

4/21/2016

Mr. Curt Lueckenhoff  
Missouri Dept. of Natural Resources  
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1604224

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 4/11/2016 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 #: 1604224**

Work Order Summary

<b>CLIENT:</b>	Mr. Curt Lueckenhoff 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>	573-526-3363	<b>P.O. #</b>	3ESP160783
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton Landfill
<b>DATE RECEIVED:</b>	04/11/2016	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	04/21/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (162222)	Modified TO-15	5.7 "Hg	5.3 psi
02A	D2 (162223)	Modified TO-15	3.9 "Hg	5.2 psi
03A	U1 (162224)	Modified TO-15	2.6 "Hg	5.1 psi
04A	U2 (162225)	Modified TO-15	5.9 "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: 04/21/16

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

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# 1604224**

Four 6 Liter Summa Canister (100% Certified) samples were received on April 11, 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: D1 (162222)**

**Lab ID#: 1604224-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.43	0.83	2.1
Freon 11	0.17	0.23	0.94	1.3
Ethanol	0.84	1.3	1.6	2.4
Acetone	0.84	1.4	2.0	3.4
Carbon Disulfide	0.84	1.3 J0	2.6	4.1 J0
Hexane	0.17	0.17	0.59	0.59

**Client Sample ID: D2 (162223)**

**Lab ID#: 1604224-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.40	0.77	2.0
Freon 11	0.16	0.19	0.87	1.1
Ethanol	0.78	1.6	1.5	3.1
Acetone	0.78	2.0	1.8	4.9

**Client Sample ID: U1 (162224)**

**Lab ID#: 1604224-03A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.45	0.73	2.2
Freon 11	0.15	0.22	0.83	1.2
Ethanol	0.74	7.1	1.4	13
Acetone	0.74	6.6	1.8	16
2-Propanol	0.74	14	1.8	34
Methylene Chloride	0.30	14	1.0	48
trans-1,2-Dichloroethene	0.15	2.2	0.59	8.9
Hexane	0.15	0.48	0.52	1.7
2-Butanone (Methyl Ethyl Ketone)	0.74	0.98	2.2	2.9
Cyclohexane	0.15	0.64	0.51	2.2
2,2,4-Trimethylpentane	0.74	0.88	3.4	4.1
Benzene	0.15	0.22	0.47	0.72
1,2-Dichloroethane	0.15	0.20	0.60	0.80

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

**Client Sample ID: U1 (162224)**

**Lab ID#: 1604224-03A**

Heptane	0.15	0.83	0.61	3.4
4-Methyl-2-pentanone	0.15	0.44	0.61	1.8
Toluene	0.15	4.7	0.56	18
Ethyl Benzene	0.15	0.41	0.64	1.8
m,p-Xylene	0.15	1.2	0.64	5.2
o-Xylene	0.15	0.54	0.64	2.3
Styrene	0.15	0.83	0.63	3.5
4-Ethyltoluene	0.15	0.19	0.73	0.94
1,2,4-Trimethylbenzene	0.15	0.24	0.73	1.2

**Client Sample ID: U2 (162225)**

**Lab ID#: 1604224-04A**

<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	0.17	0.46	0.82	2.2
Freon 11	0.17	0.21	0.94	1.2
Ethanol	0.84	1.6	1.6	3.1
Acetone	0.84	2.4	2.0	5.8
2-Propanol	0.84	1.0	2.0	2.5
Methylene Chloride	0.33	1.0	1.2	3.7
Hexane	0.17	0.23	0.59	0.83
Heptane	0.17	0.22	0.68	0.92
Toluene	0.17	0.34	0.63	1.3



Air Toxics

Client Sample ID: D1 (162222)

Lab ID#: 1604224-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041306	Date of Collection:	4/5/16 12:25:00 PM
Dil. Factor:	1.68	Date of Analysis:	4/13/16 11:15 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.43	0.83	2.1
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	0.23	0.94	1.3
Ethanol	0.84	1.3	1.6	2.4
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	1.4	2.0	3.4
2-Propanol	0.84	Not Detected	2.1	Not Detected
Carbon Disulfide	0.84	1.3 J0	2.6	4.1 J0
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	0.17	0.59	0.59
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	Not Detected	0.54	Not Detected
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	0.60	Not Detected
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: D1 (162222)

Lab ID#: 1604224-01A

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

<b>File Name:</b>	<b>e041306</b>	<b>Date of Collection:</b> 4/5/16 12:25:00 PM
<b>Dil. Factor:</b>	<b>1.68</b>	<b>Date of Analysis:</b> 4/13/16 11:15 AM

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

J0 = Estimated value due to bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130





Air Toxics

Client Sample ID: D2 (162223)

Lab ID#: 1604224-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041307	Date of Collection:	4/5/16 1:25:00 PM
Dil. Factor:	1.55	Date of Analysis:	4/13/16 12:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.40	0.77	2.0
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	0.19	0.87	1.1
Ethanol	0.78	1.6	1.5	3.1
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Acetone	0.78	2.0	1.8	4.9
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	0.61	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	0.61	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	0.84	Not Detected
Cyclohexane	0.16	Not Detected	0.53	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	0.83	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected	0.56	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.63	Not Detected
Toluene	0.16	Not Detected	0.58	Not Detected
trans-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.84	Not Detected
Tetrachloroethene	0.16	Not Detected	1.0	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected



Client Sample ID: D2 (162223)

Lab ID#: 1604224-02A

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

<b>File Name:</b>	<b>e041307</b>	<b>Date of Collection:</b> 4/5/16 1:25:00 PM
<b>Dil. Factor:</b>	<b>1.55</b>	<b>Date of Analysis:</b> 4/13/16 12:02 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	0.71	Not Detected
Ethyl Benzene	0.16	Not Detected	0.67	Not Detected
m,p-Xylene	0.16	Not Detected	0.67	Not Detected
o-Xylene	0.16	Not Detected	0.67	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	0.76	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.76	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.76	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.76	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.76	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected
Hexachlorobutadiene	0.78	Not Detected	8.3	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: U1 (162224)

Lab ID#: 1604224-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041308	Date of Collection:	4/5/16 1:00:00 PM
Dil. Factor:	1.48	Date of Analysis:	4/13/16 12:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.45	0.73	2.2
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.74	Not Detected	1.5	Not Detected
Vinyl Chloride	0.15	Not Detected	0.38	Not Detected
1,3-Butadiene	0.15	Not Detected	0.33	Not Detected
Bromomethane	0.74	Not Detected	2.9	Not Detected
Chloroethane	0.74	Not Detected	2.0	Not Detected
Freon 11	0.15	0.22	0.83	1.2
Ethanol	0.74	7.1	1.4	13
Freon 113	0.15	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Acetone	0.74	6.6	1.8	16
2-Propanol	0.74	14	1.8	34
Carbon Disulfide	0.74	Not Detected	2.3	Not Detected
3-Chloropropene	0.74	Not Detected	2.3	Not Detected
Methylene Chloride	0.30	14	1.0	48
Methyl tert-butyl ether	0.15	Not Detected	0.53	Not Detected
trans-1,2-Dichloroethene	0.15	2.2	0.59	8.9
Hexane	0.15	0.48	0.52	1.7
1,1-Dichloroethane	0.15	Not Detected	0.60	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.74	0.98	2.2	2.9
cis-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Tetrahydrofuran	0.74	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.72	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.81	Not Detected
Cyclohexane	0.15	0.64	0.51	2.2
Carbon Tetrachloride	0.15	Not Detected	0.93	Not Detected
2,2,4-Trimethylpentane	0.74	0.88	3.4	4.1
Benzene	0.15	0.22	0.47	0.72
1,2-Dichloroethane	0.15	0.20	0.60	0.80
Heptane	0.15	0.83	0.61	3.4
Trichloroethene	0.15	Not Detected	0.80	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.68	Not Detected
1,4-Dioxane	0.15	Not Detected	0.53	Not Detected
Bromodichloromethane	0.15	Not Detected	0.99	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.67	Not Detected
4-Methyl-2-pentanone	0.15	0.44	0.61	1.8
Toluene	0.15	4.7	0.56	18
trans-1,3-Dichloropropene	0.15	Not Detected	0.67	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.81	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.74	Not Detected	3.0	Not Detected

Client Sample ID: U1 (162224)

Lab ID#: 1604224-03A

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

<b>File Name:</b>	<b>e041308</b>	<b>Date of Collection:</b> 4/5/16 1:00:00 PM
<b>Dil. Factor:</b>	<b>1.48</b>	<b>Date of Analysis:</b> 4/13/16 12:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.1	Not Detected
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
Ethyl Benzene	0.15	0.41	0.64	1.8
m,p-Xylene	0.15	1.2	0.64	5.2
o-Xylene	0.15	0.54	0.64	2.3
Styrene	0.15	0.83	0.63	3.5
Bromoform	0.15	Not Detected	1.5	Not Detected
Cumene	0.15	Not Detected	0.73	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.73	Not Detected
4-Ethyltoluene	0.15	0.19	0.73	0.94
1,3,5-Trimethylbenzene	0.15	Not Detected	0.73	Not Detected
1,2,4-Trimethylbenzene	0.15	0.24	0.73	1.2
1,3-Dichlorobenzene	0.15	Not Detected	0.89	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.89	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.77	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.89	Not Detected
1,2,4-Trichlorobenzene	0.74	Not Detected	5.5	Not Detected
Hexachlorobutadiene	0.74	Not Detected	7.9	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: U2 (162225)

Lab ID#: 1604224-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041309	Date of Collection:	4/5/16 1:10:00 PM
Dil. Factor:	1.67	Date of Analysis:	4/13/16 01:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.46	0.82	2.2
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	3.2	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.21	0.94	1.2
Ethanol	0.84	1.6	1.6	3.1
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.84	2.4	2.0	5.8
2-Propanol	0.84	1.0	2.0	2.5
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	1.0	1.2	3.7
Methyl tert-butyl ether	0.17	Not Detected	0.60	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Hexane	0.17	0.23	0.59	0.83
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	0.66	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	0.91	Not Detected
Cyclohexane	0.17	Not Detected	0.57	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	Not Detected	0.53	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	0.22	0.68	0.92
Trichloroethene	0.17	Not Detected	0.90	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.77	Not Detected
1,4-Dioxane	0.17	Not Detected	0.60	Not Detected
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	0.68	Not Detected
Toluene	0.17	0.34	0.63	1.3
trans-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.91	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.84	Not Detected	3.4	Not Detected



Client Sample ID: U2 (162225)

Lab ID#: 1604224-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041309	Date of Collection:	4/5/16 1:10:00 PM
Dil. Factor:	1.67	Date of Analysis:	4/13/16 01:27 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	0.72	Not Detected
m,p-Xylene	0.17	Not Detected	0.72	Not Detected
o-Xylene	0.17	Not Detected	0.72	Not Detected
Styrene	0.17	Not Detected	0.71	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	1.1	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	0.86	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	8.9	Not Detected

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

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



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1604224-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041305	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/13/16 08:51 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	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#: 1604224-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041305	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/13/16 08:51 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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	104	70-130





Air Toxics

Client Sample ID: CCV

Lab ID#: 1604224-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/13/16 06:35 AM

Compound	%Recovery
Freon 12	112
Freon 114	106
Chloromethane	106
Vinyl Chloride	106
1,3-Butadiene	101
Bromomethane	102
Chloroethane	109
Freon 11	103
Ethanol	113
Freon 113	97
1,1-Dichloroethene	106
Acetone	97
2-Propanol	104
Carbon Disulfide	139 Q
3-Chloropropene	103
Methylene Chloride	97
Methyl tert-butyl ether	107
trans-1,2-Dichloroethene	108
Hexane	107
1,1-Dichloroethane	105
2-Butanone (Methyl Ethyl Ketone)	107
cis-1,2-Dichloroethene	103
Tetrahydrofuran	104
Chloroform	104
1,1,1-Trichloroethane	107
Cyclohexane	114
Carbon Tetrachloride	110
2,2,4-Trimethylpentane	102
Benzene	98
1,2-Dichloroethane	104
Heptane	102
Trichloroethene	108
1,2-Dichloropropane	99
1,4-Dioxane	99
Bromodichloromethane	104
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	103
Toluene	101
trans-1,3-Dichloropropene	107
1,1,2-Trichloroethane	100
Tetrachloroethene	107
2-Hexanone	102



Air Toxics

Client Sample ID: CCV

Lab ID#: 1604224-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/13/16 06:35 AM

Compound	%Recovery
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	106
Chlorobenzene	104
Ethyl Benzene	103
m,p-Xylene	110
o-Xylene	110
Styrene	111
Bromoform	113
Cumene	109
1,1,2,2-Tetrachloroethane	101
Propylbenzene	105
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	109
1,2-Dichlorobenzene	102
1,2,4-Trichlorobenzene	93
Hexachlorobutadiene	107

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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



Air Toxics

Client Sample ID: LCS

Lab ID#: 1604224-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/13/16 07:18 AM

Compound	%Recovery	Method Limits
Freon 12	92	70-130
Freon 114	97	70-130
Chloromethane	90	70-130
Vinyl Chloride	90	70-130
1,3-Butadiene	86	70-130
Bromomethane	92	70-130
Chloroethane	97	70-130
Freon 11	92	70-130
Ethanol	99	70-130
Freon 113	98	70-130
1,1-Dichloroethene	92	70-130
Acetone	83	70-130
2-Propanol	96	70-130
Carbon Disulfide	83	70-130
3-Chloropropene	85	70-130
Methylene Chloride	87	70-130
Methyl tert-butyl ether	91	70-130
trans-1,2-Dichloroethene	98	70-130
Hexane	91	70-130
1,1-Dichloroethane	91	70-130
2-Butanone (Methyl Ethyl Ketone)	90	70-130
cis-1,2-Dichloroethene	89	70-130
Tetrahydrofuran	92	70-130
Chloroform	89	70-130
1,1,1-Trichloroethane	89	70-130
Cyclohexane	96	70-130
Carbon Tetrachloride	96	70-130
2,2,4-Trimethylpentane	76	70-130
Benzene	85	70-130
1,2-Dichloroethane	89	70-130
Heptane	88	70-130
Trichloroethene	95	70-130
1,2-Dichloropropane	90	70-130
1,4-Dioxane	88	70-130
Bromodichloromethane	96	70-130
cis-1,3-Dichloropropene	87	70-130
4-Methyl-2-pentanone	92	70-130
Toluene	91	70-130
trans-1,3-Dichloropropene	96	70-130
1,1,2-Trichloroethane	88	70-130
Tetrachloroethene	96	70-130
2-Hexanone	94	70-130

Client Sample ID: LCS

Lab ID#: 1604224-07A

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

<b>File Name:</b>	<b>e041303</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 4/13/16 07:18 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	96	70-130
1,2-Dibromoethane (EDB)	95	70-130
Chlorobenzene	91	70-130
Ethyl Benzene	96	70-130
m,p-Xylene	98	70-130
o-Xylene	102	70-130
Styrene	96	70-130
Bromoform	101	70-130
Cumene	95	70-130
1,1,2,2-Tetrachloroethane	90	70-130
Propylbenzene	96	70-130
4-Ethyltoluene	92	70-130
1,3,5-Trimethylbenzene	94	70-130
1,2,4-Trimethylbenzene	92	70-130
1,3-Dichlorobenzene	90	70-130
1,4-Dichlorobenzene	92	70-130
alpha-Chlorotoluene	96	70-130
1,2-Dichlorobenzene	92	70-130
1,2,4-Trichlorobenzene	91	70-130
Hexachlorobutadiene	98	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1604224-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041304	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/13/16 08:03 AM

Compound	%Recovery	Method Limits
Freon 12	98	70-130
Freon 114	102	70-130
Chloromethane	90	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	91	70-130
Bromomethane	98	70-130
Chloroethane	103	70-130
Freon 11	96	70-130
Ethanol	103	70-130
Freon 113	102	70-130
1,1-Dichloroethene	95	70-130
Acetone	87	70-130
2-Propanol	98	70-130
Carbon Disulfide	86	70-130
3-Chloropropene	92	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	97	70-130
trans-1,2-Dichloroethene	97	70-130
Hexane	92	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	96	70-130
cis-1,2-Dichloroethene	93	70-130
Tetrahydrofuran	99	70-130
Chloroform	92	70-130
1,1,1-Trichloroethane	95	70-130
Cyclohexane	104	70-130
Carbon Tetrachloride	101	70-130
2,2,4-Trimethylpentane	78	70-130
Benzene	85	70-130
1,2-Dichloroethane	88	70-130
Heptane	90	70-130
Trichloroethene	92	70-130
1,2-Dichloropropane	89	70-130
1,4-Dioxane	88	70-130
Bromodichloromethane	95	70-130
cis-1,3-Dichloropropene	86	70-130
4-Methyl-2-pentanone	91	70-130
Toluene	90	70-130
trans-1,3-Dichloropropene	94	70-130
1,1,2-Trichloroethane	89	70-130
Tetrachloroethene	96	70-130
2-Hexanone	94	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1604224-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/13/16 08:03 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	95	70-130
1,2-Dibromoethane (EDB)	96	70-130
Chlorobenzene	92	70-130
Ethyl Benzene	93	70-130
m,p-Xylene	96	70-130
o-Xylene	100	70-130
Styrene	98	70-130
Bromoform	101	70-130
Cumene	96	70-130
1,1,2,2-Tetrachloroethane	91	70-130
Propylbenzene	97	70-130
4-Ethyltoluene	93	70-130
1,3,5-Trimethylbenzene	96	70-130
1,2,4-Trimethylbenzene	96	70-130
1,3-Dichlorobenzene	92	70-130
1,4-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	95	70-130
1,2-Dichlorobenzene	92	70-130
1,2,4-Trichlorobenzene	97	70-130
Hexachlorobutadiene	98	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130