

6/13/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1705595

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 5/31/2017 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 #: 1705595**

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>	3ESP170978
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton Landfill
<b>DATE RECEIVED:</b>	05/31/2017	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	06/13/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172334)	Modified TO-15	5.7 "Hg	5.3 psi
02A	U1 (172335)	Modified TO-15	5.5 "Hg	5 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: 06/13/17

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# 1705595**

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on May 31, 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 (172334)**

**Lab ID#: 1705595-01A**

<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	0.17	0.56	0.83	2.8
Freon 11	0.17	0.25	0.94	1.4
Ethanol	0.84	5.0	1.6	9.4
Acetone	0.84	9.0	2.0	21
2-Propanol	0.84	4.6	2.1	11
2-Butanone (Methyl Ethyl Ketone)	0.84	2.1	2.5	6.3
Heptane	0.17	0.18	0.69	0.74

**Client Sample ID: U1 (172335)**

**Lab ID#: 1705595-02A**

<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	0.52	0.81	2.6
Freon 11	0.16	0.24	0.92	1.4
Ethanol	0.82	2.9	1.5	5.6
Acetone	0.82	6.6	1.9	16
2-Propanol	0.82	3.3	2.0	8.1
Hexane	0.16	0.19	0.58	0.68
2-Butanone (Methyl Ethyl Ketone)	0.82	0.92	2.4	2.7
Heptane	0.16	0.29	0.67	1.2
Toluene	0.16	0.32	0.62	1.2
m,p-Xylene	0.16	0.16 J	0.71	0.69 J



Air Toxics

Client Sample ID: D1 (172334)

Lab ID#: 1705595-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060111	Date of Collection:	5/24/17 1:30:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/1/17 05:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.56	0.83	2.8
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.84	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.25	0.94	1.4
Ethanol	0.84	5.0	1.6	9.4
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	9.0	2.0	21
2-Propanol	0.84	4.6	2.1	11
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	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	0.67	Not Detected
Hexane	0.17	Not Detected	0.59	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	2.1	2.5	6.3
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Cyclohexane	0.17	Not Detected	0.58	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.84	Not Detected	3.9	Not Detected
Benzene	0.17	Not Detected	0.54	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	0.18	0.69	0.74
Trichloroethene	0.17	Not Detected	0.90	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	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	0.76	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.69	Not Detected
Toluene	0.17	Not Detected	0.63	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.84	Not Detected	3.4	Not Detected



Client Sample ID: D1 (172334)

Lab ID#: 1705595-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060111	Date of Collection:	5/24/17 1:30:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/1/17 05:04 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	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	Not Detected	0.73	Not Detected
o-Xylene	0.17	Not Detected	0.73	Not Detected
Styrene	0.17	Not Detected	0.72	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	1.2	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	0.87	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	Not Detected

Container Type: 6 Liter Summa Canister (100% Cert Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	125	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: U1 (172335)

Lab ID#: 1705595-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060112	Date of Collection:	5/24/17 1:40:00 PM
Dil. Factor:	1.64	Date of Analysis:	6/1/17 06:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.52	0.81	2.6
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	0.24	0.92	1.4
Ethanol	0.82	2.9	1.5	5.6
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	6.6	1.9	16
2-Propanol	0.82	3.3	2.0	8.1
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	0.19	0.58	0.68
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	0.92	2.4	2.7
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	0.29	0.67	1.2
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	0.32	0.62	1.2
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: U1 (172335)

Lab ID#: 1705595-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060112	Date of Collection:	5/24/17 1:40:00 PM
Dil. Factor:	1.64	Date of Analysis:	6/1/17 06:27 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	0.16 J	0.71	0.69 J
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

J = Estimated value.

Container Type: 6 Liter Summa Canister (100% Cert Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130





Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1705595-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060108	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/1/17 02:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1,1,2-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1705595-03A

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

<b>File Name:</b>	<b>e060108</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 6/1/17 02:34 PM

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
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

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1705595-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/1/17 10:05 AM

Compound	%Recovery
Freon 12	93
Freon 114	84
Chloromethane	91
Vinyl Chloride	82
1,3-Butadiene	87
Bromomethane	88
Chloroethane	87
Freon 11	98
Ethanol	109
Freon 113	80
1,1-Dichloroethene	78
Acetone	90
2-Propanol	87
Carbon Disulfide	79
3-Chloropropene	77
Methylene Chloride	106
Methyl tert-butyl ether	88
trans-1,2-Dichloroethene	82
Hexane	85
1,1-Dichloroethane	86
2-Butanone (Methyl Ethyl Ketone)	85
cis-1,2-Dichloroethene	83
Tetrahydrofuran	93
Chloroform	90
1,1,1-Trichloroethane	92
Cyclohexane	82
Carbon Tetrachloride	103
2,2,4-Trimethylpentane	85
Benzene	78
1,2-Dichloroethane	99
Heptane	92
Trichloroethene	74
1,2-Dichloropropane	82
1,4-Dioxane	81
Bromodichloromethane	92
cis-1,3-Dichloropropene	86
4-Methyl-2-pentanone	95
Toluene	85
trans-1,3-Dichloropropene	85
1,1,2-Trichloroethane	82
Tetrachloroethene	86
2-Hexanone	86



Air Toxics

Client Sample ID: CCV

Lab ID#: 1705595-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/1/17 10:05 AM

Compound	%Recovery
Dibromochloromethane	93
1,2-Dibromoethane (EDB)	86
Chlorobenzene	84
Ethyl Benzene	90
m,p-Xylene	90
o-Xylene	86
Styrene	85
Bromoform	92
Cumene	91
1,1,2,2-Tetrachloroethane	91
Propylbenzene	88
4-Ethyltoluene	84
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	84
1,3-Dichlorobenzene	84
1,4-Dichlorobenzene	81
alpha-Chlorotoluene	86
1,2-Dichlorobenzene	83
1,2,4-Trichlorobenzene	74
Hexachlorobutadiene	92

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCS

Lab ID#: 1705595-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/1/17 11:08 AM

Compound	%Recovery	Method Limits
Freon 12	130	70-130
Freon 114	117	70-130
Chloromethane	128	70-130
Vinyl Chloride	118	70-130
1,3-Butadiene	117	70-130
Bromomethane	123	70-130
Chloroethane	119	70-130
Freon 11	136 Q	70-130
Ethanol	132 Q	70-130
Freon 113	109	70-130
1,1-Dichloroethene	108	70-130
Acetone	114	70-130
2-Propanol	126	70-130
Carbon Disulfide	110	70-130
3-Chloropropene	111	70-130
Methylene Chloride	106	70-130
Methyl tert-butyl ether	118	70-130
trans-1,2-Dichloroethene	119	70-130
Hexane	119	70-130
1,1-Dichloroethane	114	70-130
2-Butanone (Methyl Ethyl Ketone)	116	70-130
cis-1,2-Dichloroethene	103	70-130
Tetrahydrofuran	131 Q	70-130
Chloroform	120	70-130
1,1,1-Trichloroethane	127	70-130
Cyclohexane	114	70-130
Carbon Tetrachloride	78	70-130
2,2,4-Trimethylpentane	111	70-130
Benzene	106	70-130
1,2-Dichloroethane	132 Q	70-130
Heptane	127	70-130
Trichloroethene	120	70-130
1,2-Dichloropropane	114	70-130
1,4-Dioxane	117	70-130
Bromodichloromethane	127	70-130
cis-1,3-Dichloropropene	128	70-130
4-Methyl-2-pentanone	138 Q	70-130
Toluene	117	70-130
trans-1,3-Dichloropropene	121	70-130
1,1,2-Trichloroethane	111	70-130
Tetrachloroethene	115	70-130
2-Hexanone	131 Q	70-130

Client Sample ID: LCS

Lab ID#: 1705595-05A

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

File Name:	e060104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/1/17 11:08 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	123	70-130
1,2-Dibromoethane (EDB)	117	70-130
Chlorobenzene	115	70-130
Ethyl Benzene	124	70-130
m,p-Xylene	125	70-130
o-Xylene	121	70-130
Styrene	126	70-130
Bromoform	121	70-130
Cumene	125	70-130
1,1,2,2-Tetrachloroethane	104	70-130
Propylbenzene	123	70-130
4-Ethyltoluene	121	70-130
1,3,5-Trimethylbenzene	134 Q	70-130
1,2,4-Trimethylbenzene	124	70-130
1,3-Dichlorobenzene	115	70-130
1,4-Dichlorobenzene	114	70-130
alpha-Chlorotoluene	128	70-130
1,2-Dichlorobenzene	115	70-130
1,2,4-Trichlorobenzene	108	70-130
Hexachlorobutadiene	122	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

Client Sample ID: LCS D

Lab ID#: 1705595-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060105	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/1/17 11:55 AM

Compound	%Recovery	Method Limits
Freon 12	126	70-130
Freon 114	116	70-130
Chloromethane	125	70-130
Vinyl Chloride	116	70-130
1,3-Butadiene	115	70-130
Bromomethane	121	70-130
Chloroethane	120	70-130
Freon 11	134 Q	70-130
Ethanol	130	70-130
Freon 113	108	70-130
1,1-Dichloroethene	103	70-130
Acetone	111	70-130
2-Propanol	126	70-130
Carbon Disulfide	109	70-130
3-Chloropropene	106	70-130
Methylene Chloride	103	70-130
Methyl tert-butyl ether	115	70-130
trans-1,2-Dichloroethene	120	70-130
Hexane	117	70-130
1,1-Dichloroethane	113	70-130
2-Butanone (Methyl Ethyl Ketone)	117	70-130
cis-1,2-Dichloroethene	103	70-130
Tetrahydrofuran	129	70-130
Chloroform	120	70-130
1,1,1-Trichloroethane	125	70-130
Cyclohexane	114	70-130
Carbon Tetrachloride	79	70-130
2,2,4-Trimethylpentane	111	70-130
Benzene	104	70-130
1,2-Dichloroethane	129	70-130
Heptane	124	70-130
Trichloroethene	118	70-130
1,2-Dichloropropane	113	70-130
1,4-Dioxane	116	70-130
Bromodichloromethane	126	70-130
cis-1,3-Dichloropropene	127	70-130
4-Methyl-2-pentanone	137 Q	70-130
Toluene	116	70-130
trans-1,3-Dichloropropene	117	70-130
1,1,2-Trichloroethane	109	70-130
Tetrachloroethene	110	70-130
2-Hexanone	130	70-130

Client Sample ID: LCSD

Lab ID#: 1705595-05AA

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

<b>File Name:</b>	<b>e060105</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 6/1/17 11:55 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	120	70-130
1,2-Dibromoethane (EDB)	116	70-130
Chlorobenzene	113	70-130
Ethyl Benzene	120	70-130
m,p-Xylene	121	70-130
o-Xylene	116	70-130
Styrene	125	70-130
Bromoform	118	70-130
Cumene	124	70-130
1,1,2,2-Tetrachloroethane	102	70-130
Propylbenzene	120	70-130
4-Ethyltoluene	117	70-130
1,3,5-Trimethylbenzene	130	70-130
1,2,4-Trimethylbenzene	121	70-130
1,3-Dichlorobenzene	112	70-130
1,4-Dichlorobenzene	110	70-130
alpha-Chlorotoluene	125	70-130
1,2-Dichlorobenzene	113	70-130
1,2,4-Trichlorobenzene	104	70-130
Hexachlorobutadiene	121	70-130

Q = Exceeds Quality Control limits.

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	103	70-130