



Air Toxics

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

Page 1 of 1

Project Manager Michael Parris

Collected by: (Print and Sign) Leah Curiagan

Company MO DVE Email michael.parris@dmr.mo.gov

Address Po Box 176 City Jefferson City State MO Zip 65102

Phone \_\_\_\_\_ Fax \_\_\_\_\_

Project Info:

P.O. # \_\_\_\_\_

Project # \_\_\_\_\_

Project Name Bridgeton LF

Turn Around Time:  Normal  Rush

Lab Use Only Pressurized by: \_\_\_\_\_ Date: \_\_\_\_\_

Pressurization Gas: \_\_\_\_\_

specify N<sub>2</sub> He

Canister Pressure/Vacuum

Initial Final Receipt Final (psi)

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum	Notes
WA	D1 (149629)	12708	5/16/14	1048-1523	TO-15	-30 -6	
WA	D2 (149630)	35984	5/16/14	1100-1536	TO-15	-29.5 -7	
WA	D3 (149631)	33794	5/16/14	1112-1551	TO-15	-30 -7	
WA	V1 (149632)	35144	5/16/14	1126-1610	TO-15	-30 -5	
Relinquished by: (signature) <u>Leah Curiagan</u> Date/Time <u>5/16/14 1825</u>		Received by: (signature) <u>Michael Parris</u> Date/Time <u>5/16/14 1825</u>		Notes: <u>Shipped via UPS Tracking# 1Z6727880344251876</u>			
Relinquished by: (signature) <u>Michael Parris</u> Date/Time <u>5/19/14 1035</u>		Received by: (signature) <u>Michael Parris</u> Date/Time <u>5/19/14 1035</u>					
Relinquished by: (signature) <u>Michael Parris</u> Date/Time <u>5/19/14 1125</u>		Received by: (signature) <u>Michael Parris</u> Date/Time <u>5/19/14 1035</u>					
Lab	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #	
Use Only	<u>UPS</u>		<u>NA</u>	<u>Good</u>	<u>Yes</u> <input type="checkbox"/> <u>No</u> <input type="checkbox"/> <u>None</u> <input checked="" type="checkbox"/>	<u>1405475</u>	

6/9/2014

Mr. Dennis Schroeder  
Missouri Dept. of Natural Resources  
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton LF

Project #:

Workorder #: 1405475

Dear Mr. Dennis Schroeder

The following report includes the data for the above referenced project for sample(s) received on 5/27/2014 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: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker  
Project Manager

**WORK ORDER #: 1405475**

Work Order Summary

<b>CLIENT:</b>	Mr. Dennis Schroeder Missouri Dept. of Natural Resources 2710 West Main Jefferson City, MO 65109	<b>BILL TO:</b>	Accounts Payable Missouri Dept. of Natural Resources P.O Box 176 Jefferson City, MO 65102
<b>PHONE:</b>	573-526-4428	<b>P.O. #</b>	3ESP4000007
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton LF
<b>DATE RECEIVED:</b>	05/27/2014	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	05/30/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (149629)	Modified TO-15	4.7 "Hg	5.7 psi
02A	D2 (149630)	Modified TO-15	6.5 "Hg	5.2 psi
03A	D3 (149631)	Modified TO-15	6.1 "Hg	5 psi
04A	U1 (149632)	Modified TO-15	4.3 "Hg	5 psi
05A	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 06/09/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935  
 Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards  
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 180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**Missouri Dept. of Natural Resources**  
**Workorder# 1405475**

Four 6 Liter Summa Canister (100% Certified) samples were received on May 27, 2014. The laboratory performed analysis via modified 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.

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

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Initial Calibration	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	$\leq 30\%$ RSD with 4 compounds allowed out to $< 40\%$ RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

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

The Relative Percent Difference (RPD) of the LCS/LCSD exceeded acceptance limits for Ethanol.

**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, LOD, or MDL value. See data page for project specific U-flag definition.
- UJ- Non-detected compound associated with low bias in the CCV
- N - The identification is based on presumptive evidence.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

**Client Sample ID: D1 (149629)**

**Lab ID#: 1405475-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.55	0.81	2.7
Freon 11	0.16	0.25	0.92	1.4
Ethanol	0.82	2.6	1.5	4.9
Acetone	0.82	2.3 J	1.9	5.4 J
Toluene	0.16	0.21	0.62	0.80

**Client Sample ID: D2 (149630)**

**Lab ID#: 1405475-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.47	0.86	2.3
Freon 11	0.17	0.29	0.97	1.6
Ethanol	0.86	3.3	1.6	6.2
Acetone	0.86	2.4 J	2.0	5.6 J
2-Propanol	0.86	1.0	2.1	2.5
Toluene	0.17	1.3	0.65	5.0
m,p-Xylene	0.17	0.18	0.75	0.80

**Client Sample ID: D3 (149631)**

**Lab ID#: 1405475-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.51	0.83	2.5
Freon 11	0.17	0.31	0.94	1.7
Ethanol	0.84	1.2	1.6	2.2
Acetone	0.84	2.4 J	2.0	5.7 J
Benzene	0.17	0.26	0.54	0.83

**Client Sample ID: U1 (149632)**

**Lab ID#: 1405475-04A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
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**Summary of Detected Compounds**  
**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

**Client Sample ID: U1 (149632)**

**Lab ID#: 1405475-04A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 12	0.16	0.49	0.77	2.4
Freon 11	0.16	0.28	0.88	1.6
Acetone	0.78	1.8 J	1.8	4.4 J



Air Toxics

Client Sample ID: D1 (149629)

Lab ID#: 1405475-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052915	Date of Collection:	5/16/14 3:23:00 PM
Dil. Factor:	1.64	Date of Analysis:	5/29/14 07:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.55	0.81	2.7
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.82	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.42	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.82	Not Detected	3.2	Not Detected
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.16	0.25	0.92	1.4
Ethanol	0.82	2.6	1.5	4.9
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	2.3 J	1.9	5.4 J
2-Propanol	0.82	Not Detected	2.0	Not Detected
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Hexane	0.16	Not Detected	0.58	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Tetrahydrofuran	0.82	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Cyclohexane	0.16	Not Detected	0.56	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.82	Not Detected	3.8	Not Detected
Benzene	0.16	Not Detected	0.52	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	Not Detected	0.67	Not Detected
Trichloroethene	0.16	Not Detected	0.88	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.76	Not Detected
1,4-Dioxane	0.16	Not Detected UJ	0.59	Not Detected UJ
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.67	Not Detected
Toluene	0.16	0.21	0.62	0.80
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected





Client Sample ID: D1 (149629)

Lab ID#: 1405475-01A

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	e052915	Date of Collection:	5/16/14 3:23:00 PM
Dil. Factor:	1.64	Date of Analysis:	5/29/14 07:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
o-Xylene	0.16	Not Detected	0.71	Not Detected
Styrene	0.16	Not Detected	0.70	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.81	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.81	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.81	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.1	Not Detected
Hexachlorobutadiene	0.82	Not Detected	8.7	Not Detected

J = Estimated value due to bias in the CCV.

UJ = Analyte associated with low bias in the CCV and/or LCS.

**Container Type: 6 Liter Summa Canister (100% Certified)**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: D2 (149630)

Lab ID#: 1405475-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052916	Date of Collection:	5/16/14 3:36:00 PM
Dil. Factor:	1.73	Date of Analysis:	5/29/14 08:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.47	0.86	2.3
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.86	Not Detected	3.4	Not Detected
Chloroethane	0.86	Not Detected	2.3	Not Detected
Freon 11	0.17	0.29	0.97	1.6
Ethanol	0.86	3.3	1.6	6.2
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	2.4 J	2.0	5.6 J
2-Propanol	0.86	1.0	2.1	2.5
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	Not Detected	0.61	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.6	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Cyclohexane	0.17	Not Detected	0.60	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	Not Detected	0.71	Not Detected
Trichloroethene	0.17	Not Detected	0.93	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.80	Not Detected
1,4-Dioxane	0.17	Not Detected UJ	0.62	Not Detected UJ
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.71	Not Detected
Toluene	0.17	1.3	0.65	5.0
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected

Client Sample ID: D2 (149630)

Lab ID#: 1405475-02A

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	e052916	Date of Collection:	5/16/14 3:36:00 PM
Dil. Factor:	1.73	Date of Analysis:	5/29/14 08:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.80	Not Detected
Ethyl Benzene	0.17	Not Detected	0.75	Not Detected
m,p-Xylene	0.17	0.18	0.75	0.80
o-Xylene	0.17	Not Detected	0.75	Not Detected
Styrene	0.17	Not Detected	0.74	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.85	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.85	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.85	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.85	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.85	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.2	Not Detected

J = Estimated value due to bias in the CCV.

UJ = Analyte associated with low bias in the CCV and/or LCS.

**Container Type: 6 Liter Summa Canister (100% Certified)**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: D3 (149631)

Lab ID#: 1405475-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052917	Date of Collection:	5/16/14 3:51:00 PM
Dil. Factor:	1.68	Date of Analysis:	5/29/14 09:18 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.51	0.83	2.5
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.84	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.31	0.94	1.7
Ethanol	0.84	1.2	1.6	2.2
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	2.4 J	2.0	5.7 J
2-Propanol	0.84	Not Detected	2.1	Not Detected
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.60	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Hexane	0.17	Not Detected	0.59	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	Not Detected	2.5	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Cyclohexane	0.17	Not Detected	0.58	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.84	Not Detected	3.9	Not Detected
Benzene	0.17	0.26	0.54	0.83
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	Not Detected	0.69	Not Detected
Trichloroethene	0.17	Not Detected	0.90	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
1,4-Dioxane	0.17	Not Detected UJ	0.60	Not Detected UJ
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.69	Not Detected
Toluene	0.17	Not Detected	0.63	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.84	Not Detected	3.4	Not Detected



Client Sample ID: D3 (149631)

Lab ID#: 1405475-03A

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	e052917	Date of Collection:	5/16/14 3:51:00 PM
Dil. Factor:	1.68	Date of Analysis:	5/29/14 09:18 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	Not Detected	0.73	Not Detected
o-Xylene	0.17	Not Detected	0.73	Not Detected
Styrene	0.17	Not Detected	0.72	Not Detected
Bromoform	0.17	Not Detected	1.7	Not Detected
Cumene	0.17	Not Detected	0.82	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.82	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.82	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.82	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.82	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	Not Detected

J = Estimated value due to bias in the CCV.

UJ = Analyte associated with low bias in the CCV and/or LCS.

**Container Type: 6 Liter Summa Canister (100% Certified)**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: U1 (149632)

Lab ID#: 1405475-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052918	Date of Collection:	5/16/14 4:10:00 PM
Dil. Factor:	1.56	Date of Analysis:	5/29/14 10:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.49	0.77	2.4
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.78	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.40	Not Detected
1,3-Butadiene	0.16	Not Detected	0.34	Not Detected
Bromomethane	0.78	Not Detected	3.0	Not Detected
Chloroethane	0.78	Not Detected	2.0	Not Detected
Freon 11	0.16	0.28	0.88	1.6
Ethanol	0.78	Not Detected	1.5	Not Detected
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Acetone	0.78	1.8 J	1.8	4.4 J
2-Propanol	0.78	Not Detected	1.9	Not Detected
Carbon Disulfide	0.78	Not Detected	2.4	Not Detected
3-Chloropropene	0.78	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.56	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Hexane	0.16	Not Detected	0.55	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.63	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.78	Not Detected	2.3	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Tetrahydrofuran	0.78	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.76	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.85	Not Detected
Cyclohexane	0.16	Not Detected	0.54	Not Detected
Carbon Tetrachloride	0.16	Not Detected	0.98	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.6	Not Detected
Benzene	0.16	Not Detected	0.50	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.63	Not Detected
Heptane	0.16	Not Detected	0.64	Not Detected
Trichloroethene	0.16	Not Detected	0.84	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected UJ	0.56	Not Detected UJ
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.64	Not Detected
Toluene	0.16	Not Detected	0.59	Not Detected
trans-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.85	Not Detected
Tetrachloroethene	0.16	Not Detected	1.0	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected



Client Sample ID: U1 (149632)

Lab ID#: 1405475-04A

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	e052918	Date of Collection:	5/16/14 4:10:00 PM
Dil. Factor:	1.56	Date of Analysis:	5/29/14 10:06 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.72	Not Detected
Ethyl Benzene	0.16	Not Detected	0.68	Not Detected
m,p-Xylene	0.16	Not Detected	0.68	Not Detected
o-Xylene	0.16	Not Detected	0.68	Not Detected
Styrene	0.16	Not Detected	0.66	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.77	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.77	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.77	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.77	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.77	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.81	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected
Hexachlorobutadiene	0.78	Not Detected	8.3	Not Detected

J = Estimated value due to bias in the CCV.

UJ = Analyte associated with low bias in the CCV and/or LCS.

**Container Type: 6 Liter Summa Canister (100% Certified)**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1405475-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052906	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/29/14 11:35 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected UJ	1.2	Not Detected UJ
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected UJ	0.36	Not Detected UJ
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1,1,2-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected





Client Sample ID: Lab Blank

Lab ID#: 1405475-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052906	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/29/14 11:35 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
1,1,2,2-Tetrachloroethane	0.10	Not Detected	0.69	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

UJ = Analyte associated with low bias in the CCV and/or LCS.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1405475-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/29/14 08:19 AM

Compound	%Recovery
Freon 12	100
Freon 114	89
Chloromethane	87
Vinyl Chloride	85
1,3-Butadiene	83
Bromomethane	84
Chloroethane	88
Freon 11	104
Ethanol	78
Freon 113	89
1,1-Dichloroethene	76
Acetone	64 Q
2-Propanol	86
Carbon Disulfide	88
3-Chloropropene	77
Methylene Chloride	78
Methyl tert-butyl ether	86
trans-1,2-Dichloroethene	72
Hexane	76
1,1-Dichloroethane	85
2-Butanone (Methyl Ethyl Ketone)	82
cis-1,2-Dichloroethene	84
Tetrahydrofuran	81
Chloroform	91
1,1,1-Trichloroethane	102
Cyclohexane	79
Carbon Tetrachloride	84
2,2,4-Trimethylpentane	88
Benzene	77
1,2-Dichloroethane	96
Heptane	84
Trichloroethene	83
1,2-Dichloropropane	76
1,4-Dioxane	69 Q
Bromodichloromethane	96
cis-1,3-Dichloropropene	91
4-Methyl-2-pentanone	77
Toluene	81
trans-1,3-Dichloropropene	94
1,1,2-Trichloroethane	84
Tetrachloroethene	91
2-Hexanone	78

Client Sample ID: CCV

Lab ID#: 1405475-06A

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	e052902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/29/14 08:19 AM

Compound	%Recovery
Dibromochloromethane	97
1,2-Dibromoethane (EDB)	88
Chlorobenzene	87
Ethyl Benzene	90
m,p-Xylene	88
o-Xylene	86
Styrene	84
Bromoform	96
Cumene	90
1,1,2,2-Tetrachloroethane	79
Propylbenzene	88
4-Ethyltoluene	77
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	87
1,3-Dichlorobenzene	91
1,4-Dichlorobenzene	90
alpha-Chlorotoluene	97
1,2-Dichlorobenzene	87
1,2,4-Trichlorobenzene	76
Hexachlorobutadiene	82

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	107	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1405475-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/29/14 09:02 AM

Compound	%Recovery	Method Limits
Freon 12	107	70-130
Freon 114	95	70-130
Chloromethane	93	70-130
Vinyl Chloride	91	70-130
1,3-Butadiene	91	70-130
Bromomethane	89	70-130
Chloroethane	97	70-130
Freon 11	109	70-130
Ethanol	96	70-130
Freon 113	107	70-130
1,1-Dichloroethene	93	70-130
Acetone	67 Q	70-130
2-Propanol	94	70-130
Carbon Disulfide	74	70-130
3-Chloropropene	80	70-130
Methylene Chloride	91	70-130
Methyl tert-butyl ether	91	70-130
trans-1,2-Dichloroethene	68 Q	70-130
Hexane	85	70-130
1,1-Dichloroethane	92	70-130
2-Butanone (Methyl Ethyl Ketone)	89	70-130
cis-1,2-Dichloroethene	104	70-130
Tetrahydrofuran	91	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	110	70-130
Cyclohexane	89	70-130
Carbon Tetrachloride	76	70-130
2,2,4-Trimethylpentane	93	70-130
Benzene	91	70-130
1,2-Dichloroethane	118	70-130
Heptane	98	70-130
Trichloroethene	102	70-130
1,2-Dichloropropane	92	70-130
1,4-Dioxane	85	70-130
Bromodichloromethane	114	70-130
cis-1,3-Dichloropropene	113	70-130
4-Methyl-2-pentanone	94	70-130
Toluene	93	70-130
trans-1,3-Dichloropropene	90	70-130
1,1,2-Trichloroethane	83	70-130
Tetrachloroethene	97	70-130
2-Hexanone	90	70-130

Client Sample ID: LCS

Lab ID#: 1405475-07A

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>e052903</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 5/29/14 09:02 AM</b>

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	105	70-130
1,2-Dibromoethane (EDB)	93	70-130
Chlorobenzene	86	70-130
Ethyl Benzene	91	70-130
m,p-Xylene	87	70-130
o-Xylene	86	70-130
Styrene	90	70-130
Bromoform	104	70-130
Cumene	95	70-130
1,1,2,2-Tetrachloroethane	82	70-130
Propylbenzene	93	70-130
4-Ethyltoluene	100	70-130
1,3,5-Trimethylbenzene	94	70-130
1,2,4-Trimethylbenzene	92	70-130
1,3-Dichlorobenzene	92	70-130
1,4-Dichlorobenzene	93	70-130
alpha-Chlorotoluene	105	70-130
1,2-Dichlorobenzene	92	70-130
1,2,4-Trichlorobenzene	100	70-130
Hexachlorobutadiene	107	70-130

Q = Exceeds Quality Control limits.

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1405475-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/29/14 09:42 AM

Compound	%Recovery	Method Limits
Freon 12	108	70-130
Freon 114	101	70-130
Chloromethane	96	70-130
Vinyl Chloride	95	70-130
1,3-Butadiene	94	70-130
Bromomethane	91	70-130
Chloroethane	94	70-130
Freon 11	114	70-130
Ethanol	72	70-130
Freon 113	112	70-130
1,1-Dichloroethene	89	70-130
Acetone	71	70-130
2-Propanol	96	70-130
Carbon Disulfide	74	70-130
3-Chloropropene	80	70-130
Methylene Chloride	91	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	74	70-130
Hexane	86	70-130
1,1-Dichloroethane	93	70-130
2-Butanone (Methyl Ethyl Ketone)	84	70-130
cis-1,2-Dichloroethene	107	70-130
Tetrahydrofuran	90	70-130
Chloroform	101	70-130
1,1,1-Trichloroethane	112	70-130
Cyclohexane	90	70-130
Carbon Tetrachloride	77	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	89	70-130
1,2-Dichloroethane	115	70-130
Heptane	99	70-130
Trichloroethene	97	70-130
1,2-Dichloropropane	89	70-130
1,4-Dioxane	90	70-130
Bromodichloromethane	112	70-130
cis-1,3-Dichloropropene	109	70-130
4-Methyl-2-pentanone	99	70-130
Toluene	91	70-130
trans-1,3-Dichloropropene	95	70-130
1,1,2-Trichloroethane	86	70-130
Tetrachloroethene	99	70-130
2-Hexanone	95	70-130

Client Sample ID: LCSD

Lab ID#: 1405475-07AA

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

<b>File Name:</b>	<b>e052904</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 5/29/14 09:42 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	94	70-130
Chlorobenzene	87	70-130
Ethyl Benzene	95	70-130
m,p-Xylene	91	70-130
o-Xylene	91	70-130
Styrene	93	70-130
Bromoform	108	70-130
Cumene	99	70-130
1,1,2,2-Tetrachloroethane	85	70-130
Propylbenzene	97	70-130
4-Ethyltoluene	87	70-130
1,3,5-Trimethylbenzene	115	70-130
1,2,4-Trimethylbenzene	92	70-130
1,3-Dichlorobenzene	94	70-130
1,4-Dichlorobenzene	98	70-130
alpha-Chlorotoluene	112	70-130
1,2-Dichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	102	70-130
Hexachlorobutadiene	106	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	107	70-130