

11/21/2017

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

Jefferson City MO 65109

Project Name: Bridgeton LF

Project #:

Workorder #: 1711137

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 11/8/2017 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 #: 1711137

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. #	3ESP180316
FAX:	573-526-3350	PROJECT #	Bridgeton LF
DATE RECEIVED:	11/08/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	11/21/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172987)	Modified TO-15	5.3 "Hg	4.8 psi
02A	U1 (172988)	Modified TO-15	6.3 "Hg	5.1 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: 11/21/17

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# 1711137**

Two 6 Liter Summa Canister (100% Certified) samples were received on November 08, 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 (172987)

Lab ID#: 1711137-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.80	2.1
Freon 11	0.16	0.20	0.90	1.1
Ethanol	0.80	2.1	1.5	4.0
Acetone	0.80	4.1	1.9	9.7
Hexane	0.16	0.16	0.57	0.57
Toluene	0.16	0.28	0.61	1.1

Client Sample ID: U1 (172988)

Lab ID#: 1711137-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.43	0.84	2.1
Freon 11	0.17	0.19	0.96	1.1
Ethanol	0.86	1.6	1.6	3.1
Acetone	0.86	3.7	2.0	8.7
Hexane	0.17	0.18	0.60	0.62
Toluene	0.17	0.26	0.64	0.98



Air Toxics

Client Sample ID: D1 (172987)

Lab ID#: 1711137-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110916	Date of Collection:	11/2/17 1:30:00 PM
Dil. Factor:	1.61	Date of Analysis:	11/9/17 07:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.80	2.1
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.80	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.16	0.20	0.90	1.1
Ethanol	0.80	2.1	1.5	4.0
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.80	4.1	1.9	9.7
2-Propanol	0.80	Not Detected	2.0	Not Detected
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
3-Chloropropene	0.80	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.58	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Hexane	0.16	0.16	0.57	0.57
1,1-Dichloroethane	0.16	Not Detected	0.65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Cyclohexane	0.16	Not Detected	0.55	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.80	Not Detected	3.8	Not Detected
Benzene	0.16	Not Detected	0.51	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.65	Not Detected
Heptane	0.16	Not Detected	0.66	Not Detected
Trichloroethene	0.16	Not Detected	0.86	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.74	Not Detected
1,4-Dioxane	0.16	Not Detected	0.58	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.66	Not Detected
Toluene	0.16	0.28	0.61	1.1
trans-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.80	Not Detected	3.3	Not Detected



Client Sample ID: D1 (172987)

Lab ID#: 1711137-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110916	Date of Collection:	11/2/17 1:30:00 PM
Dil. Factor:	1.61	Date of Analysis:	11/9/17 07:07 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	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	Not Detected	0.70	Not Detected
m,p-Xylene	0.16	Not Detected	0.70	Not Detected
o-Xylene	0.16	Not Detected	0.70	Not Detected
Styrene	0.16	Not Detected	0.68	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.79	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.79	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.79	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	6.0	Not Detected
Hexachlorobutadiene	0.80	Not Detected	8.6	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	118	70-130



Air Toxics

Client Sample ID: U1 (172988)

Lab ID#: 1711137-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110917	Date of Collection:	11/2/17 1:35:00 PM
Dil. Factor:	1.71	Date of Analysis:	11/9/17 07:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.43	0.84	2.1
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.2	Not Detected
Freon 11	0.17	0.19	0.96	1.1
Ethanol	0.86	1.6	1.6	3.1
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	3.7	2.0	8.7
2-Propanol	0.86	Not Detected	2.1	Not Detected
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	0.18	0.60	0.62
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	Not Detected	2.5	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Cyclohexane	0.17	Not Detected	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	Not Detected	0.70	Not Detected
Trichloroethene	0.17	Not Detected	0.92	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	0.26	0.64	0.98
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected



Client Sample ID: U1 (172988)

Lab ID#: 1711137-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110917	Date of Collection:	11/2/17 1:35:00 PM
Dil. Factor:	1.71	Date of Analysis:	11/9/17 07:50 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	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.73	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	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	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.1	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	118	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1711137-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110905	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/9/17 10:45 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#: 1711137-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110905	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/9/17 10:45 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	118	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	116	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1711137-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/9/17 08:07 AM

Compound	%Recovery
Freon 12	99
Freon 114	86
Chloromethane	88
Vinyl Chloride	100
1,3-Butadiene	100
Bromomethane	127
Chloroethane	100
Freon 11	90
Ethanol	101
Freon 113	92
1,1-Dichloroethene	96
Acetone	85
2-Propanol	98
Carbon Disulfide	98
3-Chloropropene	103
Methylene Chloride	89
Methyl tert-butyl ether	110
trans-1,2-Dichloroethene	96
Hexane	115
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	107
cis-1,2-Dichloroethene	99
Tetrahydrofuran	109
Chloroform	96
1,1,1-Trichloroethane	99
Cyclohexane	112
Carbon Tetrachloride	81
2,2,4-Trimethylpentane	123
Benzene	92
1,2-Dichloroethane	89
Heptane	104
Trichloroethene	90
1,2-Dichloropropane	94
1,4-Dioxane	96
Bromodichloromethane	89
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	114
Toluene	96
trans-1,3-Dichloropropene	94
1,1,2-Trichloroethane	88
Tetrachloroethene	86
2-Hexanone	107

Client Sample ID: CCV

Lab ID#: 1711137-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/9/17 08:07 AM

Compound	%Recovery
Dibromochloromethane	93
1,2-Dibromoethane (EDB)	93
Chlorobenzene	92
Ethyl Benzene	98
m,p-Xylene	100
o-Xylene	104
Styrene	106
Bromoform	94
Cumene	104
1,1,2,2-Tetrachloroethane	94
Propylbenzene	102
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	116
1,2,4-Trimethylbenzene	124
1,3-Dichlorobenzene	90
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	89
1,2,4-Trichlorobenzene	124
Hexachlorobutadiene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	122	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1711137-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/9/17 09:08 AM

Compound	%Recovery	Method Limits
Freon 12	92	70-130
Freon 114	87	70-130
Chloromethane	81	70-130
Vinyl Chloride	93	70-130
1,3-Butadiene	91	70-130
Bromomethane	121	70-130
Chloroethane	95	70-130
Freon 11	86	70-130
Ethanol	105	70-130
Freon 113	82	70-130
1,1-Dichloroethene	90	70-130
Acetone	86	70-130
2-Propanol	106	70-130
Carbon Disulfide	79	70-130
3-Chloropropene	91	70-130
Methylene Chloride	88	70-130
Methyl tert-butyl ether	98	70-130
trans-1,2-Dichloroethene	77	70-130
Hexane	105	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	97	70-130
cis-1,2-Dichloroethene	101	70-130
Tetrahydrofuran	101	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	89	70-130
Cyclohexane	102	70-130
Carbon Tetrachloride	88	70-130
2,2,4-Trimethylpentane	111	70-130
Benzene	85	70-130
1,2-Dichloroethane	83	70-130
Heptane	97	70-130
Trichloroethene	82	70-130
1,2-Dichloropropane	90	70-130
1,4-Dioxane	92	70-130
Bromodichloromethane	85	70-130
cis-1,3-Dichloropropene	92	70-130
4-Methyl-2-pentanone	110	70-130
Toluene	88	70-130
trans-1,3-Dichloropropene	91	70-130
1,1,2-Trichloroethane	85	70-130
Tetrachloroethene	80	70-130
2-Hexanone	107	70-130

Client Sample ID: LCS

Lab ID#: 1711137-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/9/17 09:08 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	92	70-130
1,2-Dibromoethane (EDB)	91	70-130
Chlorobenzene	87	70-130
Ethyl Benzene	91	70-130
m,p-Xylene	95	70-130
o-Xylene	100	70-130
Styrene	100	70-130
Bromoform	93	70-130
Cumene	98	70-130
1,1,2,2-Tetrachloroethane	94	70-130
Propylbenzene	98	70-130
4-Ethyltoluene	102	70-130
1,3,5-Trimethylbenzene	109	70-130
1,2,4-Trimethylbenzene	111	70-130
1,3-Dichlorobenzene	87	70-130
1,4-Dichlorobenzene	88	70-130
alpha-Chlorotoluene	103	70-130
1,2-Dichlorobenzene	87	70-130
1,2,4-Trichlorobenzene	126	70-130
Hexachlorobutadiene	97	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	118	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1711137-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110904	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/9/17 09:53 AM

Compound	%Recovery	Method Limits
Freon 12	88	70-130
Freon 114	84	70-130
Chloromethane	76	70-130
Vinyl Chloride	89	70-130
1,3-Butadiene	88	70-130
Bromomethane	115	70-130
Chloroethane	92	70-130
Freon 11	85	70-130
Ethanol	99	70-130
Freon 113	80	70-130
1,1-Dichloroethene	88	70-130
Acetone	81	70-130
2-Propanol	100	70-130
Carbon Disulfide	77	70-130
3-Chloropropene	89	70-130
Methylene Chloride	85	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	74	70-130
Hexane	98	70-130
1,1-Dichloroethane	88	70-130
2-Butanone (Methyl Ethyl Ketone)	94	70-130
cis-1,2-Dichloroethene	97	70-130
Tetrahydrofuran	98	70-130
Chloroform	85	70-130
1,1,1-Trichloroethane	85	70-130
Cyclohexane	96	70-130
Carbon Tetrachloride	85	70-130
2,2,4-Trimethylpentane	103	70-130
Benzene	84	70-130
1,2-Dichloroethane	82	70-130
Heptane	95	70-130
Trichloroethene	80	70-130
1,2-Dichloropropane	87	70-130
1,4-Dioxane	91	70-130
Bromodichloromethane	86	70-130
cis-1,3-Dichloropropene	88	70-130
4-Methyl-2-pentanone	108	70-130
Toluene	87	70-130
trans-1,3-Dichloropropene	88	70-130
1,1,2-Trichloroethane	81	70-130
Tetrachloroethene	78	70-130
2-Hexanone	104	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1711137-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21110904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/9/17 09:53 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	88	70-130
1,2-Dibromoethane (EDB)	86	70-130
Chlorobenzene	81	70-130
Ethyl Benzene	91	70-130
m,p-Xylene	97	70-130
o-Xylene	100	70-130
Styrene	104	70-130
Bromoform	91	70-130
Cumene	100	70-130
1,1,2,2-Tetrachloroethane	92	70-130
Propylbenzene	100	70-130
4-Ethyltoluene	105	70-130
1,3,5-Trimethylbenzene	114	70-130
1,2,4-Trimethylbenzene	115	70-130
1,3-Dichlorobenzene	88	70-130
1,4-Dichlorobenzene	90	70-130
alpha-Chlorotoluene	106	70-130
1,2-Dichlorobenzene	89	70-130
1,2,4-Trichlorobenzene	128	70-130
Hexachlorobutadiene	101	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	125	70-130