

11/10/2017

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

Jefferson City MO 65109

Project Name: Bridgeton LF

Project #:

Workorder #: 1710609

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 10/30/2017 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 #: 1710609**

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>	3ESP180257
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton LF
<b>DATE RECEIVED:</b>	10/30/2017	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	11/10/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172985)	Modified TO-15	5.7 "Hg	4.8 psi
02A	U1 (172986)	Modified TO-15	6.3 "Hg	5.1 psi
03A	Lab Blank	Modified TO-15	NA	NA
04A	CCV	Modified TO-15	NA	NA
05A	LCS	Modified TO-15	NA	NA
05AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:   
 Technical Director

DATE: 11/10/17

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

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**Missouri Dept. of Natural Resources**  
**Workorder# 1710609**

Two 6 Liter Summa Canister (100% Certified) samples were received on October 30, 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 (172985)**

**Lab ID#: 1710609-01A**

<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	0.16	0.43	0.81	2.1
Freon 11	0.16	0.18	0.92	1.0
Ethanol	0.82	2.4	1.5	4.6
Acetone	0.82	2.2	1.9	5.3
2-Propanol	0.82	1.3	2.0	3.3
Hexane	0.16	0.59	0.58	2.1
Heptane	0.16	0.46	0.67	1.9

**Client Sample ID: U1 (172986)**

**Lab ID#: 1710609-02A**

<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	0.17	0.41	0.84	2.0
Freon 11	0.17	0.19	0.96	1.1
Ethanol	0.86	1.9	1.6	3.6
Acetone	0.86	2.8	2.0	6.6
2-Propanol	0.86	1.3	2.1	3.2
Hexane	0.17	0.77	0.60	2.7
Heptane	0.17	0.62	0.70	2.5



Air Toxics

Client Sample ID: D1 (172985)

Lab ID#: 1710609-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110118	Date of Collection:	10/24/17 1:00:00 PM
Dil. Factor:	1.64	Date of Analysis:	11/1/17 08:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.43	0.81	2.1
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.82	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.42	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.82	Not Detected	3.2	Not Detected
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.16	0.18	0.92	1.0
Ethanol	0.82	2.4	1.5	4.6
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	2.2	1.9	5.3
2-Propanol	0.82	1.3	2.0	3.3
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Hexane	0.16	0.59	0.58	2.1
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Tetrahydrofuran	0.82	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Cyclohexane	0.16	Not Detected	0.56	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.82	Not Detected	3.8	Not Detected
Benzene	0.16	Not Detected	0.52	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	0.46	0.67	1.9
Trichloroethene	0.16	Not Detected	0.88	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.76	Not Detected
1,4-Dioxane	0.16	Not Detected	0.59	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.67	Not Detected
Toluene	0.16	Not Detected	0.62	Not Detected
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected



Client Sample ID: D1 (172985)

Lab ID#: 1710609-01A

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

File Name:	v110118	Date of Collection:	10/24/17 1:00:00 PM
Dil. Factor:	1.64	Date of Analysis:	11/1/17 08:52 PM

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

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

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



Air Toxics

Client Sample ID: U1 (172986)

Lab ID#: 1710609-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110119	Date of Collection:	10/24/17 12:55:00 P
Dil. Factor:	1.71	Date of Analysis:	11/1/17 09:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.41	0.84	2.0
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.2	Not Detected
Freon 11	0.17	0.19	0.96	1.1
Ethanol	0.86	1.9	1.6	3.6
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	2.8	2.0	6.6
2-Propanol	0.86	1.3	2.1	3.2
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	0.77	0.60	2.7
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	Not Detected	2.5	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Cyclohexane	0.17	Not Detected	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	0.62	0.70	2.5
Trichloroethene	0.17	Not Detected	0.92	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	Not Detected	0.64	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected



Client Sample ID: U1 (172986)

Lab ID#: 1710609-02A

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

<b>File Name:</b>	v110119	<b>Date of Collection:</b> 10/24/17 12:55:00 P
<b>Dil. Factor:</b>	1.71	<b>Date of Analysis:</b> 11/1/17 09:35 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	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.73	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	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	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.1	Not Detected

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

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





Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1710609-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110106	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/1/17 11:47 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#: 1710609-03A

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

<b>File Name:</b>	v110106	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	1.00	<b>Date of Analysis:</b> 11/1/17 11:47 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	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1710609-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/1/17 07:56 AM

Compound	%Recovery
Freon 12	99
Freon 114	94
Chloromethane	99
Vinyl Chloride	99
1,3-Butadiene	98
Bromomethane	102
Chloroethane	113
Freon 11	96
Ethanol	104
Freon 113	94
1,1-Dichloroethene	100
Acetone	90
2-Propanol	104
Carbon Disulfide	98
3-Chloropropene	102
Methylene Chloride	98
Methyl tert-butyl ether	99
trans-1,2-Dichloroethene	99
Hexane	99
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	109
cis-1,2-Dichloroethene	98
Tetrahydrofuran	115
Chloroform	95
1,1,1-Trichloroethane	97
Cyclohexane	101
Carbon Tetrachloride	100
2,2,4-Trimethylpentane	103
Benzene	96
1,2-Dichloroethane	96
Heptane	102
Trichloroethene	99
1,2-Dichloropropane	99
1,4-Dioxane	102
Bromodichloromethane	96
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	103
Toluene	100
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	94
Tetrachloroethene	100
2-Hexanone	102

Client Sample ID: CCV

Lab ID#: 1710609-04A

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

<b>File Name:</b>	<b>v110102</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 11/1/17 07:56 AM

<b>Compound</b>	<b>%Recovery</b>
Dibromochloromethane	100
1,2-Dibromoethane (EDB)	100
Chlorobenzene	96
Ethyl Benzene	97
m,p-Xylene	92
o-Xylene	94
Styrene	98
Bromoform	105
Cumene	91
1,1,2,2-Tetrachloroethane	96
Propylbenzene	92
4-Ethyltoluene	95
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	101
1,3-Dichlorobenzene	92
1,4-Dichlorobenzene	95
alpha-Chlorotoluene	97
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	92
Hexachlorobutadiene	93

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1710609-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110103	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/1/17 08:43 AM

Compound	%Recovery	Method Limits
Freon 12	104	70-130
Freon 114	101	70-130
Chloromethane	100	70-130
Vinyl Chloride	104	70-130
1,3-Butadiene	99	70-130
Bromomethane	108	70-130
Chloroethane	123	70-130
Freon 11	100	70-130
Ethanol	106	70-130
Freon 113	96	70-130
1,1-Dichloroethene	102	70-130
Acetone	89	70-130
2-Propanol	109	70-130
Carbon Disulfide	89	70-130
3-Chloropropene	100	70-130
Methylene Chloride	99	70-130
Methyl tert-butyl ether	100	70-130
trans-1,2-Dichloroethene	89	70-130
Hexane	100	70-130
1,1-Dichloroethane	99	70-130
2-Butanone (Methyl Ethyl Ketone)	108	70-130
cis-1,2-Dichloroethene	108	70-130
Tetrahydrofuran	97	70-130
Chloroform	98	70-130
1,1,1-Trichloroethane	99	70-130
Cyclohexane	103	70-130
Carbon Tetrachloride	104	70-130
2,2,4-Trimethylpentane	105	70-130
Benzene	98	70-130
1,2-Dichloroethane	97	70-130
Heptane	106	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	98	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	98	70-130
4-Methyl-2-pentanone	106	70-130
Toluene	101	70-130
trans-1,3-Dichloropropene	102	70-130
1,1,2-Trichloroethane	97	70-130
Tetrachloroethene	102	70-130
2-Hexanone	107	70-130

Client Sample ID: LCS

Lab ID#: 1710609-05A

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

<b>File Name:</b>	<b>v110103</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 11/1/17 08:43 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	104	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	100	70-130
m,p-Xylene	95	70-130
o-Xylene	99	70-130
Styrene	98	70-130
Bromoform	110	70-130
Cumene	92	70-130
1,1,2,2-Tetrachloroethane	99	70-130
Propylbenzene	94	70-130
4-Ethyltoluene	96	70-130
1,3,5-Trimethylbenzene	94	70-130
1,2,4-Trimethylbenzene	101	70-130
1,3-Dichlorobenzene	92	70-130
1,4-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	102	70-130
1,2-Dichlorobenzene	93	70-130
1,2,4-Trichlorobenzene	85	70-130
Hexachlorobutadiene	85	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	102	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1710609-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110104	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/1/17 09:34 AM

Compound	%Recovery	Method Limits
Freon 12	103	70-130
Freon 114	101	70-130
Chloromethane	100	70-130
Vinyl Chloride	105	70-130
1,3-Butadiene	99	70-130
Bromomethane	108	70-130
Chloroethane	121	70-130
Freon 11	101	70-130
Ethanol	105	70-130
Freon 113	96	70-130
1,1-Dichloroethene	101	70-130
Acetone	90	70-130
2-Propanol	107	70-130
Carbon Disulfide	87	70-130
3-Chloropropene	101	70-130
Methylene Chloride	100	70-130
Methyl tert-butyl ether	101	70-130
trans-1,2-Dichloroethene	89	70-130
Hexane	100	70-130
1,1-Dichloroethane	99	70-130
2-Butanone (Methyl Ethyl Ketone)	108	70-130
cis-1,2-Dichloroethene	110	70-130
Tetrahydrofuran	96	70-130
Chloroform	98	70-130
1,1,1-Trichloroethane	100	70-130
Cyclohexane	103	70-130
Carbon Tetrachloride	104	70-130
2,2,4-Trimethylpentane	103	70-130
Benzene	99	70-130
1,2-Dichloroethane	98	70-130
Heptane	105	70-130
Trichloroethene	102	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	101	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	98	70-130
4-Methyl-2-pentanone	105	70-130
Toluene	101	70-130
trans-1,3-Dichloropropene	104	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	104	70-130
2-Hexanone	107	70-130

Client Sample ID: LCSD

Lab ID#: 1710609-05AA

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

<b>File Name:</b>	<b>v110104</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 11/1/17 09:34 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	104	70-130
Chlorobenzene	99	70-130
Ethyl Benzene	101	70-130
m,p-Xylene	94	70-130
o-Xylene	99	70-130
Styrene	98	70-130
Bromoform	113	70-130
Cumene	93	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	95	70-130
4-Ethyltoluene	95	70-130
1,3,5-Trimethylbenzene	96	70-130
1,2,4-Trimethylbenzene	102	70-130
1,3-Dichlorobenzene	93	70-130
1,4-Dichlorobenzene	95	70-130
alpha-Chlorotoluene	102	70-130
1,2-Dichlorobenzene	93	70-130
1,2,4-Trichlorobenzene	87	70-130
Hexachlorobutadiene	85	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	101	70-130
4-Bromofluorobenzene	95	70-130