

11/27/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1711232

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 11/13/2017 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 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 #: 1711232**

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>	3ESP180316
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton Landfill
<b>DATE RECEIVED:</b>	11/13/2017	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	11/27/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (174038)	Modified TO-15	3.5 "Hg	5.1 psi
02A	U1 (174039)	Modified TO-15	6.9 "Hg	5.2 psi
03A	Lab Blank	Modified TO-15	NA	NA
03B	Lab Blank	Modified TO-15	NA	NA
04A	CCV	Modified TO-15	NA	NA
04B	CCV	Modified TO-15	NA	NA
05A	LCS	Modified TO-15	NA	NA
05AA	LCSD	Modified TO-15	NA	NA
05B	LCS	Modified TO-15	NA	NA
05BB	LCSD	Modified TO-15	NA	NA

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

DATE: 11/27/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

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# 1711232**

Two 6 Liter Summa Canister (100% Certified) samples were received on November 13, 2017. 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**

There were no analytical discrepancies.

**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 (174038)**

**Lab ID#: 1711232-01A**

<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	0.15	0.39	0.75	1.9
Freon 11	0.15	0.17	0.85	0.96
Ethanol	0.76	3.8	1.4	7.2
Acetone	0.76	4.1	1.8	9.8
Hexane	0.15	0.24	0.54	0.84
2-Butanone (Methyl Ethyl Ketone)	0.76	0.95	2.2	2.8
Benzene	0.15	0.15	0.48	0.48
Heptane	0.15	0.20	0.62	0.81
Toluene	0.15	0.21	0.57	0.78

**Client Sample ID: U1 (174039)**

**Lab ID#: 1711232-02A**

<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	0.44	0.87	2.2
Freon 11	0.18	0.18	0.99	1.0
Ethanol	0.88	2.1	1.6	3.9
Acetone	0.88	3.5	2.1	8.3
2-Propanol	0.88	0.92	2.2	2.3
Methylene Chloride	0.35	1.1	1.2	4.0
Toluene	0.18	1.5	0.66	5.7



Air Toxics

Client Sample ID: D1 (174038)

Lab ID#: 1711232-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v111522	Date of Collection:	11/7/17 1:15:00 PM
Dil. Factor:	1.52	Date of Analysis:	11/16/17 07:12 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.39	0.75	1.9
Freon 114	0.15	Not Detected	1.1	Not Detected
Chloromethane	0.76	Not Detected	1.6	Not Detected
Vinyl Chloride	0.15	Not Detected	0.39	Not Detected
1,3-Butadiene	0.15	Not Detected	0.34	Not Detected
Bromomethane	0.76	Not Detected	3.0	Not Detected
Chloroethane	0.76	Not Detected	2.0	Not Detected
Freon 11	0.15	0.17	0.85	0.96
Ethanol	0.76	3.8	1.4	7.2
Freon 113	0.15	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Acetone	0.76	4.1	1.8	9.8
2-Propanol	0.76	Not Detected	1.9	Not Detected
Carbon Disulfide	0.76	Not Detected	2.4	Not Detected
3-Chloropropene	0.76	Not Detected	2.4	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.55	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Hexane	0.15	0.24	0.54	0.84
1,1-Dichloroethane	0.15	Not Detected	0.62	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.76	0.95	2.2	2.8
cis-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Tetrahydrofuran	0.76	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.74	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Cyclohexane	0.15	Not Detected	0.52	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.96	Not Detected
2,2,4-Trimethylpentane	0.76	Not Detected	3.6	Not Detected
Benzene	0.15	0.15	0.48	0.48
1,2-Dichloroethane	0.15	Not Detected	0.62	Not Detected
Heptane	0.15	0.20	0.62	0.81
Trichloroethene	0.15	Not Detected	0.82	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.70	Not Detected
1,4-Dioxane	0.15	Not Detected	0.55	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.62	Not Detected
Toluene	0.15	0.21	0.57	0.78
trans-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.76	Not Detected	3.1	Not Detected

Client Sample ID: D1 (174038)

Lab ID#: 1711232-01A

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

<b>File Name:</b>	v111522	<b>Date of Collection:</b> 11/7/17 1:15:00 PM
<b>Dil. Factor:</b>	1.52	<b>Date of Analysis:</b> 11/16/17 07:12 AM

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	1.2	Not Detected
Chlorobenzene	0.15	Not Detected	0.70	Not Detected
Ethyl Benzene	0.15	Not Detected	0.66	Not Detected
m,p-Xylene	0.15	Not Detected	0.66	Not Detected
o-Xylene	0.15	Not Detected	0.66	Not Detected
Styrene	0.15	Not Detected	0.65	Not Detected
Bromoform	0.15	Not Detected	1.6	Not Detected
Cumene	0.15	Not Detected	0.75	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.75	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.75	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.75	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.75	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,2,4-Trichlorobenzene	0.76	Not Detected	5.6	Not Detected
Hexachlorobutadiene	0.76	Not Detected	8.1	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: U1 (174039)

Lab ID#: 1711232-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v111608	Date of Collection:	11/7/17 12:25:00 PM
Dil. Factor:	1.76	Date of Analysis:	11/16/17 02:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.44	0.87	2.2
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.88	Not Detected	1.8	Not Detected
Vinyl Chloride	0.18	Not Detected	0.45	Not Detected
1,3-Butadiene	0.18	Not Detected	0.39	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.18	0.18	0.99	1.0
Ethanol	0.88	2.1	1.6	3.9
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Acetone	0.88	3.5	2.1	8.3
2-Propanol	0.88	0.92	2.2	2.3
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	0.88	Not Detected	2.8	Not Detected
Methylene Chloride	0.35	1.1	1.2	4.0
Methyl tert-butyl ether	0.18	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Hexane	0.18	Not Detected	0.62	Not Detected
1,1-Dichloroethane	0.18	Not Detected	0.71	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.96	Not Detected
Cyclohexane	0.18	Not Detected	0.60	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.88	Not Detected	4.1	Not Detected
Benzene	0.18	Not Detected	0.56	Not Detected
1,2-Dichloroethane	0.18	Not Detected	0.71	Not Detected
Heptane	0.18	Not Detected	0.72	Not Detected
Trichloroethene	0.18	Not Detected	0.94	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.81	Not Detected
1,4-Dioxane	0.18	Not Detected	0.63	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.80	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
Toluene	0.18	1.5	0.66	5.7
trans-1,3-Dichloropropene	0.18	Not Detected	0.80	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.96	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.88	Not Detected	3.6	Not Detected

Client Sample ID: U1 (174039)

Lab ID#: 1711232-02A

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

File Name:	v111608	Date of Collection:	11/7/17 12:25:00 PM
Dil. Factor:	1.76	Date of Analysis:	11/16/17 02:54 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	0.81	Not Detected
Ethyl Benzene	0.18	Not Detected	0.76	Not Detected
m,p-Xylene	0.18	Not Detected	0.76	Not Detected
o-Xylene	0.18	Not Detected	0.76	Not Detected
Styrene	0.18	Not Detected	0.75	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.91	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.88	Not Detected	6.5	Not Detected
Hexachlorobutadiene	0.88	Not Detected	9.4	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	104	70-130





Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1711232-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v111506	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/15/17 12:40 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#: 1711232-03A

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

<b>File Name:</b>	v111506	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	1.00	<b>Date of Analysis:</b> 11/15/17 12:40 PM

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	100	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1711232-03B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v111606	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/16/17 12:56 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#: 1711232-03B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v111606	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/16/17 12:56 PM

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	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1711232-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v111502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/15/17 08:47 AM

Compound	%Recovery
Freon 12	94
Freon 114	90
Chloromethane	96
Vinyl Chloride	93
1,3-Butadiene	94
Bromomethane	94
Chloroethane	106
Freon 11	92
Ethanol	96
Freon 113	92
1,1-Dichloroethene	92
Acetone	83
2-Propanol	96
Carbon Disulfide	89
3-Chloropropene	90
Methylene Chloride	90
Methyl tert-butyl ether	90
trans-1,2-Dichloroethene	95
Hexane	93
1,1-Dichloroethane	90
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	92
Tetrahydrofuran	92
Chloroform	89
1,1,1-Trichloroethane	91
Cyclohexane	93
Carbon Tetrachloride	92
2,2,4-Trimethylpentane	98
Benzene	91
1,2-Dichloroethane	95
Heptane	102
Trichloroethene	97
1,2-Dichloropropane	96
1,4-Dioxane	97
Bromodichloromethane	90
cis-1,3-Dichloropropene	96
4-Methyl-2-pentanone	100
Toluene	96
trans-1,3-Dichloropropene	93
1,1,2-Trichloroethane	89
Tetrachloroethene	98
2-Hexanone	100

Client Sample ID: CCV

Lab ID#: 1711232-04A

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

<b>File Name:</b>	<b>v111502</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 11/15/17 08:47 AM

<b>Compound</b>	<b>%Recovery</b>
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	96
Chlorobenzene	94
Ethyl Benzene	96
m,p-Xylene	88
o-Xylene	93
Styrene	94
Bromoform	105
Cumene	88
1,1,2,2-Tetrachloroethane	93
Propylbenzene	88
4-Ethyltoluene	92
1,3,5-Trimethylbenzene	91
1,2,4-Trimethylbenzene	98
1,3-Dichlorobenzene	93
1,4-Dichlorobenzene	95
alpha-Chlorotoluene	97
1,2-Dichlorobenzene	94
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	98

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1711232-04B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v111602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/16/17 09:34 AM

Compound	%Recovery
Freon 12	95
Freon 114	92
Chloromethane	96
Vinyl Chloride	91
1,3-Butadiene	92
Bromomethane	85
Chloroethane	108
Freon 11	94
Ethanol	98
Freon 113	92
1,1-Dichloroethene	90
Acetone	84
2-Propanol	98
Carbon Disulfide	89
3-Chloropropene	94
Methylene Chloride	89
Methyl tert-butyl ether	92
trans-1,2-Dichloroethene	94
Hexane	94
1,1-Dichloroethane	90
2-Butanone (Methyl Ethyl Ketone)	97
cis-1,2-Dichloroethene	91
Tetrahydrofuran	92
Chloroform	91
1,1,1-Trichloroethane	94
Cyclohexane	92
Carbon Tetrachloride	94
2,2,4-Trimethylpentane	98
Benzene	94
1,2-Dichloroethane	99
Heptane	101
Trichloroethene	104
1,2-Dichloropropane	99
1,4-Dioxane	97
Bromodichloromethane	99
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	104
Toluene	99
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	96
Tetrachloroethene	107
2-Hexanone	102



Air Toxics

Client Sample ID: CCV

Lab ID#: 1711232-04B

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

File Name:	v111602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/16/17 09:34 AM

Compound	%Recovery
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	102
Chlorobenzene	101
Ethyl Benzene	100
m,p-Xylene	95
o-Xylene	101
Styrene	102
Bromoform	113
Cumene	94
1,1,2,2-Tetrachloroethane	99
Propylbenzene	94
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	99
1,2,4-Trimethylbenzene	107
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	99
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	103
Hexachlorobutadiene	107

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130





Air Toxics

Client Sample ID: LCS

Lab ID#: 1711232-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v111503	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/15/17 09:39 AM

Compound	%Recovery	Method Limits
Freon 12	102	70-130
Freon 114	102	70-130
Chloromethane	100	70-130
Vinyl Chloride	101	70-130
1,3-Butadiene	98	70-130
Bromomethane	102	70-130
Chloroethane	120	70-130
Freon 11	103	70-130
Ethanol	106	70-130
Freon 113	98	70-130
1,1-Dichloroethene	101	70-130
Acetone	89	70-130
2-Propanol	107	70-130
Carbon Disulfide	85	70-130
3-Chloropropene	96	70-130
Methylene Chloride	96	70-130
Methyl tert-butyl ether	97	70-130
trans-1,2-Dichloroethene	86	70-130
Hexane	100	70-130
1,1-Dichloroethane	97	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	108	70-130
Tetrahydrofuran	98	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	100	70-130
Cyclohexane	102	70-130
Carbon Tetrachloride	91	70-130
2,2,4-Trimethylpentane	104	70-130
Benzene	97	70-130
1,2-Dichloroethane	98	70-130
Heptane	104	70-130
Trichloroethene	103	70-130
1,2-Dichloropropane	100	70-130
1,4-Dioxane	101	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	95	70-130
4-Methyl-2-pentanone	108	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	103	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	109	70-130
2-Hexanone	112	70-130

Client Sample ID: LCS

Lab ID#: 1711232-05A

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

<b>File Name:</b>	<b>v111503</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 11/15/17 09:39 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	108	70-130
1,2-Dibromoethane (EDB)	105	70-130
Chlorobenzene	99	70-130
Ethyl Benzene	104	70-130
m,p-Xylene	95	70-130
o-Xylene	101	70-130
Styrene	101	70-130
Bromoform	116	70-130
Cumene	94	70-130
1,1,2,2-Tetrachloroethane	99	70-130
Propylbenzene	96	70-130
4-Ethyltoluene	97	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	106	70-130
1,3-Dichlorobenzene	97	70-130
1,4-Dichlorobenzene	100	70-130
alpha-Chlorotoluene	104	70-130
1,2-Dichlorobenzene	98	70-130
1,2,4-Trichlorobenzene	98	70-130
Hexachlorobutadiene	95	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1711232-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v111504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/15/17 10:41 AM

Compound	%Recovery	Method Limits
Freon 12	104	70-130
Freon 114	101	70-130
Chloromethane	103	70-130
Vinyl Chloride	103	70-130
1,3-Butadiene	97	70-130
Bromomethane	105	70-130
Chloroethane	122	70-130
Freon 11	101	70-130
Ethanol	110	70-130
Freon 113	97	70-130
1,1-Dichloroethene	98	70-130
Acetone	89	70-130
2-Propanol	106	70-130
Carbon Disulfide	85	70-130
3-Chloropropene	94	70-130
Methylene Chloride	96	70-130
Methyl tert-butyl ether	98	70-130
trans-1,2-Dichloroethene	87	70-130
Hexane	99	70-130
1,1-Dichloroethane	95	70-130
2-Butanone (Methyl Ethyl Ketone)	103	70-130
cis-1,2-Dichloroethene	106	70-130
Tetrahydrofuran	97	70-130
Chloroform	95	70-130
1,1,1-Trichloroethane	98	70-130
Cyclohexane	100	70-130
Carbon Tetrachloride	91	70-130
2,2,4-Trimethylpentane	105	70-130
Benzene	95	70-130
1,2-Dichloroethane	94	70-130
Heptane	104	70-130
Trichloroethene	102	70-130
1,2-Dichloropropane	98	70-130
1,4-Dioxane	98	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	93	70-130
4-Methyl-2-pentanone	106	70-130
Toluene	98	70-130
trans-1,3-Dichloropropene	102	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	109	70-130
2-Hexanone	112	70-130

Client Sample ID: LCSD

Lab ID#: 1711232-05AA

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

<b>File Name:</b>	<b>v111504</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 11/15/17 10:41 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	108	70-130
1,2-Dibromoethane (EDB)	104	70-130
Chlorobenzene	101	70-130
Ethyl Benzene	106	70-130
m,p-Xylene	98	70-130
o-Xylene	103	70-130
Styrene	103	70-130
Bromoform	116	70-130
Cumene	97	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	98	70-130
4-Ethyltoluene	102	70-130
1,3,5-Trimethylbenzene	100	70-130
1,2,4-Trimethylbenzene	107	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	104	70-130
alpha-Chlorotoluene	108	70-130
1,2-Dichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	101	70-130
Hexachlorobutadiene	99	70-130

**Container Type: NA - Not Applicable**

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



Air Toxics

Client Sample ID: LCS

Lab ID#: 1711232-05B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v111603	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/16/17 10:22 AM

Compound	%Recovery	Method Limits
Freon 12	106	70-130
Freon 114	106	70-130
Chloromethane	104	70-130
Vinyl Chloride	104	70-130
1,3-Butadiene	98	70-130
Bromomethane	96	70-130
Chloroethane	122	70-130
Freon 11	105	70-130
Ethanol	113	70-130
Freon 113	99	70-130
1,1-Dichloroethene	102	70-130
Acetone	90	70-130
2-Propanol	109	70-130
Carbon Disulfide	86	70-130
3-Chloropropene	96	70-130
Methylene Chloride	98	70-130
Methyl tert-butyl ether	98	70-130
trans-1,2-Dichloroethene	89	70-130
Hexane	100	70-130
1,1-Dichloroethane	98	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	110	70-130
Tetrahydrofuran	97	70-130
Chloroform	97	70-130
1,1,1-Trichloroethane	102	70-130
Cyclohexane	100	70-130
Carbon Tetrachloride	92	70-130
2,2,4-Trimethylpentane	106	70-130
Benzene	98	70-130
1,2-Dichloroethane	102	70-130
Heptane	109	70-130
Trichloroethene	105	70-130
1,2-Dichloropropane	103	70-130
1,4-Dioxane	104	70-130
Bromodichloromethane	104	70-130
cis-1,3-Dichloropropene	98	70-130
4-Methyl-2-pentanone	112	70-130
Toluene	104	70-130
trans-1,3-Dichloropropene	106	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	111	70-130
2-Hexanone	114	70-130

Client Sample ID: LCS

Lab ID#: 1711232-05B

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

<b>File Name:</b>	<b>v111603</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 11/16/17 10:22 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	112	70-130
1,2-Dibromoethane (EDB)	108	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	107	70-130
m,p-Xylene	99	70-130
o-Xylene	103	70-130
Styrene	103	70-130
Bromoform	118	70-130
Cumene	98	70-130
1,1,2,2-Tetrachloroethane	104	70-130
Propylbenzene	101	70-130
4-Ethyltoluene	102	70-130
1,3,5-Trimethylbenzene	101	70-130
1,2,4-Trimethylbenzene	109	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	105	70-130
alpha-Chlorotoluene	109	70-130
1,2-Dichlorobenzene	103	70-130
1,2,4-Trichlorobenzene	116	70-130
Hexachlorobutadiene	112	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1711232-05BB

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v111604	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/16/17 11:09 AM

Compound	%Recovery	Method Limits
Freon 12	99	70-130
Freon 114	99	70-130
Chloromethane	98	70-130
Vinyl Chloride	97	70-130
1,3-Butadiene	95	70-130
Bromomethane	93	70-130
Chloroethane	115	70-130
Freon 11	99	70-130
Ethanol	105	70-130
Freon 113	95	70-130
1,1-Dichloroethene	94	70-130
Acetone	85	70-130
2-Propanol	104	70-130
Carbon Disulfide	82	70-130
3-Chloropropene	91	70-130
Methylene Chloride	89	70-130
Methyl tert-butyl ether	93	70-130
trans-1,2-Dichloroethene	84	70-130
Hexane	95	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	98	70-130
cis-1,2-Dichloroethene	103	70-130
Tetrahydrofuran	94	70-130
Chloroform	92	70-130
1,1,1-Trichloroethane	95	70-130
Cyclohexane	96	70-130
Carbon Tetrachloride	88	70-130
2,2,4-Trimethylpentane	100	70-130
Benzene	95	70-130
1,2-Dichloroethane	99	70-130
Heptane	104	70-130
Trichloroethene	101	70-130
1,2-Dichloropropane	99	70-130
1,4-Dioxane	100	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	95	70-130
4-Methyl-2-pentanone	108	70-130
Toluene	100	70-130
trans-1,3-Dichloropropene	101	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	107	70-130
2-Hexanone	111	70-130

Client Sample ID: LCSD

Lab ID#: 1711232-05BB

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

<b>File Name:</b>	<b>v111604</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 11/16/17 11:09 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	108	70-130
1,2-Dibromoethane (EDB)	104	70-130
Chlorobenzene	101	70-130
Ethyl Benzene	102	70-130
m,p-Xylene	94	70-130
o-Xylene	100	70-130
Styrene	101	70-130
Bromoform	115	70-130
Cumene	94	70-130
1,1,2,2-Tetrachloroethane	98	70-130
Propylbenzene	96	70-130
4-Ethyltoluene	100	70-130
1,3,5-Trimethylbenzene	100	70-130
1,2,4-Trimethylbenzene	105	70-130
1,3-Dichlorobenzene	100	70-130
1,4-Dichlorobenzene	102	70-130
alpha-Chlorotoluene	106	70-130
1,2-Dichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	115	70-130
Hexachlorobutadiene	113	70-130

**Container Type: NA - Not Applicable**

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