

1/9/2018  
Mr. Curt Lueckenhoff  
Missouri Dept. of Natural Resources  
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill  
Project #:  
Workorder #: 1712532

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 12/27/2017 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 #: 1712532**

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>	3ESP180415
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton Landfill
<b>DATE RECEIVED:</b>	12/27/2017	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	01/09/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (174052)	Modified TO-15	5.5 "Hg	4.7 psi
02A	U1 (174053)	Modified TO-15	5.1 "Hg	4.8 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: 01/09/18

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

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**Missouri Dept. of Natural Resources**  
**Workorder# 1712532**

Two 6 Liter Summa Canister (100% Certified) samples were received on December 27, 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 (174052)**

**Lab ID#: 1712532-01A**

<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	0.36	0.80	1.8
Freon 11	0.16	0.20	0.91	1.1
Ethanol	0.81	1.8	1.5	3.3
Acetone	0.81	2.7	1.9	6.3
Hexane	0.16	0.33	0.57	1.1
Benzene	0.16	0.17	0.52	0.54
Heptane	0.16	0.26	0.66	1.1
Toluene	0.16	0.23	0.61	0.86

**Client Sample ID: U1 (174053)**

**Lab ID#: 1712532-02A**

<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	0.16	0.41	0.79	2.0
Freon 11	0.16	0.16	0.90	0.91
Ethanol	0.80	0.96	1.5	1.8
Acetone	0.80	2.8	1.9	6.6
Hexane	0.16	0.58	0.56	2.0
Benzene	0.16	0.16 J	0.51	0.50 J
Heptane	0.16	0.38	0.66	1.6
Toluene	0.16	0.19	0.60	0.71



Air Toxics

Client Sample ID: D1 (174052)

Lab ID#: 1712532-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v122907	Date of Collection:	12/19/17 12:45:00 P
Dil. Factor:	1.62	Date of Analysis:	12/29/17 10:49 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.36	0.80	1.8
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.81	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.81	Not Detected	3.1	Not Detected
Chloroethane	0.81	Not Detected	2.1	Not Detected
Freon 11	0.16	0.20	0.91	1.1
Ethanol	0.81	1.8	1.5	3.3
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.81	2.7	1.9	6.3
2-Propanol	0.81	Not Detected	2.0	Not Detected
Carbon Disulfide	0.81	Not Detected	2.5	Not Detected
3-Chloropropene	0.81	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.58	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Hexane	0.16	0.33	0.57	1.1
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.81	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Tetrahydrofuran	0.81	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.88	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	0.81	Not Detected	3.8	Not Detected
Benzene	0.16	0.17	0.52	0.54
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	0.26	0.66	1.1
Trichloroethene	0.16	Not Detected	0.87	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.75	Not Detected
1,4-Dioxane	0.16	Not Detected	0.58	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	0.66	Not Detected
Toluene	0.16	0.23	0.61	0.86
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.81	Not Detected	3.3	Not Detected



Client Sample ID: D1 (174052)

Lab ID#: 1712532-01A

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

File Name:	v122907	Date of Collection:	12/19/17 12:45:00 P
Dil. Factor:	1.62	Date of Analysis:	12/29/17 10:49 AM

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	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	Not Detected	0.70	Not Detected
m,p-Xylene	0.16	Not Detected	0.70	Not Detected
o-Xylene	0.16	Not Detected	0.70	Not Detected
Styrene	0.16	Not Detected	0.69	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.80	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.80	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.80	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.80	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.80	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.81	Not Detected	6.0	Not Detected
Hexachlorobutadiene	0.81	Not Detected	8.6	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: U1 (174053)

Lab ID#: 1712532-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v122908	Date of Collection:	12/19/17 1:00:00 PM
Dil. Factor:	1.60	Date of Analysis:	12/29/17 11:24 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.41	0.79	2.0
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.80	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,3-Butadiene	0.16	Not Detected	0.35	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.16	0.16	0.90	0.91
Ethanol	0.80	0.96	1.5	1.8
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.80	2.8	1.9	6.6
2-Propanol	0.80	Not Detected	2.0	Not Detected
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
3-Chloropropene	0.80	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.58	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Hexane	0.16	0.58	0.56	2.0
1,1-Dichloroethane	0.16	Not Detected	0.65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.78	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.87	Not Detected
Cyclohexane	0.16	Not Detected	0.55	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.80	Not Detected	3.7	Not Detected
Benzene	0.16	0.16 J	0.51	0.50 J
1,2-Dichloroethane	0.16	Not Detected	0.65	Not Detected
Heptane	0.16	0.38	0.66	1.6
Trichloroethene	0.16	Not Detected	0.86	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.74	Not Detected
1,4-Dioxane	0.16	Not Detected	0.58	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.66	Not Detected
Toluene	0.16	0.19	0.60	0.71
trans-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.87	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.80	Not Detected	3.3	Not Detected



Client Sample ID: U1 (174053)

Lab ID#: 1712532-02A

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

File Name:	v122908	Date of Collection:	12/19/17 1:00:00 PM
Dil. Factor:	1.60	Date of Analysis:	12/29/17 11:24 AM

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	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.74	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	0.68	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.79	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.79	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.79	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	5.9	Not Detected
Hexachlorobutadiene	0.80	Not Detected	8.5	Not Detected

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	108	70-130





Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1712532-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v122906	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/29/17 09:24 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#: 1712532-03A

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

File Name:	v122906	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/29/17 09:24 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	94	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1712532-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v122902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/29/17 06:24 AM

Compound	%Recovery
Freon 12	91
Freon 114	89
Chloromethane	92
Vinyl Chloride	90
1,3-Butadiene	89
Bromomethane	100
Chloroethane	104
Freon 11	87
Ethanol	97
Freon 113	90
1,1-Dichloroethene	89
Acetone	81
2-Propanol	96
Carbon Disulfide	83
3-Chloropropene	92
Methylene Chloride	85
Methyl tert-butyl ether	89
trans-1,2-Dichloroethene	90
Hexane	90
1,1-Dichloroethane	85
2-Butanone (Methyl Ethyl Ketone)	96
cis-1,2-Dichloroethene	87
Tetrahydrofuran	103
Chloroform	85
1,1,1-Trichloroethane	89
Cyclohexane	88
Carbon Tetrachloride	86
2,2,4-Trimethylpentane	96
Benzene	85
1,2-Dichloroethane	88
Heptane	93
Trichloroethene	92
1,2-Dichloropropane	87
1,4-Dioxane	90
Bromodichloromethane	89
cis-1,3-Dichloropropene	90
4-Methyl-2-pentanone	94
Toluene	90
trans-1,3-Dichloropropene	92
1,1,2-Trichloroethane	90
Tetrachloroethene	101
2-Hexanone	99

Client Sample ID: CCV

Lab ID#: 1712532-04A

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

File Name:	v122902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/29/17 06:24 AM

Compound	%Recovery
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	95
Chlorobenzene	93
Ethyl Benzene	96
m,p-Xylene	89
o-Xylene	94
Styrene	95
Bromoform	108
Cumene	88
1,1,2,2-Tetrachloroethane	91
Propylbenzene	90
4-Ethyltoluene	92
1,3,5-Trimethylbenzene	91
1,2,4-Trimethylbenzene	98
1,3-Dichlorobenzene	92
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	94
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	88
Hexachlorobutadiene	91

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1712532-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v122903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/29/17 06:59 AM

Compound	%Recovery	Method Limits
Freon 12	87	70-130
Freon 114	89	70-130
Chloromethane	85	70-130
Vinyl Chloride	84	70-130
1,3-Butadiene	82	70-130
Bromomethane	96	70-130
Chloroethane	103	70-130
Freon 11	88	70-130
Ethanol	92	70-130
Freon 113	85	70-130
1,1-Dichloroethene	86	70-130
Acetone	75	70-130
2-Propanol	90	70-130
Carbon Disulfide	71	70-130
3-Chloropropene	84	70-130
Methylene Chloride	81	70-130
Methyl tert-butyl ether	84	70-130
trans-1,2-Dichloroethene	74	70-130
Hexane	85	70-130
1,1-Dichloroethane	83	70-130
2-Butanone (Methyl Ethyl Ketone)	86	70-130
cis-1,2-Dichloroethene	91	70-130
Tetrahydrofuran	84	70-130
Chloroform	82	70-130
1,1,1-Trichloroethane	83	70-130
Cyclohexane	86	70-130
Carbon Tetrachloride	87	70-130
2,2,4-Trimethylpentane	87	70-130
Benzene	83	70-130
1,2-Dichloroethane	86	70-130
Heptane	88	70-130
Trichloroethene	91	70-130
1,2-Dichloropropane	88	70-130
1,4-Dioxane	85	70-130
Bromodichloromethane	90	70-130
cis-1,3-Dichloropropene	82	70-130
4-Methyl-2-pentanone	90	70-130
Toluene	84	70-130
trans-1,3-Dichloropropene	93	70-130
1,1,2-Trichloroethane	90	70-130
Tetrachloroethene	97	70-130
2-Hexanone	90	70-130

Client Sample ID: LCS

Lab ID#: 1712532-05A

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

File Name:	v122903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/29/17 06:59 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	98	70-130
1,2-Dibromoethane (EDB)	94	70-130
Chlorobenzene	88	70-130
Ethyl Benzene	91	70-130
m,p-Xylene	83	70-130
o-Xylene	88	70-130
Styrene	87	70-130
Bromoform	105	70-130
Cumene	83	70-130
1,1,2,2-Tetrachloroethane	88	70-130
Propylbenzene	86	70-130
4-Ethyltoluene	89	70-130
1,3,5-Trimethylbenzene	88	70-130
1,2,4-Trimethylbenzene	94	70-130
1,3-Dichlorobenzene	86	70-130
1,4-Dichlorobenzene	87	70-130
alpha-Chlorotoluene	83	70-130
1,2-Dichlorobenzene	85	70-130
1,2,4-Trichlorobenzene	77	70-130
Hexachlorobutadiene	80	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1712532-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v122904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/29/17 07:33 AM

Compound	%Recovery	Method Limits
Freon 12	87	70-130
Freon 114	90	70-130
Chloromethane	85	70-130
Vinyl Chloride	85	70-130
1,3-Butadiene	85	70-130
Bromomethane	99	70-130
Chloroethane	104	70-130
Freon 11	88	70-130
Ethanol	91	70-130
Freon 113	86	70-130
1,1-Dichloroethene	87	70-130
Acetone	74	70-130
2-Propanol	91	70-130
Carbon Disulfide	72	70-130
3-Chloropropene	83	70-130
Methylene Chloride	82	70-130
Methyl tert-butyl ether	84	70-130
trans-1,2-Dichloroethene	74	70-130
Hexane	85	70-130
1,1-Dichloroethane	84	70-130
2-Butanone (Methyl Ethyl Ketone)	88	70-130
cis-1,2-Dichloroethene	93	70-130
Tetrahydrofuran	84	70-130
Chloroform	82	70-130
1,1,1-Trichloroethane	84	70-130
Cyclohexane	86	70-130
Carbon Tetrachloride	88	70-130
2,2,4-Trimethylpentane	87	70-130
Benzene	83	70-130
1,2-Dichloroethane	86	70-130
Heptane	89	70-130
Trichloroethene	91	70-130
1,2-Dichloropropane	86	70-130
1,4-Dioxane	83	70-130
Bromodichloromethane	90	70-130
cis-1,3-Dichloropropene	81	70-130
4-Methyl-2-pentanone	89	70-130
Toluene	84	70-130
trans-1,3-Dichloropropene	90	70-130
1,1,2-Trichloroethane	88	70-130
Tetrachloroethene	96	70-130
2-Hexanone	92	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1712532-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v122904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/29/17 07:33 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	95	70-130
1,2-Dibromoethane (EDB)	91	70-130
Chlorobenzene	87	70-130
Ethyl Benzene	88	70-130
m,p-Xylene	83	70-130
o-Xylene	86	70-130
Styrene	86	70-130
Bromoform	103	70-130
Cumene	83	70-130
1,1,2,2-Tetrachloroethane	88	70-130
Propylbenzene	85	70-130
4-Ethyltoluene	86	70-130
1,3,5-Trimethylbenzene	86	70-130
1,2,4-Trimethylbenzene	93	70-130
1,3-Dichlorobenzene	85	70-130
1,4-Dichlorobenzene	87	70-130
alpha-Chlorotoluene	83	70-130
1,2-Dichlorobenzene	84	70-130
1,2,4-Trichlorobenzene	81	70-130
Hexachlorobutadiene	84	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130