

3/23/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1703227

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 3/14/2017 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 #: 1703227

Work Order Summary

CLIENT:	Mr. Curt Lueckenhoff Missouri Dept. of Natural Resources 2710 West Main Jefferson City, MO 65109	BILL TO:	Accounts Payable Missouri Dept. of Natural Resources P.O Box 176 Jefferson City, MO 65102
PHONE:	573-526-3363	P.O. #	3ESP170712
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	03/14/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	03/23/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (170803)	Modified TO-15	5.9 "Hg	4.9 psi
02A	U1 (170804)	Modified TO-15	5.7 "Hg	5 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: 03/23/17

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# 1703227

Two 6 Liter Summa Canister (100% Certified) samples were received on March 14, 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

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.

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 (170803)

Lab ID#: 1703227-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.45	0.82	2.2
Freon 11	0.17	0.23	0.93	1.3
Ethanol	0.83	1.2 J0	1.6	2.2 J0
Acetone	0.83	1.5	2.0	3.5
2-Propanol	0.83	1.4	2.0	3.6
Carbon Disulfide	0.83	1.0	2.6	3.2
Hexane	0.17	0.21	0.58	0.73
Benzene	0.17	0.17	0.53	0.54
Heptane	0.17	0.27	0.68	1.1

Client Sample ID: U1 (170804)

Lab ID#: 1703227-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.54	0.82	2.7
Freon 11	0.17	0.27	0.93	1.5
Acetone	0.83	1.4	2.0	3.3
Benzene	0.17	0.16 J	0.53	0.52 J



Air Toxics

Client Sample ID: D1 (170803)

Lab ID#: 1703227-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031621	Date of Collection:	3/8/17 12:55:00 PM
Dil. Factor:	1.66	Date of Analysis:	3/17/17 07:32 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.45	0.82	2.2
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.83	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.42	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.83	Not Detected	3.2	Not Detected
Chloroethane	0.83	Not Detected	2.2	Not Detected
Freon 11	0.17	0.23	0.93	1.3
Ethanol	0.83	1.2 J0	1.6	2.2 J0
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.83	1.5	2.0	3.5
2-Propanol	0.83	1.4	2.0	3.6
Carbon Disulfide	0.83	1.0	2.6	3.2
3-Chloropropene	0.83	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	Not Detected UJ	1.2	Not Detected UJ
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	0.21	0.58	0.73
1,1-Dichloroethane	0.17	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.83	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Tetrahydrofuran	0.83	Not Detected	2.4	Not Detected
Chloroform	0.17	Not Detected	0.81	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.90	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	0.83	Not Detected	3.9	Not Detected
Benzene	0.17	0.17	0.53	0.54
1,2-Dichloroethane	0.17	Not Detected	0.67	Not Detected
Heptane	0.17	0.27	0.68	1.1
Trichloroethene	0.17	Not Detected	0.89	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	0.75	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.68	Not Detected
Toluene	0.17	Not Detected	0.62	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.75	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.90	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.83	Not Detected	3.4	Not Detected



Client Sample ID: D1 (170803)

Lab ID#: 1703227-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031621	Date of Collection:	3/8/17 12:55:00 PM
Dil. Factor:	1.66	Date of Analysis:	3/17/17 07:32 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	0.76	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	0.83	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.83	Not Detected	8.8	Not Detected

J0 = Estimated value due to bias in the CCV.

UJ = Analyte associated with low bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: U1 (170804)

Lab ID#: 1703227-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031708	Date of Collection:	3/8/17 1:05:00 PM
Dil. Factor:	1.66	Date of Analysis:	3/17/17 02:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.54	0.82	2.7
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.83	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.42	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.83	Not Detected	3.2	Not Detected
Chloroethane	0.83	Not Detected	2.2	Not Detected
Freon 11	0.17	0.27	0.93	1.5
Ethanol	0.83	Not Detected	1.6	Not Detected
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.83	1.4	2.0	3.3
2-Propanol	0.83	Not Detected	2.0	Not Detected
Carbon Disulfide	0.83	Not Detected	2.6	Not Detected
3-Chloropropene	0.83	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	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	0.66	Not Detected
Hexane	0.17	Not Detected	0.58	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.83	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Tetrahydrofuran	0.83	Not Detected	2.4	Not Detected
Chloroform	0.17	Not Detected	0.81	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.90	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	0.83	Not Detected	3.9	Not Detected
Benzene	0.17	0.16 J	0.53	0.52 J
1,2-Dichloroethane	0.17	Not Detected	0.67	Not Detected
Heptane	0.17	Not Detected	0.68	Not Detected
Trichloroethene	0.17	Not Detected	0.89	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	0.75	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.68	Not Detected
Toluene	0.17	Not Detected	0.62	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.75	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.90	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.83	Not Detected	3.4	Not Detected



Client Sample ID: U1 (170804)

Lab ID#: 1703227-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031708	Date of Collection:	3/8/17 1:05:00 PM
Dil. Factor:	1.66	Date of Analysis:	3/17/17 02:11 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	0.76	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	0.83	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.83	Not Detected	8.8	Not Detected

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	128	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1703227-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031606	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/16/17 11:58 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 UJ	0.94	Not Detected UJ
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 UJ	0.69	Not Detected UJ
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#: 1703227-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031606	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/16/17 11:58 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

UJ = Analyte associated with low bias in the CCV.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1703227-03B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031707	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/17/17 01:19 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



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1703227-03B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031707	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/17/17 01:19 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	120	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1703227-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 08:42 AM

Compound	%Recovery
Freon 12	98
Freon 114	86
Chloromethane	74
Vinyl Chloride	72
1,3-Butadiene	74
Bromomethane	83
Chloroethane	79
Freon 11	103
Ethanol	61 Q
Freon 113	86
1,1-Dichloroethene	80
Acetone	73
2-Propanol	81
Carbon Disulfide	78
3-Chloropropene	81
Methylene Chloride	65 Q
Methyl tert-butyl ether	93
trans-1,2-Dichloroethene	85
Hexane	80
1,1-Dichloroethane	86
2-Butanone (Methyl Ethyl Ketone)	83
cis-1,2-Dichloroethene	79
Tetrahydrofuran	77
Chloroform	88
1,1,1-Trichloroethane	95
Cyclohexane	87
Carbon Tetrachloride	108
2,2,4-Trimethylpentane	78
Benzene	83
1,2-Dichloroethane	98
Heptane	83
Trichloroethene	88
1,2-Dichloropropane	78
1,4-Dioxane	86
Bromodichloromethane	95
cis-1,3-Dichloropropene	87
4-Methyl-2-pentanone	84
Toluene	87
trans-1,3-Dichloropropene	98
1,1,2-Trichloroethane	91
Tetrachloroethene	94
2-Hexanone	88



Air Toxics

Client Sample ID: CCV

Lab ID#: 1703227-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 08:42 AM

Compound	%Recovery
Dibromochloromethane	99
1,2-Dibromoethane (EDB)	88
Chlorobenzene	91
Ethyl Benzene	97
m,p-Xylene	99
o-Xylene	98
Styrene	102
Bromoform	102
Cumene	104
1,1,2,2-Tetrachloroethane	79
Propylbenzene	98
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	99
1,3-Dichlorobenzene	93
1,4-Dichlorobenzene	88
alpha-Chlorotoluene	95
1,2-Dichlorobenzene	92
1,2,4-Trichlorobenzene	77
Hexachlorobutadiene	88

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	107	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1703227-04B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/17/17 09:07 AM

Compound	%Recovery
Freon 12	106
Freon 114	91
Chloromethane	81
Vinyl Chloride	78
1,3-Butadiene	80
Bromomethane	90
Chloroethane	82
Freon 11	103
Ethanol	81
Freon 113	94
1,1-Dichloroethene	91
Acetone	74
2-Propanol	88
Carbon Disulfide	82
3-Chloropropene	90
Methylene Chloride	72
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	92
Hexane	87
1,1-Dichloroethane	94
2-Butanone (Methyl Ethyl Ketone)	91
cis-1,2-Dichloroethene	89
Tetrahydrofuran	84
Chloroform	97
1,1,1-Trichloroethane	101
Cyclohexane	92
Carbon Tetrachloride	115
2,2,4-Trimethylpentane	86
Benzene	82
1,2-Dichloroethane	103
Heptane	82
Trichloroethene	88
1,2-Dichloropropane	80
1,4-Dioxane	82
Bromodichloromethane	98
cis-1,3-Dichloropropene	92
4-Methyl-2-pentanone	88
Toluene	88
trans-1,3-Dichloropropene	95
1,1,2-Trichloroethane	88
Tetrachloroethene	90
2-Hexanone	89



Air Toxics

Client Sample ID: CCV

Lab ID#: 1703227-04B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/17/17 09:07 AM

Compound	%Recovery
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	86
Chlorobenzene	88
Ethyl Benzene	94
m,p-Xylene	97
o-Xylene	96
Styrene	97
Bromoform	99
Cumene	102
1,1,2,2-Tetrachloroethane	77
Propylbenzene	95
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	97
1,3-Dichlorobenzene	90
1,4-Dichlorobenzene	87
alpha-Chlorotoluene	92
1,2-Dichlorobenzene	91
1,2,4-Trichlorobenzene	76
Hexachlorobutadiene	87

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1703227-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031603	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/16/17 09:25 AM

Compound	%Recovery	Method Limits
Freon 12	120	70-130
Freon 114	102	70-130
Chloromethane	88	70-130
Vinyl Chloride	87	70-130
1,3-Butadiene	88	70-130
Bromomethane	92	70-130
Chloroethane	96	70-130
Freon 11	122	70-130
Ethanol	66 Q	70-130
Freon 113	102	70-130
1,1-Dichloroethene	98	70-130
Acetone	85	70-130
2-Propanol	100	70-130
Carbon Disulfide	92	70-130
3-Chloropropene	98	70-130
Methylene Chloride	78	70-130
Methyl tert-butyl ether	107	70-130
trans-1,2-Dichloroethene	107	70-130
Hexane	96	70-130
1,1-Dichloroethane	98	70-130
2-Butanone (Methyl Ethyl Ketone)	99	70-130
cis-1,2-Dichloroethene	88	70-130
Tetrahydrofuran	90	70-130
Chloroform	105	70-130
1,1,1-Trichloroethane	114	70-130
Cyclohexane	104	70-130
Carbon Tetrachloride	118	70-130
2,2,4-Trimethylpentane	95	70-130
Benzene	94	70-130
1,2-Dichloroethane	114	70-130
Heptane	96	70-130
Trichloroethene	107	70-130
1,2-Dichloropropane	93	70-130
1,4-Dioxane	96	70-130
Bromodichloromethane	111	70-130
cis-1,3-Dichloropropene	109	70-130
4-Methyl-2-pentanone	104	70-130
Toluene	103	70-130
trans-1,3-Dichloropropene	109	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	102	70-130
2-Hexanone	105	70-130

Client Sample ID: LCS

Lab ID#: 1703227-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 09:25 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	111	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	99	70-130
Ethyl Benzene	107	70-130
m,p-Xylene	109	70-130
o-Xylene	111	70-130
Styrene	116	70-130
Bromoform	116	70-130
Cumene	115	70-130
1,1,2,2-Tetrachloroethane	85	70-130
Propylbenzene	108	70-130
4-Ethyltoluene	124	70-130
1,3,5-Trimethylbenzene	119	70-130
1,2,4-Trimethylbenzene	115	70-130
1,3-Dichlorobenzene	105	70-130
1,4-Dichlorobenzene	101	70-130
alpha-Chlorotoluene	114	70-130
1,2-Dichlorobenzene	107	70-130
1,2,4-Trichlorobenzene	95	70-130
Hexachlorobutadiene	102	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	111	70-130

Client Sample ID: LCS D

Lab ID#: 1703227-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 10:13 AM

Compound	%Recovery	Method Limits
Freon 12	124	70-130
Freon 114	102	70-130
Chloromethane	94	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	92	70-130
Bromomethane	100	70-130
Chloroethane	98	70-130
Freon 11	127	70-130
Ethanol	64 Q	70-130
Freon 113	107	70-130
1,1-Dichloroethene	106	70-130
Acetone	88	70-130
2-Propanol	101	70-130
Carbon Disulfide	98	70-130
3-Chloropropene	109	70-130
Methylene Chloride	82	70-130
Methyl tert-butyl ether	109	70-130
trans-1,2-Dichloroethene	108	70-130
Hexane	101	70-130
1,1-Dichloroethane	100	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	91	70-130
Tetrahydrofuran	95	70-130
Chloroform	109	70-130
1,1,1-Trichloroethane	120	70-130
Cyclohexane	107	70-130
Carbon Tetrachloride	124	70-130
2,2,4-Trimethylpentane	99	70-130
Benzene	93	70-130
1,2-Dichloroethane	112	70-130
Heptane	96	70-130
Trichloroethene	108	70-130
1,2-Dichloropropane	91	70-130
1,4-Dioxane	99	70-130
Bromodichloromethane	113	70-130
cis-1,3-Dichloropropene	108	70-130
4-Methyl-2-pentanone	104	70-130
Toluene	102	70-130
trans-1,3-Dichloropropene	112	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	104	70-130
2-Hexanone	106	70-130

Client Sample ID: LCSD

Lab ID#: 1703227-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/16/17 10:13 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	112	70-130
1,2-Dibromoethane (EDB)	98	70-130
Chlorobenzene	99	70-130
Ethyl Benzene	110	70-130
m,p-Xylene	111	70-130
o-Xylene	109	70-130
Styrene	117	70-130
Bromoform	118	70-130
Cumene	117	70-130
1,1,2,2-Tetrachloroethane	84	70-130
Propylbenzene	111	70-130
4-Ethyltoluene	123	70-130
1,3,5-Trimethylbenzene	119	70-130
1,2,4-Trimethylbenzene	117	70-130
1,3-Dichlorobenzene	106	70-130
1,4-Dichlorobenzene	103	70-130
alpha-Chlorotoluene	114	70-130
1,2-Dichlorobenzene	106	70-130
1,2,4-Trichlorobenzene	95	70-130
Hexachlorobutadiene	103	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	113	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1703227-05B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/17/17 09:51 AM

Compound	%Recovery	Method Limits
Freon 12	113	70-130
Freon 114	97	70-130
Chloromethane	84	70-130
Vinyl Chloride	86	70-130
1,3-Butadiene	85	70-130
Bromomethane	94	70-130
Chloroethane	90	70-130
Freon 11	116	70-130
Ethanol	61 Q	70-130
Freon 113	98	70-130
1,1-Dichloroethene	92	70-130
Acetone	82	70-130
2-Propanol	92	70-130
Carbon Disulfide	90	70-130
3-Chloropropene	92	70-130
Methylene Chloride	77	70-130
Methyl tert-butyl ether	101	70-130
trans-1,2-Dichloroethene	100	70-130
Hexane	92	70-130
1,1-Dichloroethane	91	70-130
2-Butanone (Methyl Ethyl Ketone)	95	70-130
cis-1,2-Dichloroethene	85	70-130
Tetrahydrofuran	88	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	110	70-130
Cyclohexane	100	70-130
Carbon Tetrachloride	111	70-130
2,2,4-Trimethylpentane	91	70-130
Benzene	94	70-130
1,2-Dichloroethane	113	70-130
Heptane	96	70-130
Trichloroethene	109	70-130
1,2-Dichloropropane	91	70-130
1,4-Dioxane	100	70-130
Bromodichloromethane	113	70-130
cis-1,3-Dichloropropene	111	70-130
4-Methyl-2-pentanone	106	70-130
Toluene	101	70-130
trans-1,3-Dichloropropene	108	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	101	70-130
2-Hexanone	102	70-130

Client Sample ID: LCS

Lab ID#: 1703227-05B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/17/17 09:51 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	108	70-130
1,2-Dibromoethane (EDB)	94	70-130
Chlorobenzene	96	70-130
Ethyl Benzene	102	70-130
m,p-Xylene	105	70-130
o-Xylene	108	70-130
Styrene	112	70-130
Bromoform	111	70-130
Cumene	111	70-130
1,1,2,2-Tetrachloroethane	80	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	116	70-130
1,3,5-Trimethylbenzene	113	70-130
1,2,4-Trimethylbenzene	109	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	97	70-130
alpha-Chlorotoluene	111	70-130
1,2-Dichlorobenzene	101	70-130
1,2,4-Trichlorobenzene	97	70-130
Hexachlorobutadiene	104	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1703227-05BB

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031704	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/17/17 10:44 AM

Compound	%Recovery	Method Limits
Freon 12	126	70-130
Freon 114	109	70-130
Chloromethane	89	70-130
Vinyl Chloride	95	70-130
1,3-Butadiene	93	70-130
Bromomethane	106	70-130
Chloroethane	101	70-130
Freon 11	130	70-130
Ethanol	72	70-130
Freon 113	99	70-130
1,1-Dichloroethene	92	70-130
Acetone	77	70-130
2-Propanol	93	70-130
Carbon Disulfide	89	70-130
3-Chloropropene	94	70-130
Methylene Chloride	75	70-130
Methyl tert-butyl ether	102	70-130
trans-1,2-Dichloroethene	103	70-130
Hexane	92	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	96	70-130
cis-1,2-Dichloroethene	85	70-130
Tetrahydrofuran	87	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	111	70-130
Cyclohexane	97	70-130
Carbon Tetrachloride	115	70-130
2,2,4-Trimethylpentane	86	70-130
Benzene	90	70-130
1,2-Dichloroethane	114	70-130
Heptane	95	70-130
Trichloroethene	108	70-130
1,2-Dichloropropane	90	70-130
1,4-Dioxane	104	70-130
Bromodichloromethane	112	70-130
cis-1,3-Dichloropropene	111	70-130
4-Methyl-2-pentanone	103	70-130
Toluene	100	70-130
trans-1,3-Dichloropropene	93	70-130
1,1,2-Trichloroethane	87	70-130
Tetrachloroethene	90	70-130
2-Hexanone	89	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1703227-05BB

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/17/17 10:44 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	101	70-130
1,2-Dibromoethane (EDB)	85	70-130
Chlorobenzene	96	70-130
Ethyl Benzene	100	70-130
m,p-Xylene	107	70-130
o-Xylene	109	70-130
Styrene	110	70-130
Bromoform	113	70-130
Cumene	110	70-130
1,1,2,2-Tetrachloroethane	78	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	115	70-130
1,3,5-Trimethylbenzene	116	70-130
1,2,4-Trimethylbenzene	112	70-130
1,3-Dichlorobenzene	100	70-130
1,4-Dichlorobenzene	99	70-130
alpha-Chlorotoluene	110	70-130
1,2-Dichlorobenzene	101	70-130
1,2,4-Trichlorobenzene	94	70-130
Hexachlorobutadiene	102	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	104	70-130