

4/9/2018

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1803486

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 3/27/2018 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 #: 1803486**

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>	3ESP180729
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton Landfill
<b>DATE RECEIVED:</b>	03/27/2018	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	04/09/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (180997)	Modified TO-15	4.3 "Hg	5.2 psi
02A	U1 (180998)	Modified TO-15	3.7 "Hg	5.3 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: 04/09/18

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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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**Missouri Dept. of Natural Resources**  
**Workorder# 1803486**

Two 6 Liter Summa Canister (100% Certified) samples were received on March 27, 2018. 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	<math>\leq 30\%</math> RSD with 2 compounds allowed out to <math>< 40\%</math> RSD	<math>\leq 30\%</math> RSD with 4 compounds allowed out to <math>< 40\%</math> 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**

Due to poor sensitivity at the time of instrument calibration, the reporting limit for Freon 12 was raised from 0.1ppbv to 0.5ppbv.

**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 (180997)**

**Lab ID#: 1803486-01A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 11	0.16	0.27	0.89	1.5
Acetone	0.79	1.7	1.9	4.1

**Client Sample ID: U1 (180998)**

**Lab ID#: 1803486-02A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 11	0.16	0.25	0.87	1.4
Ethanol	0.78	11	1.5	20
Acetone	0.78	7.5	1.8	18
2-Propanol	0.78	16	1.9	40
Hexane	0.16	0.20	0.55	0.72
2-Butanone (Methyl Ethyl Ketone)	0.78	0.82	2.3	2.4
Heptane	0.16	0.18	0.64	0.75



Air Toxics

Client Sample ID: D1 (180997)

Lab ID#: 1803486-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032824	Date of Collection:	3/21/18 1:15:00 PM
Dil. Factor:	1.58	Date of Analysis:	3/28/18 10:57 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.79	Not Detected	3.9	Not Detected
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.79	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.40	Not Detected
1,3-Butadiene	0.16	Not Detected	0.35	Not Detected
Bromomethane	0.79	Not Detected	3.1	Not Detected
Chloroethane	0.79	Not Detected	2.1	Not Detected
Freon 11	0.16	0.27	0.89	1.5
Ethanol	0.79	Not Detected	1.5	Not Detected
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.79	1.7	1.9	4.1
2-Propanol	0.79	Not Detected	1.9	Not Detected
Carbon Disulfide	0.79	Not Detected	2.5	Not Detected
3-Chloropropene	0.79	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.57	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Hexane	0.16	Not Detected	0.56	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.64	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.79	Not Detected	2.3	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Tetrahydrofuran	0.79	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.86	Not Detected
Cyclohexane	0.16	Not Detected	0.54	Not Detected
Carbon Tetrachloride	0.16	Not Detected	0.99	Not Detected
2,2,4-Trimethylpentane	0.79	Not Detected	3.7	Not Detected
Benzene	0.16	Not Detected	0.50	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.64	Not Detected
Heptane	0.16	Not Detected	0.65	Not Detected
Trichloroethene	0.16	Not Detected	0.85	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.73	Not Detected
1,4-Dioxane	0.16	Not Detected	0.57	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.72	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.65	Not Detected
Toluene	0.16	Not Detected	0.60	Not Detected
trans-1,3-Dichloropropene	0.16	Not Detected	0.72	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.86	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.79	Not Detected	3.2	Not Detected



Client Sample ID: D1 (180997)

Lab ID#: 1803486-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032824	Date of Collection:	3/21/18 1:15:00 PM
Dil. Factor:	1.58	Date of Analysis:	3/28/18 10:57 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	0.73	Not Detected
Ethyl Benzene	0.16	Not Detected	0.69	Not Detected
m,p-Xylene	0.16	Not Detected	0.69	Not Detected
o-Xylene	0.16	Not Detected	0.69	Not Detected
Styrene	0.16	Not Detected	0.67	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.78	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.78	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.78	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.78	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.78	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
1,2,4-Trichlorobenzene	0.79	Not Detected	5.9	Not Detected
Hexachlorobutadiene	0.79	Not Detected	8.4	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	111	70-130



Air Toxics

Client Sample ID: U1 (180998)

Lab ID#: 1803486-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032908	Date of Collection:	3/21/18 1:30:00 PM
Dil. Factor:	1.55	Date of Analysis:	3/29/18 12:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.78	Not Detected	3.8	Not Detected
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	0.25	0.87	1.4
Ethanol	0.78	11	1.5	20
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Acetone	0.78	7.5	1.8	18
2-Propanol	0.78	16	1.9	40
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	0.20	0.55	0.72
1,1-Dichloroethane	0.16	Not Detected	0.63	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.78	0.82	2.3	2.4
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	0.18	0.64	0.75
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: U1 (180998)

Lab ID#: 1803486-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032908	Date of Collection:	3/21/18 1:30:00 PM
Dil. Factor:	1.55	Date of Analysis:	3/29/18 12:24 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	115	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1803486-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032807	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/28/18 11:57 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	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#: 1803486-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032807	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/28/18 11:57 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	104	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1803486-03B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032907	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/29/18 11:48 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	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#: 1803486-03B

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

<b>File Name:</b>	<b>v032907</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 3/29/18 11:48 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	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	117	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1803486-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/28/18 09:23 AM

Compound	%Recovery
Freon 12	106
Freon 114	101
Chloromethane	107
Vinyl Chloride	101
1,3-Butadiene	98
Bromomethane	104
Chloroethane	110
Freon 11	107
Ethanol	118
Freon 113	99
1,1-Dichloroethene	95
Acetone	94
2-Propanol	112
Carbon Disulfide	97
3-Chloropropene	98
Methylene Chloride	91
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	98
Hexane	96
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	103
cis-1,2-Dichloroethene	96
Tetrahydrofuran	107
Chloroform	102
1,1,1-Trichloroethane	96
Cyclohexane	91
Carbon Tetrachloride	91
2,2,4-Trimethylpentane	94
Benzene	100
1,2-Dichloroethane	116
Heptane	103
Trichloroethene	102
1,2-Dichloropropane	100
1,4-Dioxane	102
Bromodichloromethane	102
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	119
Toluene	103
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	90
Tetrachloroethene	105
2-Hexanone	105

Client Sample ID: CCV

Lab ID#: 1803486-04A

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

<b>File Name:</b>	<b>v032803</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 3/28/18 09:23 AM

<b>Compound</b>	<b>%Recovery</b>
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	102
Chlorobenzene	100
Ethyl Benzene	99
m,p-Xylene	93
o-Xylene	96
Styrene	95
Bromoform	107
Cumene	95
1,1,2,2-Tetrachloroethane	99
Propylbenzene	98
4-Ethyltoluene	97
1,3,5-Trimethylbenzene	99
1,2,4-Trimethylbenzene	97
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	99
alpha-Chlorotoluene	102
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	122
Hexachlorobutadiene	118

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1803486-04B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/29/18 09:21 AM

Compound	%Recovery
Freon 12	115
Freon 114	104
Chloromethane	114
Vinyl Chloride	109
1,3-Butadiene	105
Bromomethane	113
Chloroethane	117
Freon 11	114
Ethanol	122
Freon 113	104
1,1-Dichloroethene	101
Acetone	103
2-Propanol	117
Carbon Disulfide	100
3-Chloropropene	106
Methylene Chloride	94
Methyl tert-butyl ether	103
trans-1,2-Dichloroethene	102
Hexane	101
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	110
cis-1,2-Dichloroethene	101
Tetrahydrofuran	114
Chloroform	106
1,1,1-Trichloroethane	101
Cyclohexane	96
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	101
Benzene	100
1,2-Dichloroethane	116
Heptane	105
Trichloroethene	105
1,2-Dichloropropane	99
1,4-Dioxane	102
Bromodichloromethane	103
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	121
Toluene	105
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	92
Tetrachloroethene	105
2-Hexanone	106





Air Toxics

Client Sample ID: CCV

Lab ID#: 1803486-04B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/29/18 09:21 AM

Compound	%Recovery
Dibromochloromethane	108
1,2-Dibromoethane (EDB)	103
Chlorobenzene	102
Ethyl Benzene	102
m,p-Xylene	100
o-Xylene	102
Styrene	99
Bromoform	112
Cumene	102
1,1,2,2-Tetrachloroethane	103
Propylbenzene	103
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	103
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	106
1,4-Dichlorobenzene	106
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	110
1,2,4-Trichlorobenzene	122
Hexachlorobutadiene	120

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1803486-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032804	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/28/18 10:07 AM

Compound	%Recovery	Method Limits
Freon 12	107	70-130
Freon 114	102	70-130
Chloromethane	104	70-130
Vinyl Chloride	101	70-130
1,3-Butadiene	99	70-130
Bromomethane	106	70-130
Chloroethane	111	70-130
Freon 11	110	70-130
Ethanol	98	70-130
Freon 113	99	70-130
1,1-Dichloroethene	98	70-130
Acetone	97	70-130
2-Propanol	116	70-130
Carbon Disulfide	86	70-130
3-Chloropropene	89	70-130
Methylene Chloride	94	70-130
Methyl tert-butyl ether	96	70-130
trans-1,2-Dichloroethene	84	70-130
Hexane	96	70-130
1,1-Dichloroethane	100	70-130
2-Butanone (Methyl Ethyl Ketone)	102	70-130
cis-1,2-Dichloroethene	107	70-130
Tetrahydrofuran	110	70-130
Chloroform	101	70-130
1,1,1-Trichloroethane	95	70-130
Cyclohexane	92	70-130
Carbon Tetrachloride	106	70-130
2,2,4-Trimethylpentane	95	70-130
Benzene	97	70-130
1,2-Dichloroethane	106	70-130
Heptane	98	70-130
Trichloroethene	98	70-130
1,2-Dichloropropane	96	70-130
1,4-Dioxane	94	70-130
Bromodichloromethane	100	70-130
cis-1,3-Dichloropropene	93	70-130
4-Methyl-2-pentanone	113	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	99	70-130
1,1,2-Trichloroethane	89	70-130
Tetrachloroethene	100	70-130
2-Hexanone	102	70-130

Client Sample ID: LCS

Lab ID#: 1803486-05A

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

<b>File Name:</b>	<b>v032804</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 3/28/18 10:07 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	102	70-130
1,2-Dibromoethane (EDB)	98	70-130
Chlorobenzene	96	70-130
Ethyl Benzene	93	70-130
m,p-Xylene	91	70-130
o-Xylene	95	70-130
Styrene	92	70-130
Bromoform	106	70-130
Cumene	94	70-130
1,1,2,2-Tetrachloroethane	97	70-130
Propylbenzene	97	70-130
4-Ethyltoluene	93	70-130
1,3,5-Trimethylbenzene	92	70-130
1,2,4-Trimethylbenzene	92	70-130
1,3-Dichlorobenzene	94	70-130
1,4-Dichlorobenzene	96	70-130
alpha-Chlorotoluene	96	70-130
1,2-Dichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	115	70-130
Hexachlorobutadiene	115	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1803486-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032805	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/28/18 10:44 AM

Compound	%Recovery	Method Limits
Freon 12	105	70-130
Freon 114	103	70-130
Chloromethane	102	70-130
Vinyl Chloride	98	70-130
1,3-Butadiene	95	70-130
Bromomethane	104	70-130
Chloroethane	109	70-130
Freon 11	110	70-130
Ethanol	96	70-130
Freon 113	99	70-130
1,1-Dichloroethene	93	70-130
Acetone	95	70-130
2-Propanol	116	70-130
Carbon Disulfide	84	70-130
3-Chloropropene	89	70-130
Methylene Chloride	93	70-130
Methyl tert-butyl ether	96	70-130
trans-1,2-Dichloroethene	84	70-130
Hexane	94	70-130
1,1-Dichloroethane	97	70-130
2-Butanone (Methyl Ethyl Ketone)	99	70-130
cis-1,2-Dichloroethene	106	70-130
Tetrahydrofuran	108	70-130
Chloroform	100	70-130
1,1,1-Trichloroethane	94	70-130
Cyclohexane	90	70-130
Carbon Tetrachloride	103	70-130
2,2,4-Trimethylpentane	91	70-130
Benzene	95	70-130
1,2-Dichloroethane	108	70-130
Heptane	98	70-130
Trichloroethene	101	70-130
1,2-Dichloropropane	95	70-130
1,4-Dioxane	94	70-130
Bromodichloromethane	102	70-130
cis-1,3-Dichloropropene	93	70-130
4-Methyl-2-pentanone	113	70-130
Toluene	98	70-130
trans-1,3-Dichloropropene	100	70-130
1,1,2-Trichloroethane	93	70-130
Tetrachloroethene	103	70-130
2-Hexanone	100	70-130

Client Sample ID: LCSD

Lab ID#: 1803486-05AA

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

<b>File Name:</b>	<b>v032805</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 3/28/18 10:44 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	101	70-130
Chlorobenzene	100	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	92	70-130
o-Xylene	96	70-130
Styrene	94	70-130
Bromoform	108	70-130
Cumene	96	70-130
1,1,2,2-Tetrachloroethane	101	70-130
Propylbenzene	100	70-130
4-Ethyltoluene	95	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	95	70-130
1,3-Dichlorobenzene	98	70-130
1,4-Dichlorobenzene	99	70-130
alpha-Chlorotoluene	101	70-130
1,2-Dichlorobenzene	104	70-130
1,2,4-Trichlorobenzene	121	70-130
Hexachlorobutadiene	119	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1803486-05B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v032904	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/29/18 09:57 AM

Compound	%Recovery	Method Limits
Freon 12	107	70-130
Freon 114	104	70-130
Chloromethane	105	70-130
Vinyl Chloride	100	70-130
1,3-Butadiene	94	70-130
Bromomethane	103	70-130
Chloroethane	107	70-130
Freon 11	110	70-130
Ethanol	98	70-130
Freon 113	98	70-130
1,1-Dichloroethene	98	70-130
Acetone	96	70-130
2-Propanol	114	70-130
Carbon Disulfide	82	70-130
3-Chloropropene	89	70-130
Methylene Chloride	93	70-130
Methyl tert-butyl ether	97	70-130
trans-1,2-Dichloroethene	83	70-130
Hexane	94	70-130
1,1-Dichloroethane	98	70-130
2-Butanone (Methyl Ethyl Ketone)	101	70-130
cis-1,2-Dichloroethene	104	70-130
Tetrahydrofuran	108	70-130
Chloroform	101	70-130
1,1,1-Trichloroethane	95	70-130
Cyclohexane	91	70-130
Carbon Tetrachloride	106	70-130
2,2,4-Trimethylpentane	92	70-130
Benzene	98	70-130
1,2-Dichloroethane	109	70-130
Heptane	100	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	95	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	103	70-130
cis-1,3-Dichloropropene	94	70-130
4-Methyl-2-pentanone	112	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	102	70-130
1,1,2-Trichloroethane	93	70-130
Tetrachloroethene	106	70-130
2-Hexanone	102	70-130

Client Sample ID: LCS

Lab ID#: 1803486-05B

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

<b>File Name:</b>	<b>v032904</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 3/29/18 09:57 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	105	70-130
1,2-Dibromoethane (EDB)	103	70-130
Chlorobenzene	99	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	92	70-130
o-Xylene	96	70-130
Styrene	94	70-130
Bromoform	113	70-130
Cumene	94	70-130
1,1,2,2-Tetrachloroethane	104	70-130
Propylbenzene	101	70-130
4-Ethyltoluene	97	70-130
1,3,5-Trimethylbenzene	99	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	99	70-130
1,4-Dichlorobenzene	100	70-130
alpha-Chlorotoluene	100	70-130
1,2-Dichlorobenzene	104	70-130
1,2,4-Trichlorobenzene	126	70-130
Hexachlorobutadiene	121	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130



Client Sample ID: LCS D

Lab ID#: 1803486-05BB

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

File Name:	v032905	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/29/18 10:34 AM

Compound	%Recovery	Method Limits
Freon 12	102	70-130
Freon 114	97	70-130
Chloromethane	98	70-130
Vinyl Chloride	96	70-130
1,3-Butadiene	92	70-130
Bromomethane	99	70-130
Chloroethane	105	70-130
Freon 11	106	70-130
Ethanol	94	70-130
Freon 113	95	70-130
1,1-Dichloroethene	94	70-130
Acetone	94	70-130
2-Propanol	110	70-130
Carbon Disulfide	80	70-130
3-Chloropropene	90	70-130
Methylene Chloride	89	70-130
Methyl tert-butyl ether	92	70-130
trans-1,2-Dichloroethene	80	70-130
Hexane	91	70-130
1,1-Dichloroethane	93	70-130
2-Butanone (Methyl Ethyl Ketone)	95	70-130
cis-1,2-Dichloroethene	103	70-130
Tetrahydrofuran	103	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	89	70-130
Cyclohexane	86	70-130
Carbon Tetrachloride	100	70-130
2,2,4-Trimethylpentane	88	70-130
Benzene	100	70-130
1,2-Dichloroethane	110	70-130
Heptane	102	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	94	70-130
1,4-Dioxane	93	70-130
Bromodichloromethane	104	70-130
cis-1,3-Dichloropropene	95	70-130
4-Methyl-2-pentanone	114	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	100	70-130
1,1,2-Trichloroethane	93	70-130
Tetrachloroethene	103	70-130
2-Hexanone	98	70-130





Air Toxics

Client Sample ID: LCSD

Lab ID#: 1803486-05BB

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

File Name:	v032905	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/29/18 10:34 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	104	70-130
1,2-Dibromoethane (EDB)	101	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	90	70-130
o-Xylene	95	70-130
Styrene	93	70-130
Bromoform	112	70-130
Cumene	94	70-130
1,1,2,2-Tetrachloroethane	103	70-130
Propylbenzene	101	70-130
4-Ethyltoluene	97	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	94	70-130
1,3-Dichlorobenzene	98	70-130
1,4-Dichlorobenzene	100	70-130
alpha-Chlorotoluene	99	70-130
1,2-Dichlorobenzene	104	70-130
1,2,4-Trichlorobenzene	126	70-130
Hexachlorobutadiene	118	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130