloroethane	90
Propylbenzene	95
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	97
1,4-Dichlorobenzene	97
alpha-Chlorotoluene	103
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	95
Hexachlorobutadiene	92
Naphthalene	98

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	101	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1209366A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 10:44 AM**	

Compound	%Recovery
Freon 12	101
Freon 114	100
Chloromethane	96
Vinyl Chloride	97
1,3-Butadiene	84
Bromomethane	110
Chloroethane	100
Freon 11	101
Ethanol	87
Freon 113	101
1,1-Dichloroethene	108
Acetone	99
2-Propanol	98
Carbon Disulfide	125
3-Chloropropene	114
Methylene Chloride	94
Methyl tert-butyl ether	103
trans-1,2-Dichloroethene	112
Hexane	102
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	104
cis-1,2-Dichloroethene	104
Tetrahydrofuran	94
Chloroform	100
1,1,1-Trichloroethane	102
Cyclohexane	103
Carbon Tetrachloride	103
2,2,4-Trimethylpentane	101
Benzene	106
1,2-Dichloroethane	101
Heptane	107
Trichloroethene	103
1,2-Dichloropropane	102
1,4-Dioxane	91
Bromodichloromethane	103
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	109
Toluene	105
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	99
Tetrachloroethene	100
2-Hexanone	109

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Client Sample ID: LCS

Lab ID#: 1209366A-09A

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 10:44 AM**	

Compound	%Recovery
Dibromochloromethane	103
1,2-Dibromoethane (EDB)	100
Chlorobenzene	102
Ethyl Benzene	104
m,p-Xylene	106
o-Xylene	106
Styrene	109
Bromoform	103
Cumene	106
1,1,2,2-Tetrachloroethane	99
Propylbenzene	105
4-Ethyltoluene	100
1,3,5-Trimethylbenzene	110
1,2,4-Trimethylbenzene	106
1,3-Dichlorobenzene	105
1,4-Dichlorobenzene	104
alpha-Chlorotoluene	109
1,2-Dichlorobenzene	107
1,2,4-Trichlorobenzene	95
Hexachlorobutadiene	91
Naphthalene	86

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	104	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCSD

Lab ID#: 1209366A-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 11:12 AM**	

Compound	%Recovery
Freon 12	101
Freon 114	102
Chloromethane	94
Vinyl Chloride	98
1,3-Butadiene	83
Bromomethane	112
Chloroethane	101
Freon 11	101
Ethanol	90
Freon 113	102
1,1-Dichloroethene	109
Acetone	100
2-Propanol	100
Carbon Disulfide	126
3-Chloropropene	117
Methylene Chloride	96
Methyl tert-butyl ether	105
trans-1,2-Dichloroethene	114
Hexane	102
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	108
Tetrahydrofuran	96
Chloroform	102
1,1,1-Trichloroethane	104
Cyclohexane	106
Carbon Tetrachloride	107
2,2,4-Trimethylpentane	102
Benzene	103
1,2-Dichloroethane	98
Heptane	104
Trichloroethene	100
1,2-Dichloropropane	98
1,4-Dioxane	90
Bromodichloromethane	102
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	106
Toluene	102
trans-1,3-Dichloropropene	103
1,1,2-Trichloroethane	100
Tetrachloroethene	99
2-Hexanone	107

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Client Sample ID: LCSD

Lab ID#: 1209366A-09AA

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/21/12 11:12 AM**	

Compound	%Recovery
Dibromochloromethane	101
1,2-Dibromoethane (EDB)	100
Chlorobenzene	101
Ethyl Benzene	100
m,p-Xylene	106
o-Xylene	104
Styrene	105
Bromoform	101
Cumene	104
1,1,2,2-Tetrachloroethane	98
Propylbenzene	104
4-Ethyltoluene	98
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	105
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	98
Hexachlorobutadiene	93
Naphthalene	88

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	101	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1209366A-09B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/22/12 12:24 PM**	

Compound	%Recovery
Freon 12	96
Freon 114	97
Chloromethane	85
Vinyl Chloride	92
1,3-Butadiene	76
Bromomethane	104
Chloroethane	96
Freon 11	96
Ethanol	81
Freon 113	97
1,1-Dichloroethene	103
Acetone	93
2-Propanol	92
Carbon Disulfide	118
3-Chloropropene	109
Methylene Chloride	88
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	108
Hexane	96
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	104
Tetrahydrofuran	90
Chloroform	97
1,1,1-Trichloroethane	101
Cyclohexane	100
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	98
Benzene	98
1,2-Dichloroethane	93
Heptane	100
Trichloroethene	96
1,2-Dichloropropane	95
1,4-Dioxane	86
Bromodichloromethane	96
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	98
Toluene	96
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	96
Tetrachloroethene	98
2-Hexanone	102

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Client Sample ID: LCS

Lab ID#: 1209366A-09B

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092203**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/22/12 12:24 PM**	

Compound	%Recovery
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	98
Chlorobenzene	96
Ethyl Benzene	96
m,p-Xylene	102
o-Xylene	100
Styrene	105
Bromoform	98
Cumene	99
1,1,2,2-Tetrachloroethane	92
Propylbenzene	98
4-Ethyltoluene	94
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	101
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	99
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	100
1,2,4-Trichlorobenzene	93
Hexachlorobutadiene	88
Naphthalene	87

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	98	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1209366A-09BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/22/12 01:16 PM**	

Compound	%Recovery
Freon 12	95
Freon 114	96
Chloromethane	85
Vinyl Chloride	90
1,3-Butadiene	75
Bromomethane	101
Chloroethane	94
Freon 11	94
Ethanol	81
Freon 113	96
1,1-Dichloroethene	102
Acetone	93
2-Propanol	91
Carbon Disulfide	117
3-Chloropropene	109
Methylene Chloride	86
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	107
Hexane	96
1,1-Dichloroethane	94
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	101
Tetrahydrofuran	89
Chloroform	96
1,1,1-Trichloroethane	99
Cyclohexane	99
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	96
Benzene	97
1,2-Dichloroethane	93
Heptane	97
Trichloroethene	97
1,2-Dichloropropane	93
1,4-Dioxane	84
Bromodichloromethane	96
cis-1,3-Dichloropropene	97
4-Methyl-2-pentanone	98
Toluene	96
trans-1,3-Dichloropropene	98
1,1,2-Trichloroethane	94
Tetrachloroethene	95
2-Hexanone	100

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Client Sample ID: LCSD

Lab ID#: 1209366A-09BB

EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	**3092204**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/22/12 01:16 PM**	

Compound	%Recovery
Dibromochloromethane	95
1,2-Dibromoethane (EDB)	96
Chlorobenzene	95
Ethyl Benzene	94
m,p-Xylene	100
o-Xylene	98
Styrene	102
Bromoform	98
Cumene	98
1,1,2,2-Tetrachloroethane	90
Propylbenzene	96
4-Ethyltoluene	92
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	99
1,3-Dichlorobenzene	97
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	93
Hexachlorobutadiene	87
Naphthalene	89

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Toluene-d8	100	70-130
1,2-Dichloroethane-d4	100	70-130
4-Bromofluorobenzene	103	70-130

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9/26/2012

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 #: 1209366B

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 9/19/2012 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

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WORK ORDER #: 1209366B

Work Order Summary

CLIENT:	Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable Cornerstone Earth Group 1259 Oakmead Parkway Sunnyvale, CA 94085
PHONE:	925-988-9500	**P.O. #**	
FAX:		**PROJECT #**	165-11-2 Ashland Youth Center
DATE RECEIVED:	09/19/2012	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	09/26/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	V-1	Modified TO-3	4.5 "Hg	15 psi
02A	V-2	Modified TO-3	3.5 "Hg	15 psi
03A	V-3	Modified TO-3	4.0 "Hg	15 psi
04A	V-4	Modified TO-3	3.0 "Hg	15 psi
05A	V-5	Modified TO-3	4.5 "Hg	15 psi
06A	Lab Blank	Modified TO-3	NA	NA
07A	LCS	Modified TO-3	NA	NA
07AA	LCSD	Modified TO-3	NA	NA

CERTIFIED BY: Heidi Mayo DATE: 09/26/12

Technical Director

Certfication 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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-3
Cornerstone Earth Group
Workorder# 1209366B

Five 1 Liter Summa Canister samples were received on September 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
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

The hydrocarbon profile present in sample V-4 was heavier than that of commercial gasoline. Results were calculated using the response factor derived from the current gasoline linear calibration.

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

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

Client Sample ID: V-1

Lab ID#: 1209366B-01A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.060	0.24	0.54	2.2

Client Sample ID: V-2

Lab ID#: 1209366B-02A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.057	0.23	0.93	3.8

Client Sample ID: V-3

Lab ID#: 1209366B-03A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.058	0.24	1.2	5.0

Client Sample ID: V-4

Lab ID#: 1209366B-04A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.056	0.23	1.8	7.2

Client Sample ID: V-5

Lab ID#: 1209366B-05A

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.060	0.24	1.2	5.0

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Client Sample ID: V-1

Lab ID#: 1209366B-01A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	**d092413**	**Date of Collection: 9/18/12 2:48:00 AM**	
Dil. Factor:	**2.38**	**Date of Analysis: 9/24/12 06:11 PM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.060	0.24	0.54	2.2

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	100	75-150

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Client Sample ID: V-2

Lab ID#: 1209366B-02A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	**d092414**	**Date of Collection: 9/18/12 3:12:00 AM**	
Dil. Factor:	**2.29**	**Date of Analysis: 9/24/12 06:50 PM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.057	0.23	0.93	3.8

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	98	75-150

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Client Sample ID: V-3

Lab ID#: 1209366B-03A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	**d092415**	**Date of Collection: 9/18/12 3:38:00 AM**	
Dil. Factor:	**2.33**	**Date of Analysis: 9/24/12 07:24 PM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.058	0.24	1.2	5.0

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	98	75-150

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Client Sample ID: V-4

Lab ID#: 1209366B-04A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	**d092416**	**Date of Collection: 9/18/12 4:24:00 AM**	
Dil. Factor:	**2.24**	**Date of Analysis: 9/24/12 07:58 PM**	

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.056	0.23	1.8	7.2

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	100	75-150

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Client Sample ID: V-5

Lab ID#: 1209366B-05A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	**d092417**	**Date of Collection:**	**9/18/12 4:14:00 AM**
Dil. Factor:	**2.38**	**Date of Analysis:**	**9/24/12 08:42 PM**

Compound	Rpt. Limit (ppmv)	Rpt. Limit (ug/L)	Amount (ppmv)	Amount (ug/L)
TPH (Gasoline Range)	0.060	0.24	1.2	5.0

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	100	75-150

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Client Sample ID: Lab Blank

Lab ID#: 1209366B-06A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	**d092403**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/24/12 10:08 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 Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	98	75-150

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Client Sample ID: LCS

Lab ID#: 1209366B-07A

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	**d092402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/24/12 09:25 AM**	

Compound	%Recovery
TPH (Gasoline Range)	122

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	93	75-150

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Client Sample ID: LCSD

Lab ID#: 1209366B-07AA

MODIFIED EPA METHOD TO-3 GC/FID

File Name:	**d092418**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/24/12 09:33 PM**	

Compound	%Recovery
TPH (Gasoline Range)	124

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
Fluorobenzene (FID)	102	75-150

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9/26/2012

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 #: 1209366C

Dear Mr. Peter Langtry

The following report includes the data for the above referenced project for sample(s) received on 9/19/2012 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

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WORK ORDER #: 1209366C

Work Order Summary

CLIENT:	Mr. Peter Langtry Cornerstone Earth Group 2737 North Main St. Suite 10 Walnut Creek, CA 94597	**BILL TO:**	Accounts Payable Cornerstone Earth Group 1259 Oakmead Parkway Sunnyvale, CA 94085
PHONE:	925-988-9500	**P.O. #**	
FAX:		**PROJECT #**	165-11-2 Ashland Youth Center
DATE RECEIVED:	09/19/2012	**CONTACT:**	Kyle Vagadori
DATE COMPLETED:	09/26/2012		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	V-1	Modified ASTM D-1946	4.5 "Hg	15 psi
02A	V-2	Modified ASTM D-1946	3.5 "Hg	15 psi
03A	V-3	Modified ASTM D-1946	4.0 "Hg	15 psi
04A	V-4	Modified ASTM D-1946	3.0 "Hg	15 psi
05A	V-5	Modified ASTM D-1946	4.5 "Hg	15 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

CERTIFIED BY: Heidi Mayo DATE: 09/26/12

Technical Director

Certfication 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

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified ASTM D-1946
Cornerstone Earth Group
Workorder# 1209366C

Five 1 Liter Summa Canister samples were received on September 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

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

Client Sample ID: V-1

Lab ID#: 1209366C-01A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	21
Carbon Dioxide	0.024	0.042

Client Sample ID: V-2

Lab ID#: 1209366C-02A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	15
Carbon Dioxide	0.023	0.54

Client Sample ID: V-3

Lab ID#: 1209366C-03A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	20
Carbon Dioxide	0.023	0.074

Client Sample ID: V-4

Lab ID#: 1209366C-04A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	20
Methane	0.00022	0.00023
Carbon Dioxide	0.022	0.12

Client Sample ID: V-5

Lab ID#: 1209366C-05A

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	18
Methane	0.00024	0.00025
Carbon Dioxide	0.024	0.097

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Client Sample ID: V-1

Lab ID#: 1209366C-01A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	**9092412**	**Date of Collection: 9/18/12 2:48:00 AM**	
Dil. Factor:	**2.38**	**Date of Analysis: 9/24/12 02:16 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	21
Methane	0.00024	Not Detected
Carbon Dioxide	0.024	0.042

Container Type: 1 Liter Summa Canister

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Client Sample ID: V-2

Lab ID#: 1209366C-02A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	**9092413**	**Date of Collection: 9/18/12 3:12:00 AM**	
Dil. Factor:	**2.29**	**Date of Analysis: 9/24/12 03:14 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	15
Methane	0.00023	Not Detected
Carbon Dioxide	0.023	0.54

Container Type: 1 Liter Summa Canister

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Client Sample ID: V-3

Lab ID#: 1209366C-03A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	**9092414**	**Date of Collection: 9/18/12 3:38:00 AM**	
Dil. Factor:	**2.33**	**Date of Analysis: 9/24/12 04:22 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.23	20
Methane	0.00023	Not Detected
Carbon Dioxide	0.023	0.074

Container Type: 1 Liter Summa Canister

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Client Sample ID: V-4

Lab ID#: 1209366C-04A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	**9092415**	**Date of Collection: 9/18/12 4:24:00 AM**	
Dil. Factor:	**2.24**	**Date of Analysis: 9/24/12 04:55 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.22	20
Methane	0.00022	0.00023
Carbon Dioxide	0.022	0.12

Container Type: 1 Liter Summa Canister

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Client Sample ID: V-5

Lab ID#: 1209366C-05A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	**9092416**	**Date of Collection: 9/18/12 4:14:00 AM**	
Dil. Factor:	**2.38**	**Date of Analysis: 9/24/12 05:58 PM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.24	18
Methane	0.00024	0.00025
Carbon Dioxide	0.024	0.097

Container Type: 1 Liter Summa Canister

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Client Sample ID: Lab Blank

Lab ID#: 1209366C-06A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	**9092404**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/24/12 09:50 AM**	

Compound	Rpt. Limit (%)	Amount (%)
Oxygen	0.10	Not Detected
Methane	0.00010	Not Detected
Carbon Dioxide	0.010	Not Detected

Container Type: NA - Not Applicable

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Client Sample ID: LCS

Lab ID#: 1209366C-07A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	**9092402**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/24/12 08:58 AM**	

Compound	%Recovery
Oxygen	100
Methane	100
Carbon Dioxide	102

Container Type: NA - Not Applicable

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Client Sample ID: LCSD

Lab ID#: 1209366C-07AA

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

File Name:	**9092424**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 9/24/12 09:34 PM**	

Compound	%Recovery
Oxygen	99
Methane	100
Carbon Dioxide	101

Container Type: NA - Not Applicable

Air Toxics LTD.

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

Project Manager Peter Langtry
Collected by: (Print and Sign) Ross Tinline
Company Cornerstone Earth Email plangtry@cornerstoneearth.com
Address 1270 Springbrook Rd City Walnut Creek State CA Zip 94597
Phone 925 988 3500 Fax 925 988 9501

Project Info:
P.O. #
Project # 165-11-2
Project Name Ashland Youth Center

Turn Around Time:
☒ Normal
☐ Rush
5-Day
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

FC #

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)	
01A	V-1	33721	9-18-12	2:42 – 2:48	TO15 VOCs	-29	-5			20391
02A	V-2	36397	9-18-12	3:06 – 3:12	incl. BTEX,	-30	-5			20223
03A	V-3	36441	9-18-12	3:32 – 3:38	naphthalene &	-29	-5			20287
04A	V-4	33717	9-18-12	4:18 – 4:224	ASTM 1946 for	-30	-5			20321
05A	V-5	37340	9-18-12	4:09 – 4:14	O_2 CO_2 & methane	-30	-5			20195
					and TPHg by TO3					
06A	Trip Blank.	36472	9-18-12	—	VOCs (TO15)	—	—			

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
for [illegible]	9-18-12 1740	Fedex	9-18-12 1740
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
		[illegible]	9/19/12 1335
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes:

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	Fedex Gr.		NA	Good	Yes No (None)	1209366

Form 1293 rev.11