

2/3/2016

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1601327

Dear Mr. Dennis Schroeder

The following report includes the data for the above referenced project for sample(s) received on 1/25/2016 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 Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free 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 #: 1601327**

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>	3ESP160513
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton Landfill
<b>DATE RECEIVED:</b>	01/25/2016	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	02/03/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	U1 (160345)	Modified TO-15	6.7 "Hg	5.2 psi
02A	U2 (160344)	Modified TO-15	7.6 "Hg	5.2 psi
03A	D1 (160343)	Modified TO-15	8.4 "Hg	5.2 psi
04A	D2 (160342)	Modified TO-15	7.8 "Hg	5.1 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: 02/03/16

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

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

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**LABORATORY NARRATIVE**  
**Modified TO-15**  
**Missouri Dept. of Natural Resources**  
**Workorder# 1601327**

Four 6 Liter Summa Canister (100% Certified) samples were received on January 25, 2016. 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	</=30% RSD with 2 compounds allowed out to < 40% RSD	</=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.

**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: U1 (160345)**

**Lab ID#: 1601327-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.42	0.86	2.1
Freon 11	0.17	0.22	0.98	1.2
Ethanol	0.87	1.3	1.6	2.5
Acetone	0.87	1.8	2.1	4.2
Hexane	0.17	0.25	0.61	0.88
Benzene	0.17	0.18	0.56	0.57
Toluene	0.17	0.17	0.66	0.66

**Client Sample ID: U2 (160344)**

**Lab ID#: 1601327-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.44	0.90	2.2
Freon 11	0.18	0.26	1.0	1.4
Ethanol	0.90	2.6	1.7	5.0
Acetone	0.90	1.8	2.1	4.2
Benzene	0.18	0.18 J	0.58	0.56 J
Toluene	0.18	0.20	0.68	0.77

**Client Sample ID: D1 (160343)**

**Lab ID#: 1601327-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.19	0.44	0.93	2.2
Freon 11	0.19	0.23	1.0	1.3
Ethanol	0.94	3.2	1.8	6.1
Acetone	0.94	1.6	2.2	3.8
Methylene Chloride	0.38	0.50	1.3	1.7
Benzene	0.19	0.18 J	0.60	0.58 J
Toluene	0.19	0.24	0.71	0.89

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

**Client Sample ID: D2 (160342)**

**Lab ID#: 1601327-04A**

<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	0.18	0.43	0.90	2.1
Freon 11	0.18	0.21	1.0	1.2
Ethanol	0.91	1.0	1.7	2.0
Acetone	0.91	1.5	2.2	3.6
Hexane	0.18	0.19	0.64	0.67
Heptane	0.18	0.23	0.74	0.96



Air Toxics

Client Sample ID: U1 (160345)

Lab ID#: 1601327-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e012908	Date of Collection:	1/13/16 2:52:00 PM
Dil. Factor:	1.74	Date of Analysis:	1/29/16 02:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.42	0.86	2.1
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.87	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	0.87	Not Detected	3.4	Not Detected
Chloroethane	0.87	Not Detected	2.3	Not Detected
Freon 11	0.17	0.22	0.98	1.2
Ethanol	0.87	1.3	1.6	2.5
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Acetone	0.87	1.8	2.1	4.2
2-Propanol	0.87	Not Detected	2.1	Not Detected
Carbon Disulfide	0.87	Not Detected	2.7	Not Detected
3-Chloropropene	0.87	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Hexane	0.17	0.25	0.61	0.88
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.87	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Tetrahydrofuran	0.87	Not Detected	2.6	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.95	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	0.87	Not Detected	4.1	Not Detected
Benzene	0.17	0.18	0.56	0.57
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	0.94	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.80	Not Detected
1,4-Dioxane	0.17	Not Detected	0.63	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.71	Not Detected
Toluene	0.17	0.17	0.66	0.66
trans-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.95	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.87	Not Detected	3.6	Not Detected



Client Sample ID: U1 (160345)

Lab ID#: 1601327-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e012908	Date of Collection:	1/13/16 2:52:00 PM
Dil. Factor:	1.74	Date of Analysis:	1/29/16 02:14 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	0.76	Not Detected
m,p-Xylene	0.17	Not Detected	0.76	Not Detected
o-Xylene	0.17	Not Detected	0.76	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	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.86	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	0.87	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.87	Not Detected	9.3	Not Detected

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

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





Air Toxics

Client Sample ID: U2 (160344)

Lab ID#: 1601327-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e012909	Date of Collection:	1/13/16 3:10:00 PM
Dil. Factor:	1.81	Date of Analysis:	1/29/16 02:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.44	0.90	2.2
Freon 114	0.18	Not Detected	1.3	Not Detected
Chloromethane	0.90	Not Detected	1.9	Not Detected
Vinyl Chloride	0.18	Not Detected	0.46	Not Detected
1,3-Butadiene	0.18	Not Detected	0.40	Not Detected
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.18	0.26	1.0	1.4
Ethanol	0.90	2.6	1.7	5.0
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Acetone	0.90	1.8	2.1	4.2
2-Propanol	0.90	Not Detected	2.2	Not Detected
Carbon Disulfide	0.90	Not Detected	2.8	Not Detected
3-Chloropropene	0.90	Not Detected	2.8	Not Detected
Methylene Chloride	0.36	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.65	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Hexane	0.18	Not Detected	0.64	Not Detected
1,1-Dichloroethane	0.18	Not Detected	0.73	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.7	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.99	Not Detected
Cyclohexane	0.18	Not Detected	0.62	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.90	Not Detected	4.2	Not Detected
Benzene	0.18	0.18 J	0.58	0.56 J
1,2-Dichloroethane	0.18	Not Detected	0.73	Not Detected
Heptane	0.18	Not Detected	0.74	Not Detected
Trichloroethene	0.18	Not Detected	0.97	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.84	Not Detected
1,4-Dioxane	0.18	Not Detected	0.65	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.82	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.74	Not Detected
Toluene	0.18	0.20	0.68	0.77
trans-1,3-Dichloropropene	0.18	Not Detected	0.82	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.99	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.90	Not Detected	3.7	Not Detected



Client Sample ID: U2 (160344)

Lab ID#: 1601327-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e012909	Date of Collection:	1/13/16 3:10:00 PM
Dil. Factor:	1.81	Date of Analysis:	1/29/16 02:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.18	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.83	Not Detected
Ethyl Benzene	0.18	Not Detected	0.78	Not Detected
m,p-Xylene	0.18	Not Detected	0.78	Not Detected
o-Xylene	0.18	Not Detected	0.78	Not Detected
Styrene	0.18	Not Detected	0.77	Not Detected
Bromoform	0.18	Not Detected	1.9	Not Detected
Cumene	0.18	Not Detected	0.89	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.89	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.89	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.89	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.89	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.94	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.90	Not Detected	6.7	Not Detected
Hexachlorobutadiene	0.90	Not Detected	9.6	Not Detected

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: D1 (160343)

Lab ID#: 1601327-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e012910	Date of Collection:	1/13/16 3:52:00 PM
Dil. Factor:	1.88	Date of Analysis:	1/29/16 03:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.19	0.44	0.93	2.2
Freon 114	0.19	Not Detected	1.3	Not Detected
Chloromethane	0.94	Not Detected	1.9	Not Detected
Vinyl Chloride	0.19	Not Detected	0.48	Not Detected
1,3-Butadiene	0.19	Not Detected	0.42	Not Detected
Bromomethane	0.94	Not Detected	3.6	Not Detected
Chloroethane	0.94	Not Detected	2.5	Not Detected
Freon 11	0.19	0.23	1.0	1.3
Ethanol	0.94	3.2	1.8	6.1
Freon 113	0.19	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.19	Not Detected	0.74	Not Detected
Acetone	0.94	1.6	2.2	3.8
2-Propanol	0.94	Not Detected	2.3	Not Detected
Carbon Disulfide	0.94	Not Detected	2.9	Not Detected
3-Chloropropene	0.94	Not Detected	2.9	Not Detected
Methylene Chloride	0.38	0.50	1.3	1.7
Methyl tert-butyl ether	0.19	Not Detected	0.68	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
Hexane	0.19	Not Detected	0.66	Not Detected
1,1-Dichloroethane	0.19	Not Detected	0.76	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.94	Not Detected	2.8	Not Detected
cis-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
Tetrahydrofuran	0.94	Not Detected	2.8	Not Detected
Chloroform	0.19	Not Detected	0.92	Not Detected
1,1,1-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Cyclohexane	0.19	Not Detected	0.65	Not Detected
Carbon Tetrachloride	0.19	Not Detected	1.2	Not Detected
2,2,4-Trimethylpentane	0.94	Not Detected	4.4	Not Detected
Benzene	0.19	0.18 J	0.60	0.58 J
1,2-Dichloroethane	0.19	Not Detected	0.76	Not Detected
Heptane	0.19	Not Detected	0.77	Not Detected
Trichloroethene	0.19	Not Detected	1.0	Not Detected
1,2-Dichloropropane	0.19	Not Detected	0.87	Not Detected
1,4-Dioxane	0.19	Not Detected	0.68	Not Detected
Bromodichloromethane	0.19	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.19	Not Detected	0.85	Not Detected
4-Methyl-2-pentanone	0.19	Not Detected	0.77	Not Detected
Toluene	0.19	0.24	0.71	0.89
trans-1,3-Dichloropropene	0.19	Not Detected	0.85	Not Detected
1,1,2-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Tetrachloroethene	0.19	Not Detected	1.3	Not Detected
2-Hexanone	0.94	Not Detected	3.8	Not Detected



Client Sample ID: D1 (160343)

Lab ID#: 1601327-03A

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

File Name:	e012910	Date of Collection:	1/13/16 3:52:00 PM
Dil. Factor:	1.88	Date of Analysis:	1/29/16 03:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.19	Not Detected	1.6	Not Detected
1,2-Dibromoethane (EDB)	0.19	Not Detected	1.4	Not Detected
Chlorobenzene	0.19	Not Detected	0.86	Not Detected
Ethyl Benzene	0.19	Not Detected	0.82	Not Detected
m,p-Xylene	0.19	Not Detected	0.82	Not Detected
o-Xylene	0.19	Not Detected	0.82	Not Detected
Styrene	0.19	Not Detected	0.80	Not Detected
Bromoform	0.19	Not Detected	1.9	Not Detected
Cumene	0.19	Not Detected	0.92	Not Detected
1,1,2,2-Tetrachloroethane	0.19	Not Detected	1.3	Not Detected
Propylbenzene	0.19	Not Detected	0.92	Not Detected
4-Ethyltoluene	0.19	Not Detected	0.92	Not Detected
1,3,5-Trimethylbenzene	0.19	Not Detected	0.92	Not Detected
1,2,4-Trimethylbenzene	0.19	Not Detected	0.92	Not Detected
1,3-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.19	Not Detected	0.97	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.94	Not Detected	7.0	Not Detected
Hexachlorobutadiene	0.94	Not Detected	10	Not Detected

J = Estimated value.

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

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



Air Toxics

Client Sample ID: D2 (160342)

Lab ID#: 1601327-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e012911	Date of Collection:	1/13/16 3:40:00 PM
Dil. Factor:	1.82	Date of Analysis:	1/29/16 04:29 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.43	0.90	2.1
Freon 114	0.18	Not Detected	1.3	Not Detected
Chloromethane	0.91	Not Detected	1.9	Not Detected
Vinyl Chloride	0.18	Not Detected	0.46	Not Detected
1,3-Butadiene	0.18	Not Detected	0.40	Not Detected
Bromomethane	0.91	Not Detected	3.5	Not Detected
Chloroethane	0.91	Not Detected	2.4	Not Detected
Freon 11	0.18	0.21	1.0	1.2
Ethanol	0.91	1.0	1.7	2.0
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Acetone	0.91	1.5	2.2	3.6
2-Propanol	0.91	Not Detected	2.2	Not Detected
Carbon Disulfide	0.91	Not Detected	2.8	Not Detected
3-Chloropropene	0.91	Not Detected	2.8	Not Detected
Methylene Chloride	0.36	Not Detected	1.3	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.66	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Hexane	0.18	0.19	0.64	0.67
1,1-Dichloroethane	0.18	Not Detected	0.74	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.91	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Tetrahydrofuran	0.91	Not Detected	2.7	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.99	Not Detected
Cyclohexane	0.18	Not Detected	0.63	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.91	Not Detected	4.2	Not Detected
Benzene	0.18	Not Detected	0.58	Not Detected
1,2-Dichloroethane	0.18	Not Detected	0.74	Not Detected
Heptane	0.18	0.23	0.74	0.96
Trichloroethene	0.18	Not Detected	0.98	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.84	Not Detected
1,4-Dioxane	0.18	Not Detected	0.66	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.83	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.74	Not Detected
Toluene	0.18	Not Detected	0.68	Not Detected
trans-1,3-Dichloropropene	0.18	Not Detected	0.83	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.99	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.91	Not Detected	3.7	Not Detected



Client Sample ID: D2 (160342)

Lab ID#: 1601327-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e012911	Date of Collection:	1/13/16 3:40:00 PM
Dil. Factor:	1.82	Date of Analysis:	1/29/16 04:29 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.18	Not Detected	1.6	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.84	Not Detected
Ethyl Benzene	0.18	Not Detected	0.79	Not Detected
m,p-Xylene	0.18	Not Detected	0.79	Not Detected
o-Xylene	0.18	Not Detected	0.79	Not Detected
Styrene	0.18	Not Detected	0.78	Not Detected
Bromoform	0.18	Not Detected	1.9	Not Detected
Cumene	0.18	Not Detected	0.89	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.89	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.89	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.89	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.89	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.94	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.91	Not Detected	6.8	Not Detected
Hexachlorobutadiene	0.91	Not Detected	9.7	Not Detected

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

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



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1601327-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e012907	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/29/16 01:18 PM

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	1.2	Not Detected
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	0.36	Not Detected
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#: 1601327-05A

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

<b>File Name:</b>	<b>e012907</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 1/29/16 01:18 PM

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
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

Container Type: NA - Not Applicable

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130





Air Toxics

Client Sample ID: CCV

Lab ID#: 1601327-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e012902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/29/16 08:23 AM

Compound	%Recovery
Freon 12	91
Freon 114	91
Chloromethane	89
Vinyl Chloride	91
1,3-Butadiene	82
Bromomethane	94
Chloroethane	95
Freon 11	92
Ethanol	89
Freon 113	87
1,1-Dichloroethene	88
Acetone	94
2-Propanol	85
Carbon Disulfide	133 Q
3-Chloropropene	86
Methylene Chloride	89
Methyl tert-butyl ether	86
trans-1,2-Dichloroethene	90
Hexane	87
1,1-Dichloroethane	87
2-Butanone (Methyl Ethyl Ketone)	91
cis-1,2-Dichloroethene	87
Tetrahydrofuran	87
Chloroform	88
1,1,1-Trichloroethane	88
Cyclohexane	86
Carbon Tetrachloride	92
2,2,4-Trimethylpentane	89
Benzene	85
1,2-Dichloroethane	85
Heptane	87
Trichloroethene	91
1,2-Dichloropropane	87
1,4-Dioxane	85
Bromodichloromethane	88
cis-1,3-Dichloropropene	86
4-Methyl-2-pentanone	86
Toluene	87
trans-1,3-Dichloropropene	90
1,1,2-Trichloroethane	89
Tetrachloroethene	93
2-Hexanone	87



Air Toxics

Client Sample ID: CCV

Lab ID#: 1601327-06A

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

File Name:	e012902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/29/16 08:23 AM

Compound	%Recovery
Dibromochloromethane	95
1,2-Dibromoethane (EDB)	91
Chlorobenzene	91
Ethyl Benzene	89
m,p-Xylene	90
o-Xylene	91
Styrene	88
Bromoform	98
Cumene	92
1,1,2,2-Tetrachloroethane	89
Propylbenzene	92
4-Ethyltoluene	97
1,3,5-Trimethylbenzene	87
1,2,4-Trimethylbenzene	92
1,3-Dichlorobenzene	92
1,4-Dichlorobenzene	93
alpha-Chlorotoluene	92
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	87
Hexachlorobutadiene	99

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1601327-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e012903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/29/16 09:31 AM

Compound	%Recovery	Method Limits
Freon 12	111	70-130
Freon 114	116	70-130
Chloromethane	104	70-130
Vinyl Chloride	111	70-130
1,3-Butadiene	99	70-130
Bromomethane	109	70-130
Chloroethane	120	70-130
Freon 11	113	70-130
Ethanol	137 Q	70-130
Freon 113	123	70-130
1,1-Dichloroethene	102	70-130
Acetone	102	70-130
2-Propanol	106	70-130
Carbon Disulfide	101	70-130
3-Chloropropene	97	70-130
Methylene Chloride	106	70-130
Methyl tert-butyl ether	103	70-130
trans-1,2-Dichloroethene	109	70-130
Hexane	102	70-130
1,1-Dichloroethane	104	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	104	70-130
Tetrahydrofuran	104	70-130
Chloroform	105	70-130
1,1,1-Trichloroethane	106	70-130
Cyclohexane	103	70-130
Carbon Tetrachloride	109	70-130
2,2,4-Trimethylpentane	102	70-130
Benzene	102	70-130
1,2-Dichloroethane	105	70-130
Heptane	105	70-130
Trichloroethene	111	70-130
1,2-Dichloropropane	104	70-130
1,4-Dioxane	108	70-130
Bromodichloromethane	109	70-130
cis-1,3-Dichloropropene	100	70-130
4-Methyl-2-pentanone	108	70-130
Toluene	104	70-130
trans-1,3-Dichloropropene	108	70-130
1,1,2-Trichloroethane	105	70-130
Tetrachloroethene	111	70-130
2-Hexanone	110	70-130

Client Sample ID: LCS

Lab ID#: 1601327-07A

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

<b>File Name:</b>	<b>e012903</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 1/29/16 09:31 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	117	70-130
1,2-Dibromoethane (EDB)	108	70-130
Chlorobenzene	108	70-130
Ethyl Benzene	107	70-130
m,p-Xylene	107	70-130
o-Xylene	109	70-130
Styrene	108	70-130
Bromoform	120	70-130
Cumene	109	70-130
1,1,2,2-Tetrachloroethane	110	70-130
Propylbenzene	113	70-130
4-Ethyltoluene	117	70-130
1,3,5-Trimethylbenzene	105	70-130
1,2,4-Trimethylbenzene	111	70-130
1,3-Dichlorobenzene	114	70-130
1,4-Dichlorobenzene	112	70-130
alpha-Chlorotoluene	122	70-130
1,2-Dichlorobenzene	116	70-130
1,2,4-Trichlorobenzene	125	70-130
Hexachlorobutadiene	128	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	99	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1601327-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e012904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/29/16 10:16 AM

Compound	%Recovery	Method Limits
Freon 12	110	70-130
Freon 114	114	70-130
Chloromethane	103	70-130
Vinyl Chloride	109	70-130
1,3-Butadiene	97	70-130
Bromomethane	109	70-130
Chloroethane	117	70-130
Freon 11	113	70-130
Ethanol	117	70-130
Freon 113	122	70-130
1,1-Dichloroethene	105	70-130
Acetone	100	70-130
2-Propanol	108	70-130
Carbon Disulfide	92	70-130
3-Chloropropene	98	70-130
Methylene Chloride	104	70-130
Methyl tert-butyl ether	103	70-130
trans-1,2-Dichloroethene	110	70-130
Hexane	102	70-130
1,1-Dichloroethane	102	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	103	70-130
Tetrahydrofuran	104	70-130
Chloroform	105	70-130
1,1,1-Trichloroethane	104	70-130
Cyclohexane	104	70-130
Carbon Tetrachloride	108	70-130
2,2,4-Trimethylpentane	102	70-130
Benzene	100	70-130
1,2-Dichloroethane	103	70-130
Heptane	104	70-130
Trichloroethene	109	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	107	70-130
Bromodichloromethane	107	70-130
cis-1,3-Dichloropropene	98	70-130
4-Methyl-2-pentanone	109	70-130
Toluene	104	70-130
trans-1,3-Dichloropropene	105	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	110	70-130
2-Hexanone	112	70-130

Client Sample ID: LCSD

Lab ID#: 1601327-07AA

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

<b>File Name:</b>	<b>e012904</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 1/29/16 10:16 AM</b>

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	114	70-130
1,2-Dibromoethane (EDB)	108	70-130
Chlorobenzene	108	70-130
Ethyl Benzene	107	70-130
m,p-Xylene	106	70-130
o-Xylene	110	70-130
Styrene	109	70-130
Bromoform	120	70-130
Cumene	110	70-130
1,1,2,2-Tetrachloroethane	110	70-130
Propylbenzene	113	70-130
4-Ethyltoluene	119	70-130
1,3,5-Trimethylbenzene	108	70-130
1,2,4-Trimethylbenzene	115	70-130
1,3-Dichlorobenzene	115	70-130
1,4-Dichlorobenzene	116	70-130
alpha-Chlorotoluene	123	70-130
1,2-Dichlorobenzene	118	70-130
1,2,4-Trichlorobenzene	132 Q	70-130
Hexachlorobutadiene	133 Q	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	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130