

1/16/2018
Mr. Curt Lueckenhoff
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1801042

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 1/4/2018 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 #: 1801042

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. #	3ESP180446
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	01/04/2018	CONTACT:	Brian Whittaker
DATE COMPLETED:	01/16/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (174054)	Modified TO-15	3.1 "Hg	5 psi
02A	U1 (174055)	Modified TO-15	3.5 "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: 01/16/18

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# 1801042

Two 6 Liter Summa Canister (100% Certified) samples were received on January 04, 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	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	$\leq 30\%$ 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 (174054)

Lab ID#: 1801042-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.40	0.74	2.0
Freon 11	0.15	0.19	0.84	1.1
Ethanol	0.74	1.3	1.4	2.4
Acetone	0.74	0.98	1.8	2.3
Hexane	0.15	0.23	0.52	0.81
Benzene	0.15	0.16	0.48	0.52
Toluene	0.15	0.20	0.56	0.74

Client Sample ID: U1 (174055)

Lab ID#: 1801042-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.43	0.75	2.1
Freon 11	0.15	0.19	0.85	1.1
Ethanol	0.76	1.7	1.4	3.2
Acetone	0.76	1.2	1.8	2.7
Hexane	0.15	0.20	0.54	0.69
Benzene	0.15	0.19	0.48	0.62
Toluene	0.15	0.21	0.57	0.79



Air Toxics

Client Sample ID: D1 (174054)

Lab ID#: 1801042-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010512	Date of Collection:	12/28/17 1:15:00 PM
Dil. Factor:	1.49	Date of Analysis:	1/5/18 05:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.40	0.74	2.0
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.74	Not Detected	1.5	Not Detected
Vinyl Chloride	0.15	Not Detected	0.38	Not Detected
1,3-Butadiene	0.15	Not Detected	0.33	Not Detected
Bromomethane	0.74	Not Detected	2.9	Not Detected
Chloroethane	0.74	Not Detected	2.0	Not Detected
Freon 11	0.15	0.19	0.84	1.1
Ethanol	0.74	1.3	1.4	2.4
Freon 113	0.15	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Acetone	0.74	0.98	1.8	2.3
2-Propanol	0.74	Not Detected	1.8	Not Detected
Carbon Disulfide	0.74	Not Detected	2.3	Not Detected
3-Chloropropene	0.74	Not Detected	2.3	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.54	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Hexane	0.15	0.23	0.52	0.81
1,1-Dichloroethane	0.15	Not Detected	0.60	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.74	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Tetrahydrofuran	0.74	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.73	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.81	Not Detected
Cyclohexane	0.15	Not Detected	0.51	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.94	Not Detected
2,2,4-Trimethylpentane	0.74	Not Detected	3.5	Not Detected
Benzene	0.15	0.16	0.48	0.52
1,2-Dichloroethane	0.15	Not Detected	0.60	Not Detected
Heptane	0.15	Not Detected	0.61	Not Detected
Trichloroethene	0.15	Not Detected	0.80	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.69	Not Detected
1,4-Dioxane	0.15	Not Detected	0.54	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.61	Not Detected
Toluene	0.15	0.20	0.56	0.74
trans-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.81	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.74	Not Detected	3.0	Not Detected



Air Toxics

Client Sample ID: D1 (174054)

Lab ID#: 1801042-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010512	Date of Collection:	12/28/17 1:15:00 PM
Dil. Factor:	1.49	Date of Analysis:	1/5/18 05:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.1	Not Detected
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
Ethyl Benzene	0.15	Not Detected	0.65	Not Detected
m,p-Xylene	0.15	Not Detected	0.65	Not Detected
o-Xylene	0.15	Not Detected	0.65	Not Detected
Styrene	0.15	Not Detected	0.63	Not Detected
Bromoform	0.15	Not Detected	1.5	Not Detected
Cumene	0.15	Not Detected	0.73	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.73	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.73	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.73	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.73	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.77	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,2,4-Trichlorobenzene	0.74	Not Detected	5.5	Not Detected
Hexachlorobutadiene	0.74	Not Detected	7.9	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: U1 (174055)

Lab ID#: 1801042-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010513	Date of Collection:	12/28/17 1:00:00 PM
Dil. Factor:	1.52	Date of Analysis:	1/5/18 05:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.43	0.75	2.1
Freon 114	0.15	Not Detected	1.1	Not Detected
Chloromethane	0.76	Not Detected	1.6	Not Detected
Vinyl Chloride	0.15	Not Detected	0.39	Not Detected
1,3-Butadiene	0.15	Not Detected	0.34	Not Detected
Bromomethane	0.76	Not Detected	3.0	Not Detected
Chloroethane	0.76	Not Detected	2.0	Not Detected
Freon 11	0.15	0.19	0.85	1.1
Ethanol	0.76	1.7	1.4	3.2
Freon 113	0.15	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Acetone	0.76	1.2	1.8	2.7
2-Propanol	0.76	Not Detected	1.9	Not Detected
Carbon Disulfide	0.76	Not Detected	2.4	Not Detected
3-Chloropropene	0.76	Not Detected	2.4	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.55	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Hexane	0.15	0.20	0.54	0.69
1,1-Dichloroethane	0.15	Not Detected	0.62	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.76	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Tetrahydrofuran	0.76	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.74	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Cyclohexane	0.15	Not Detected	0.52	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.96	Not Detected
2,2,4-Trimethylpentane	0.76	Not Detected	3.6	Not Detected
Benzene	0.15	0.19	0.48	0.62
1,2-Dichloroethane	0.15	Not Detected	0.62	Not Detected
Heptane	0.15	Not Detected	0.62	Not Detected
Trichloroethene	0.15	Not Detected	0.82	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.70	Not Detected
1,4-Dioxane	0.15	Not Detected	0.55	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.62	Not Detected
Toluene	0.15	0.21	0.57	0.79
trans-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.76	Not Detected	3.1	Not Detected



Client Sample ID: U1 (174055)

Lab ID#: 1801042-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010513	Date of Collection:	12/28/17 1:00:00 PM
Dil. Factor:	1.52	Date of Analysis:	1/5/18 05:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.2	Not Detected
Chlorobenzene	0.15	Not Detected	0.70	Not Detected
Ethyl Benzene	0.15	Not Detected	0.66	Not Detected
m,p-Xylene	0.15	Not Detected	0.66	Not Detected
o-Xylene	0.15	Not Detected	0.66	Not Detected
Styrene	0.15	Not Detected	0.65	Not Detected
Bromoform	0.15	Not Detected	1.6	Not Detected
Cumene	0.15	Not Detected	0.75	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.75	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.75	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.75	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.75	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,2,4-Trichlorobenzene	0.76	Not Detected	5.6	Not Detected
Hexachlorobutadiene	0.76	Not Detected	8.1	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1801042-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010506	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/5/18 11:49 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#: 1801042-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010506	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/5/18 11:49 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	93	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1801042-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/5/18 08:12 AM

Compound	%Recovery
Freon 12	88
Freon 114	90
Chloromethane	90
Vinyl Chloride	86
1,3-Butadiene	90
Bromomethane	102
Chloroethane	101
Freon 11	88
Ethanol	91
Freon 113	90
1,1-Dichloroethene	88
Acetone	78
2-Propanol	89
Carbon Disulfide	84
3-Chloropropene	92
Methylene Chloride	85
Methyl tert-butyl ether	88
trans-1,2-Dichloroethene	90
Hexane	89
1,1-Dichloroethane	86
2-Butanone (Methyl Ethyl Ketone)	93
cis-1,2-Dichloroethene	88
Tetrahydrofuran	92
Chloroform	86
1,1,1-Trichloroethane	90
Cyclohexane	90
Carbon Tetrachloride	82
2,2,4-Trimethylpentane	92
Benzene	88
1,2-Dichloroethane	90
Heptane	95
Trichloroethene	96
1,2-Dichloropropane	91
1,4-Dioxane	92
Bromodichloromethane	91
cis-1,3-Dichloropropene	92
4-Methyl-2-pentanone	97
Toluene	90
trans-1,3-Dichloropropene	93
1,1,2-Trichloroethane	91
Tetrachloroethene	103
2-Hexanone	96



Air Toxics

Client Sample ID: CCV

Lab ID#: 1801042-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/5/18 08:12 AM

Compound	%Recovery
Dibromochloromethane	100
1,2-Dibromoethane (EDB)	97
Chlorobenzene	92
Ethyl Benzene	91
m,p-Xylene	85
o-Xylene	87
Styrene	88
Bromoform	107
Cumene	82
1,1,2,2-Tetrachloroethane	88
Propylbenzene	86
4-Ethyltoluene	91
1,3,5-Trimethylbenzene	88
1,2,4-Trimethylbenzene	95
1,3-Dichlorobenzene	88
1,4-Dichlorobenzene	91
alpha-Chlorotoluene	84
1,2-Dichlorobenzene	87
1,2,4-Trichlorobenzene	83
Hexachlorobutadiene	88

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1801042-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/5/18 09:07 AM

Compound	%Recovery	Method Limits
Freon 12	85	70-130
Freon 114	87	70-130
Chloromethane	85	70-130
Vinyl Chloride	84	70-130
1,3-Butadiene	83	70-130
Bromomethane	99	70-130
Chloroethane	100	70-130
Freon 11	86	70-130
Ethanol	85	70-130
Freon 113	84	70-130
1,1-Dichloroethene	85	70-130
Acetone	73	70-130
2-Propanol	86	70-130
Carbon Disulfide	70	70-130
3-Chloropropene	79	70-130
Methylene Chloride	80	70-130
Methyl tert-butyl ether	81	70-130
trans-1,2-Dichloroethene	73	70-130
Hexane	84	70-130
1,1-Dichloroethane	80	70-130
2-Butanone (Methyl Ethyl Ketone)	83	70-130
cis-1,2-Dichloroethene	92	70-130
Tetrahydrofuran	82	70-130
Chloroform	79	70-130
1,1,1-Trichloroethane	83	70-130
Cyclohexane	84	70-130
Carbon Tetrachloride	86	70-130
2,2,4-Trimethylpentane	86	70-130
Benzene	81	70-130
1,2-Dichloroethane	84	70-130
Heptane	88	70-130
Trichloroethene	87	70-130
1,2-Dichloropropane	84	70-130
1,4-Dioxane	82	70-130
Bromodichloromethane	89	70-130
cis-1,3-Dichloropropene	80	70-130
4-Methyl-2-pentanone	89	70-130
Toluene	84	70-130
trans-1,3-Dichloropropene	88	70-130
1,1,2-Trichloroethane	86	70-130
Tetrachloroethene	95	70-130
2-Hexanone	90	70-130

Client Sample ID: LCS

Lab ID#: 1801042-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/5/18 09:07 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	94	70-130
1,2-Dibromoethane (EDB)	92	70-130
Chlorobenzene	87	70-130
Ethyl Benzene	89	70-130
m,p-Xylene	84	70-130
o-Xylene	88	70-130
Styrene	87	70-130
Bromoform	102	70-130
Cumene	82	70-130
1,1,2,2-Tetrachloroethane	84	70-130
Propylbenzene	84	70-130
4-Ethyltoluene	86	70-130
1,3,5-Trimethylbenzene	84	70-130
1,2,4-Trimethylbenzene	91	70-130
1,3-Dichlorobenzene	84	70-130
1,4-Dichlorobenzene	87	70-130
alpha-Chlorotoluene	80	70-130
1,2-Dichlorobenzene	84	70-130
1,2,4-Trichlorobenzene	82	70-130
Hexachlorobutadiene	85	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1801042-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/5/18 09:58 AM

Compound	%Recovery	Method Limits
Freon 12	88	70-130
Freon 114	89	70-130
Chloromethane	86	70-130
Vinyl Chloride	86	70-130
1,3-Butadiene	83	70-130
Bromomethane	101	70-130
Chloroethane	103	70-130
Freon 11	88	70-130
Ethanol	95	70-130
Freon 113	86	70-130
1,1-Dichloroethene	86	70-130
Acetone	73	70-130
2-Propanol	88	70-130
Carbon Disulfide	70	70-130
3-Chloropropene	85	70-130
Methylene Chloride	82	70-130
Methyl tert-butyl ether	83	70-130
trans-1,2-Dichloroethene	75	70-130
Hexane	86	70-130
1,1-Dichloroethane	83	70-130
2-Butanone (Methyl Ethyl Ketone)	86	70-130
cis-1,2-Dichloroethene	90	70-130
Tetrahydrofuran	84	70-130
Chloroform	83	70-130
1,1,1-Trichloroethane	85	70-130
Cyclohexane	85	70-130
Carbon Tetrachloride	87	70-130
2,2,4-Trimethylpentane	91	70-130
Benzene	81	70-130
1,2-Dichloroethane	84	70-130
Heptane	90	70-130
Trichloroethene	88	70-130
1,2-Dichloropropane	86	70-130
1,4-Dioxane	81	70-130
Bromodichloromethane	86	70-130
cis-1,3-Dichloropropene	80	70-130
4-Methyl-2-pentanone	89	70-130
Toluene	86	70-130
trans-1,3-Dichloropropene	88	70-130
1,1,2-Trichloroethane	86	70-130
Tetrachloroethene	96	70-130
2-Hexanone	92	70-130

Client Sample ID: LCSD

Lab ID#: 1801042-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v010504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/5/18 09:58 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	95	70-130
1,2-Dibromoethane (EDB)	93	70-130
Chlorobenzene	90	70-130
Ethyl Benzene	91	70-130
m,p-Xylene	85	70-130
o-Xylene	90	70-130
Styrene	91	70-130
Bromoform	102	70-130
Cumene	85	70-130
1,1,2,2-Tetrachloroethane	87	70-130
Propylbenzene	88	70-130
4-Ethyltoluene	87	70-130
1,3,5-Trimethylbenzene	86	70-130
1,2,4-Trimethylbenzene	92	70-130
1,3-Dichlorobenzene	89	70-130
1,4-Dichlorobenzene	92	70-130
alpha-Chlorotoluene	84	70-130
1,2-Dichlorobenzene	88	70-130
1,2,4-Trichlorobenzene	91	70-130
Hexachlorobutadiene	96	70-130

Container Type: NA - Not Applicable

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