

4/16/2018

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1804051

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 4/3/2018 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker
Project Manager

WORK ORDER #: 1804051

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. #	3ESP180729
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	04/03/2018	CONTACT:	Brian Whittaker
DATE COMPLETED:	04/16/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (180999)	Modified TO-15	4.3 "Hg	4.9 psi
02A	U1 (181000)	Modified TO-15	5.7 "Hg	5.3 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: 04/16/18

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1804051**

Two 6 Liter Summa Canister (100% Certified) samples were received on April 03, 2018. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Initial Calibration	</=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

Due to the linear calibration range of the instrument, the reporting limit for Freon 12 was raised from 0.10ppbv to 0.50ppbv.

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 (180999)

Lab ID#: 1804051-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.26	0.88	1.4
Ethanol	0.78	1.8	1.5	3.4
Acetone	0.78	1.8	1.8	4.4
2-Propanol	0.78	0.97	1.9	2.4
Hexane	0.16	0.24	0.55	0.85
Heptane	0.16	0.18	0.64	0.72
Toluene	0.16	0.19	0.59	0.72

Client Sample ID: U1 (181000)

Lab ID#: 1804051-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.17	0.23	0.94	1.3
Ethanol	0.84	1.8	1.6	3.4
Acetone	0.84	3.7	2.0	8.8
2-Propanol	0.84	1.4	2.1	3.5
Methylene Chloride	0.34	0.42	1.2	1.5
Toluene	0.17	0.75	0.63	2.8



Air Toxics

Client Sample ID: D1 (180999)

Lab ID#: 1804051-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040409	Date of Collection:	3/28/18 1:10:00 PM
Dil. Factor:	1.56	Date of Analysis:	4/4/18 03:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.78	Not Detected	3.8	Not Detected
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.78	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.40	Not Detected
1,3-Butadiene	0.16	Not Detected	0.34	Not Detected
Bromomethane	0.78	Not Detected	3.0	Not Detected
Chloroethane	0.78	Not Detected	2.0	Not Detected
Freon 11	0.16	0.26	0.88	1.4
Ethanol	0.78	1.8	1.5	3.4
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Acetone	0.78	1.8	1.8	4.4
2-Propanol	0.78	0.97	1.9	2.4
Carbon Disulfide	0.78	Not Detected	2.4	Not Detected
3-Chloropropene	0.78	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.56	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Hexane	0.16	0.24	0.55	0.85
1,1-Dichloroethane	0.16	Not Detected	0.63	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.78	Not Detected	2.3	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Tetrahydrofuran	0.78	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.76	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.85	Not Detected
Cyclohexane	0.16	Not Detected	0.54	Not Detected
Carbon Tetrachloride	0.16	Not Detected	0.98	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.6	Not Detected
Benzene	0.16	Not Detected	0.50	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.63	Not Detected
Heptane	0.16	0.18	0.64	0.72
Trichloroethene	0.16	Not Detected	0.84	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected	0.56	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.64	Not Detected
Toluene	0.16	0.19	0.59	0.72
trans-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.85	Not Detected
Tetrachloroethene	0.16	Not Detected	1.0	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected



Client Sample ID: D1 (180999)

Lab ID#: 1804051-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040409	Date of Collection:	3/28/18 1:10:00 PM
Dil. Factor:	1.56	Date of Analysis:	4/4/18 03:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.72	Not Detected
Ethyl Benzene	0.16	Not Detected	0.68	Not Detected
m,p-Xylene	0.16	Not Detected	0.68	Not Detected
o-Xylene	0.16	Not Detected	0.68	Not Detected
Styrene	0.16	Not Detected	0.66	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.77	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.77	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.77	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.77	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.77	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.81	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected
Hexachlorobutadiene	0.78	Not Detected	8.3	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	113	70-130



Air Toxics

Client Sample ID: U1 (181000)

Lab ID#: 1804051-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040410	Date of Collection:	3/28/18 1:00:00 PM
Dil. Factor:	1.68	Date of Analysis:	4/4/18 03:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.84	Not Detected	4.2	Not Detected
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	0.23	0.94	1.3
Ethanol	0.84	1.8	1.6	3.4
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	3.7	2.0	8.8
2-Propanol	0.84	1.4	2.1	3.5
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	0.42	1.2	1.5
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	Not Detected	2.5	Not Detected
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	Not Detected	0.69	Not Detected
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	0.75	0.63	2.8
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



Air Toxics

Client Sample ID: U1 (181000)

Lab ID#: 1804051-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040410	Date of Collection: 3/28/18 1:00:00 PM
Dil. Factor:	1.68	Date of Analysis: 4/4/18 03:56 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% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	115	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1804051-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040406	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/4/18 12:40 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1,1,2-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1804051-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040406	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/4/18 12:40 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	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	116	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1804051-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/4/18 10:06 AM

Compound	%Recovery
Freon 12	109
Freon 114	101
Chloromethane	105
Vinyl Chloride	96
1,3-Butadiene	98
Bromomethane	102
Chloroethane	106
Freon 11	114
Ethanol	120
Freon 113	100
1,1-Dichloroethene	94
Acetone	92
2-Propanol	112
Carbon Disulfide	93
3-Chloropropene	94
Methylene Chloride	91
Methyl tert-butyl ether	99
trans-1,2-Dichloroethene	95
Hexane	95
1,1-Dichloroethane	97
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	94
Tetrahydrofuran	107
Chloroform	102
1,1,1-Trichloroethane	101
Cyclohexane	90
Carbon Tetrachloride	88
2,2,4-Trimethylpentane	92
Benzene	95
1,2-Dichloroethane	116
Heptane	96
Trichloroethene	102
1,2-Dichloropropane	92
1,4-Dioxane	94
Bromodichloromethane	101
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	114
Toluene	99
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	89
Tetrachloroethene	104
2-Hexanone	100

Client Sample ID: CCV

Lab ID#: 1804051-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/4/18 10:06 AM

Compound	%Recovery
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	100
Chlorobenzene	97
Ethyl Benzene	91
m,p-Xylene	89
o-Xylene	90
Styrene	88
Bromoform	110
Cumene	93
1,1,2,2-Tetrachloroethane	98
Propylbenzene	97
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	98
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	99
alpha-Chlorotoluene	95
1,2-Dichlorobenzene	101
1,2,4-Trichlorobenzene	119
Hexachlorobutadiene	120

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1804051-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040403	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/4/18 10:49 AM

Compound	%Recovery	Method Limits
Freon 12	110	70-130
Freon 114	105	70-130
Chloromethane	101	70-130
Vinyl Chloride	96	70-130
1,3-Butadiene	95	70-130
Bromomethane	99	70-130
Chloroethane	108	70-130
Freon 11	116	70-130
Ethanol	100	70-130
Freon 113	100	70-130
1,1-Dichloroethene	94	70-130
Acetone	94	70-130
2-Propanol	115	70-130
Carbon Disulfide	83	70-130
3-Chloropropene	82	70-130
Methylene Chloride	91	70-130
Methyl tert-butyl ether	97	70-130
trans-1,2-Dichloroethene	85	70-130
Hexane	93	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	97	70-130
cis-1,2-Dichloroethene	107	70-130
Tetrahydrofuran	107	70-130
Chloroform	102	70-130
1,1,1-Trichloroethane	98	70-130
Cyclohexane	89	70-130
Carbon Tetrachloride	107	70-130
2,2,4-Trimethylpentane	92	70-130
Benzene	99	70-130
1,2-Dichloroethane	118	70-130
Heptane	100	70-130
Trichloroethene	106	70-130
1,2-Dichloropropane	96	70-130
1,4-Dioxane	93	70-130
Bromodichloromethane	104	70-130
cis-1,3-Dichloropropene	96	70-130
4-Methyl-2-pentanone	118	70-130
Toluene	101	70-130
trans-1,3-Dichloropropene	100	70-130
1,1,2-Trichloroethane	89	70-130
Tetrachloroethene	104	70-130
2-Hexanone	96	70-130

Client Sample ID: LCS

Lab ID#: 1804051-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/4/18 10:49 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	105	70-130
1,2-Dibromoethane (EDB)	100	70-130
Chlorobenzene	97	70-130
Ethyl Benzene	95	70-130
m,p-Xylene	87	70-130
o-Xylene	90	70-130
Styrene	89	70-130
Bromoform	112	70-130
Cumene	92	70-130
1,1,2,2-Tetrachloroethane	97	70-130
Propylbenzene	92	70-130
4-Ethyltoluene	89	70-130
1,3,5-Trimethylbenzene	93	70-130
1,2,4-Trimethylbenzene	91	70-130
1,3-Dichlorobenzene	91	70-130
1,4-Dichlorobenzene	92	70-130
alpha-Chlorotoluene	94	70-130
1,2-Dichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	120	70-130
Hexachlorobutadiene	118	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: LCSD

Lab ID#: 1804051-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/4/18 11:26 AM

Compound	%Recovery	Method Limits
Freon 12	113	70-130
Freon 114	107	70-130
Chloromethane	103	70-130
Vinyl Chloride	100	70-130
1,3-Butadiene	97	70-130
Bromomethane	105	70-130
Chloroethane	109	70-130
Freon 11	119	70-130
Ethanol	104	70-130
Freon 113	103	70-130
1,1-Dichloroethene	100	70-130
Acetone	94	70-130
2-Propanol	118	70-130
Carbon Disulfide	84	70-130
3-Chloropropene	86	70-130
Methylene Chloride	94	70-130
Methyl tert-butyl ether	101	70-130
trans-1,2-Dichloroethene	84	70-130
Hexane	96	70-130
1,1-Dichloroethane	100	70-130
2-Butanone (Methyl Ethyl Ketone)	99	70-130
cis-1,2-Dichloroethene	106	70-130
Tetrahydrofuran	109	70-130
Chloroform	104	70-130
1,1,1-Trichloroethane	101	70-130
Cyclohexane	92	70-130
Carbon Tetrachloride	110	70-130
2,2,4-Trimethylpentane	94	70-130
Benzene	101	70-130
1,2-Dichloroethane	119	70-130
Heptane	101	70-130
Trichloroethene	103	70-130
1,2-Dichloropropane	99	70-130
1,4-Dioxane	97	70-130
Bromodichloromethane	108	70-130
cis-1,3-Dichloropropene	98	70-130
4-Methyl-2-pentanone	120	70-130
Toluene	103	70-130
trans-1,3-Dichloropropene	104	70-130
1,1,2-Trichloroethane	93	70-130
Tetrachloroethene	109	70-130
2-Hexanone	103	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1804051-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v040404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/4/18 11:26 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	111	70-130
1,2-Dibromoethane (EDB)	106	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	96	70-130
m,p-Xylene	94	70-130
o-Xylene	96	70-130
Styrene	94	70-130
Bromoform	116	70-130
Cumene	98	70-130
1,1,2,2-Tetrachloroethane	103	70-130
Propylbenzene	100	70-130
4-Ethyltoluene	97	70-130
1,3,5-Trimethylbenzene	99	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	98	70-130
1,4-Dichlorobenzene	101	70-130
alpha-Chlorotoluene	96	70-130
1,2-Dichlorobenzene	105	70-130
1,2,4-Trichlorobenzene	127	70-130
Hexachlorobutadiene	126	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	105	70-130