

3/17/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1703085

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 3/6/2017 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 #: 1703085

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; 3ESP170668
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	03/06/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	03/17/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (170801)	Modified TO-15	7.0 "Hg	5 psi
02A	U1 (170802)	Modified TO-15	7.5 "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: 03/17/17

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# 1703085**

One 6 Liter Summa Canister (100% Certified) and one 6 Liter Summa Canister (100% Cert Ambient) samples were received on March 06, 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 (170801)

Lab ID#: 1703085-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.41	0.86	2.0
Freon 11	0.18	0.30	0.98	1.7
Ethanol	0.88	4.9	1.6	9.2
Acetone	0.88	3.7	2.1	8.7
2-Propanol	0.88	2.6	2.2	6.3
Hexane	0.18	0.25	0.62	0.88
Benzene	0.18	0.18	0.56	0.56
Heptane	0.18	0.24	0.72	0.98
Toluene	0.18	0.30	0.66	1.1

Client Sample ID: U1 (170802)

Lab ID#: 1703085-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.46	0.88	2.3
Freon 11	0.18	0.23	1.0	1.3
Ethanol	0.90	3.0	1.7	5.6
Acetone	0.90	7.4	2.1	18
2-Propanol	0.90	1.2	2.2	3.0
2-Butanone (Methyl Ethyl Ketone)	0.90	1.3	2.6	3.9
Benzene	0.18	0.19	0.57	0.61
Heptane	0.18	0.26	0.73	1.1



Air Toxics

Client Sample ID: D1 (170801)

Lab ID#: 1703085-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031313	Date of Collection:	2/28/17 1:05:00 PM
Dil. Factor:	1.75	Date of Analysis:	3/13/17 02:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.41	0.86	2.0
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.88	Not Detected	1.8	Not Detected
Vinyl Chloride	0.18	Not Detected	0.45	Not Detected
1,3-Butadiene	0.18	Not Detected	0.39	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.18	0.30	0.98	1.7
Ethanol	0.88	4.9	1.6	9.2
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	3.7	2.1	8.7
2-Propanol	0.88	2.6	2.2	6.3
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	0.88	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Hexane	0.18	0.25	0.62	0.88
1,1-Dichloroethane	0.18	Not Detected	0.71	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Cyclohexane	0.18	Not Detected	0.60	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.88	Not Detected	4.1	Not Detected
Benzene	0.18	0.18	0.56	0.56
1,2-Dichloroethane	0.18	Not Detected	0.71	Not Detected
Heptane	0.18	0.24	0.72	0.98
Trichloroethene	0.18	Not Detected	0.94	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.81	Not Detected
1,4-Dioxane	0.18	Not Detected	0.63	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
Toluene	0.18	0.30	0.66	1.1
trans-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.88	Not Detected	3.6	Not Detected

Client Sample ID: D1 (170801)

Lab ID#: 1703085-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031313	Date of Collection: 2/28/17 1:05:00 PM
Dil. Factor:	1.75	Date of Analysis: 3/13/17 02:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.18	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.3	Not Detected
Chlorobenzene	0.18	Not Detected	0.80	Not Detected
Ethyl Benzene	0.18	Not Detected	0.76	Not Detected
m,p-Xylene	0.18	Not Detected	0.76	Not Detected
o-Xylene	0.18	Not Detected	0.76	Not Detected
Styrene	0.18	Not Detected	0.74	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.88	Not Detected	6.5	Not Detected
Hexachlorobutadiene	0.88	Not Detected	9.3	Not Detected

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	101	70-130



Air Toxics

Client Sample ID: U1 (170802)

Lab ID#: 1703085-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031314	Date of Collection:	2/28/17 12:55:00 PM
Dil. Factor:	1.79	Date of Analysis:	3/13/17 03:43 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.46	0.88	2.3
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.90	Not Detected	1.8	Not Detected
Vinyl Chloride	0.18	Not Detected	0.46	Not Detected
1,3-Butadiene	0.18	Not Detected	0.40	Not Detected
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.18	0.23	1.0	1.3
Ethanol	0.90	3.0	1.7	5.6
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.71	Not Detected
Acetone	0.90	7.4	2.1	18
2-Propanol	0.90	1.2	2.2	3.0
Carbon Disulfide	0.90	Not Detected	2.8	Not Detected
3-Chloropropene	0.90	Not Detected	2.8	Not Detected
Methylene Chloride	0.36	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.64	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
Hexane	0.18	Not Detected	0.63	Not Detected
1,1-Dichloroethane	0.18	Not Detected	0.72	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	1.3	2.6	3.9
cis-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.98	Not Detected
Cyclohexane	0.18	Not Detected	0.62	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.90	Not Detected	4.2	Not Detected
Benzene	0.18	0.19	0.57	0.61
1,2-Dichloroethane	0.18	Not Detected	0.72	Not Detected
Heptane	0.18	0.26	0.73	1.1
Trichloroethene	0.18	Not Detected	0.96	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.83	Not Detected
1,4-Dioxane	0.18	Not Detected	0.64	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.81	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.73	Not Detected
Toluene	0.18	Not Detected	0.67	Not Detected
trans-1,3-Dichloropropene	0.18	Not Detected	0.81	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.98	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.90	Not Detected	3.7	Not Detected



Client Sample ID: U1 (170802)

Lab ID#: 1703085-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031314	Date of Collection:	2/28/17 12:55:00 PM
Dil. Factor:	1.79	Date of Analysis:	3/13/17 03:43 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.18	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.82	Not Detected
Ethyl Benzene	0.18	Not Detected	0.78	Not Detected
m,p-Xylene	0.18	Not Detected	0.78	Not Detected
o-Xylene	0.18	Not Detected	0.78	Not Detected
Styrene	0.18	Not Detected	0.76	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.88	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.88	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.88	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.88	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.88	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.93	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.90	Not Detected	6.6	Not Detected
Hexachlorobutadiene	0.90	Not Detected	9.5	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1703085-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031310	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/13/17 12:07 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#: 1703085-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031310	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/13/17 12:07 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	122	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1703085-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/13/17 07:04 AM

Compound	%Recovery
Freon 12	102
Freon 114	90
Chloromethane	73
Vinyl Chloride	73
1,3-Butadiene	77
Bromomethane	91
Chloroethane	83
Freon 11	108
Ethanol	73
Freon 113	91
1,1-Dichloroethene	86
Acetone	75
2-Propanol	88
Carbon Disulfide	81
3-Chloropropene	86
Methylene Chloride	70
Methyl tert-butyl ether	100
trans-1,2-Dichloroethene	90
Hexane	82
1,1-Dichloroethane	87
2-Butanone (Methyl Ethyl Ketone)	90
cis-1,2-Dichloroethene	86
Tetrahydrofuran	82
Chloroform	91
1,1,1-Trichloroethane	98
Cyclohexane	91
Carbon Tetrachloride	116
2,2,4-Trimethylpentane	82
Benzene	87
1,2-Dichloroethane	107
Heptane	85
Trichloroethene	95
1,2-Dichloropropane	83
1,4-Dioxane	92
Bromodichloromethane	101
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	93
Toluene	94
trans-1,3-Dichloropropene	102
1,1,2-Trichloroethane	90
Tetrachloroethene	99
2-Hexanone	93

Client Sample ID: CCV

Lab ID#: 1703085-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/13/17 07:04 AM

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	89
Chlorobenzene	92
Ethyl Benzene	100
m,p-Xylene	104
o-Xylene	100
Styrene	106
Bromoform	107
Cumene	108
1,1,2,2-Tetrachloroethane	80
Propylbenzene	101
4-Ethyltoluene	112
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	108
1,3-Dichlorobenzene	99
1,4-Dichlorobenzene	93
alpha-Chlorotoluene	101
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	86
Hexachlorobutadiene	97

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	108	70-130

Client Sample ID: LCS

Lab ID#: 1703085-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031306	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/13/17 08:36 AM

Compound	%Recovery	Method Limits
Freon 12	115	70-130
Freon 114	99	70-130
Chloromethane	82	70-130
Vinyl Chloride	82	70-130
1,3-Butadiene	83	70-130
Bromomethane	96	70-130
Chloroethane	89	70-130
Freon 11	123	70-130
Ethanol	74	70-130
Freon 113	104	70-130
1,1-Dichloroethene	104	70-130
Acetone	85	70-130
2-Propanol	100	70-130
Carbon Disulfide	92	70-130
3-Chloropropene	100	70-130
Methylene Chloride	81	70-130
Methyl tert-butyl ether	111	70-130
trans-1,2-Dichloroethene	111	70-130
Hexane	94	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	100	70-130
cis-1,2-Dichloroethene	86	70-130
Tetrahydrofuran	90	70-130
Chloroform	104	70-130
1,1,1-Trichloroethane	115	70-130
Cyclohexane	98	70-130
Carbon Tetrachloride	121	70-130
2,2,4-Trimethylpentane	92	70-130
Benzene	93	70-130
1,2-Dichloroethane	114	70-130
Heptane	97	70-130
Trichloroethene	110	70-130
1,2-Dichloropropane	93	70-130
1,4-Dioxane	99	70-130
Bromodichloromethane	112	70-130
cis-1,3-Dichloropropene	115	70-130
4-Methyl-2-pentanone	108	70-130
Toluene	105	70-130
trans-1,3-Dichloropropene	114	70-130
1,1,2-Trichloroethane	102	70-130
Tetrachloroethene	106	70-130
2-Hexanone	104	70-130

Client Sample ID: LCS

Lab ID#: 1703085-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031306	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/13/17 08:36 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	116	70-130
1,2-Dibromoethane (EDB)	100	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	110	70-130
m,p-Xylene	115	70-130
o-Xylene	112	70-130
Styrene	120	70-130
Bromoform	120	70-130
Cumene	118	70-130
1,1,2,2-Tetrachloroethane	83	70-130
Propylbenzene	115	70-130
4-Ethyltoluene	128	70-130
1,3,5-Trimethylbenzene	124	70-130
1,2,4-Trimethylbenzene	125	70-130
1,3-Dichlorobenzene	110	70-130
1,4-Dichlorobenzene	105	70-130
alpha-Chlorotoluene	120	70-130
1,2-Dichlorobenzene	111	70-130
1,2,4-Trichlorobenzene	110	70-130
Hexachlorobutadiene	114	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1703085-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031307	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/13/17 09:18 AM

Compound	%Recovery	Method Limits
Freon 12	120	70-130
Freon 114	107	70-130
Chloromethane	90	70-130
Vinyl Chloride	93	70-130
1,3-Butadiene	88	70-130
Bromomethane	98	70-130
Chloroethane	98	70-130
Freon 11	128	70-130
Ethanol	79	70-130
Freon 113	109	70-130
1,1-Dichloroethene	104	70-130
Acetone	91	70-130
2-Propanol	104	70-130
Carbon Disulfide	96	70-130
3-Chloropropene	107	70-130
Methylene Chloride	81	70-130
Methyl tert-butyl ether	116	70-130
trans-1,2-Dichloroethene	113	70-130
Hexane	99	70-130
1,1-Dichloroethane	103	70-130
2-Butanone (Methyl Ethyl Ketone)	101	70-130
cis-1,2-Dichloroethene	90	70-130
Tetrahydrofuran	102	70-130
Chloroform	109	70-130
1,1,1-Trichloroethane	119	70-130
Cyclohexane	104	70-130
Carbon Tetrachloride	128	70-130
2,2,4-Trimethylpentane	97	70-130
Benzene	93	70-130
1,2-Dichloroethane	113	70-130
Heptane	95	70-130
Trichloroethene	107	70-130
1,2-Dichloropropane	88	70-130
1,4-Dioxane	102	70-130
Bromodichloromethane	112	70-130
cis-1,3-Dichloropropene	112	70-130
4-Methyl-2-pentanone	106	70-130
Toluene	102	70-130
trans-1,3-Dichloropropene	113	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	108	70-130
2-Hexanone	108	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1703085-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e031307	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/13/17 09:18 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	113	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	104	70-130
Ethyl Benzene	110	70-130
m,p-Xylene	113	70-130
o-Xylene	115	70-130
Styrene	120	70-130
Bromoform	122	70-130
Cumene	121	70-130
1,1,2,2-Tetrachloroethane	87	70-130
Propylbenzene	114	70-130
4-Ethyltoluene	126	70-130
1,3,5-Trimethylbenzene	125	70-130
1,2,4-Trimethylbenzene	120	70-130
1,3-Dichlorobenzene	109	70-130
1,4-Dichlorobenzene	106	70-130
alpha-Chlorotoluene	121	70-130
1,2-Dichlorobenzene	109	70-130
1,2,4-Trichlorobenzene	102	70-130
Hexachlorobutadiene	110	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	111	70-130