

12/20/2017

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

Jefferson City MO 65109

Project Name: Bridgeton LF

Project #:

Workorder #: 1712172

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 12/8/2017 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 #: 1712172

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. #	3ESP180371
FAX:	573-526-3350	PROJECT #	Bridgeton LF
DATE RECEIVED:	12/08/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	12/20/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (174046)	Modified TO-15	5.7 "Hg	4.9 psi
02A	U1 (174047)	Modified TO-15	6.9 "Hg	4.9 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: 12/20/17

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

LABORATORY NARRATIVE
Modified TO-15 Low Level
Missouri Dept. of Natural Resources
Workorder# 1712172

Two 6 Liter Summa Canister (100% Certified) samples were received on December 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 (174046)

Lab ID#: 1712172-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.82	2.1
Freon 11	0.16	0.17	0.93	0.97
Ethanol	0.82	3.4	1.6	6.4
Acetone	0.82	4.5	2.0	11
2-Propanol	0.82	0.87	2.0	2.1
Hexane	0.16	0.26	0.58	0.91
Heptane	0.16	0.18	0.68	0.76
Toluene	0.16	0.26	0.62	0.98

Client Sample ID: U1 (174047)

Lab ID#: 1712172-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.43	0.86	2.1
Freon 11	0.17	0.17 J	0.97	0.96 J
Ethanol	0.86	0.91	1.6	1.7
Acetone	0.86	2.9	2.0	6.9
2-Propanol	0.86	1.0	2.1	2.5
Hexane	0.17	0.47	0.61	1.6
Benzene	0.17	0.21	0.55	0.68
Heptane	0.17	0.67	0.71	2.8
m,p-Xylene	0.17	0.17 J	0.75	0.74 J



Air Toxics

Client Sample ID: D1 (174046)

Lab ID#: 1712172-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121109	Date of Collection:	12/4/17 1:20:00 PM
Dil. Factor:	1.65	Date of Analysis:	12/11/17 02:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.82	2.1
Freon 114	0.16	Not Detected	1.2	Not Detected
Chloromethane	0.82	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.42	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.82	Not Detected	3.2	Not Detected
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.16	0.17	0.93	0.97
Ethanol	0.82	3.4	1.6	6.4
Freon 113	0.16	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	4.5	2.0	11
2-Propanol	0.82	0.87	2.0	2.1
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Hexane	0.16	0.26	0.58	0.91
1,1-Dichloroethane	0.16	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Tetrahydrofuran	0.82	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Cyclohexane	0.16	Not Detected	0.57	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.82	Not Detected	3.8	Not Detected
Benzene	0.16	Not Detected	0.53	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.67	Not Detected
Heptane	0.16	0.18	0.68	0.76
Trichloroethene	0.16	Not Detected	0.89	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.76	Not Detected
1,4-Dioxane	0.16	Not Detected	0.59	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.75	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.68	Not Detected
Toluene	0.16	0.26	0.62	0.98
trans-1,3-Dichloropropene	0.16	Not Detected	0.75	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected



Client Sample ID: D1 (174046)

Lab ID#: 1712172-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121109	Date of Collection:	12/4/17 1:20:00 PM
Dil. Factor:	1.65	Date of Analysis:	12/11/17 02:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.72	Not Detected
m,p-Xylene	0.16	Not Detected	0.72	Not Detected
o-Xylene	0.16	Not Detected	0.72	Not Detected
Styrene	0.16	Not Detected	0.70	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.81	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.81	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.81	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.1	Not Detected
Hexachlorobutadiene	0.82	Not Detected	8.8	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	107	70-130



Air Toxics

Client Sample ID: U1 (174047)

Lab ID#: 1712172-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121110	Date of Collection:	12/4/17 1:30:00 PM
Dil. Factor:	1.73	Date of Analysis:	12/11/17 03:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.43	0.86	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	3.4	Not Detected
Chloroethane	0.86	Not Detected	2.3	Not Detected
Freon 11	0.17	0.17 J	0.97	0.96 J
Ethanol	0.86	0.91	1.6	1.7
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	2.9	2.0	6.9
2-Propanol	0.86	1.0	2.1	2.5
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	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	0.47	0.61	1.6
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.6	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Cyclohexane	0.17	Not Detected	0.60	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	0.21	0.55	0.68
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	0.67	0.71	2.8
Trichloroethene	0.17	Not Detected	0.93	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.80	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.71	Not Detected
Toluene	0.17	Not Detected	0.65	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.94	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 (174047)

Lab ID#: 1712172-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121110	Date of Collection:	12/4/17 1:30:00 PM
Dil. Factor:	1.73	Date of Analysis:	12/11/17 03:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.80	Not Detected
Ethyl Benzene	0.17	Not Detected	0.75	Not Detected
m,p-Xylene	0.17	0.17 J	0.75	0.74 J
o-Xylene	0.17	Not Detected	0.75	Not Detected
Styrene	0.17	Not Detected	0.74	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.85	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.85	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.85	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.85	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.85	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	0.90	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.2	Not Detected

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	111	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1712172-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121106	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/11/17 12:05 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#: 1712172-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121106	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/11/17 12:05 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	93	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1712172-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/11/17 08:40 AM

Compound	%Recovery
Freon 12	97
Freon 114	94
Chloromethane	94
Vinyl Chloride	94
1,3-Butadiene	93
Bromomethane	103
Chloroethane	102
Freon 11	94
Ethanol	108
Freon 113	96
1,1-Dichloroethene	93
Acetone	83
2-Propanol	99
Carbon Disulfide	88
3-Chloropropene	96
Methylene Chloride	89
Methyl tert-butyl ether	95
trans-1,2-Dichloroethene	92
Hexane	93
1,1-Dichloroethane	90
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	91
Tetrahydrofuran	89
Chloroform	91
1,1,1-Trichloroethane	97
Cyclohexane	94
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	100
Benzene	87
1,2-Dichloroethane	91
Heptane	95
Trichloroethene	96
1,2-Dichloropropane	90
1,4-Dioxane	93
Bromodichloromethane	93
cis-1,3-Dichloropropene	92
4-Methyl-2-pentanone	94
Toluene	92
trans-1,3-Dichloropropene	96
1,1,2-Trichloroethane	93
Tetrachloroethene	104
2-Hexanone	100



Air Toxics

Client Sample ID: CCV

Lab ID#: 1712172-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/11/17 08:40 AM

Compound	%Recovery
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	98
Chlorobenzene	95
Ethyl Benzene	98
m,p-Xylene	94
o-Xylene	97
Styrene	99
Bromoform	112
Cumene	92
1,1,2,2-Tetrachloroethane	92
Propylbenzene	92
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	94
1,2,4-Trimethylbenzene	101
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	98
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	85
Hexachlorobutadiene	85

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1712172-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121103	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/11/17 09:28 AM

Compound	%Recovery	Method Limits
Freon 12	96	70-130
Freon 114	96	70-130
Chloromethane	91	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	88	70-130
Bromomethane	112	70-130
Chloroethane	112	70-130
Freon 11	96	70-130
Ethanol	93	70-130
Freon 113	93	70-130
1,1-Dichloroethene	91	70-130
Acetone	78	70-130
2-Propanol	95	70-130
Carbon Disulfide	77	70-130
3-Chloropropene	90	70-130
Methylene Chloride	86	70-130
Methyl tert-butyl ether	91	70-130
trans-1,2-Dichloroethene	80	70-130
Hexane	93	70-130
1,1-Dichloroethane	89	70-130
2-Butanone (Methyl Ethyl Ketone)	90	70-130
cis-1,2-Dichloroethene	100	70-130
Tetrahydrofuran	86	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	92	70-130
Cyclohexane	93	70-130
Carbon Tetrachloride	97	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	88	70-130
1,2-Dichloroethane	92	70-130
Heptane	97	70-130
Trichloroethene	97	70-130
1,2-Dichloropropane	90	70-130
1,4-Dioxane	90	70-130
Bromodichloromethane	91	70-130
cis-1,3-Dichloropropene	87	70-130
4-Methyl-2-pentanone	94	70-130
Toluene	95	70-130
trans-1,3-Dichloropropene	92	70-130
1,1,2-Trichloroethane	90	70-130
Tetrachloroethene	102	70-130
2-Hexanone	95	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1712172-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/11/17 09:28 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	100	70-130
1,2-Dibromoethane (EDB)	96	70-130
Chlorobenzene	91	70-130
Ethyl Benzene	95	70-130
m,p-Xylene	94	70-130
o-Xylene	98	70-130
Styrene	97	70-130
Bromoform	108	70-130
Cumene	92	70-130
1,1,2,2-Tetrachloroethane	89	70-130
Propylbenzene	93	70-130
4-Ethyltoluene	94	70-130
1,3,5-Trimethylbenzene	91	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	95	70-130
1,4-Dichlorobenzene	98	70-130
alpha-Chlorotoluene	97	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	76	70-130
Hexachlorobutadiene	80	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1712172-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121104	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/11/17 10:19 AM

Compound	%Recovery	Method Limits
Freon 12	98	70-130
Freon 114	97	70-130
Chloromethane	94	70-130
Vinyl Chloride	96	70-130
1,3-Butadiene	90	70-130
Bromomethane	110	70-130
Chloroethane	112	70-130
Freon 11	95	70-130
Ethanol	93	70-130
Freon 113	94	70-130
1,1-Dichloroethene	93	70-130
Acetone	77	70-130
2-Propanol	95	70-130
Carbon Disulfide	77	70-130
3-Chloropropene	91	70-130
Methylene Chloride	88	70-130
Methyl tert-butyl ether	92	70-130
trans-1,2-Dichloroethene	81	70-130
Hexane	94	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	92	70-130
cis-1,2-Dichloroethene	100	70-130
Tetrahydrofuran	87	70-130
Chloroform	90	70-130
1,1,1-Trichloroethane	93	70-130
Cyclohexane	94	70-130
Carbon Tetrachloride	98	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	85	70-130
1,2-Dichloroethane	86	70-130
Heptane	92	70-130
Trichloroethene	91	70-130
1,2-Dichloropropane	87	70-130
1,4-Dioxane	87	70-130
Bromodichloromethane	89	70-130
cis-1,3-Dichloropropene	82	70-130
4-Methyl-2-pentanone	88	70-130
Toluene	88	70-130
trans-1,3-Dichloropropene	90	70-130
1,1,2-Trichloroethane	86	70-130
Tetrachloroethene	98	70-130
2-Hexanone	92	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1712172-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v121104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/11/17 10:19 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	96	70-130
1,2-Dibromoethane (EDB)	92	70-130
Chlorobenzene	88	70-130
Ethyl Benzene	93	70-130
m,p-Xylene	88	70-130
o-Xylene	92	70-130
Styrene	91	70-130
Bromoform	105	70-130
Cumene	88	70-130
1,1,2,2-Tetrachloroethane	87	70-130
Propylbenzene	88	70-130
4-Ethyltoluene	91	70-130
1,3,5-Trimethylbenzene	88	70-130
1,2,4-Trimethylbenzene	94	70-130
1,3-Dichlorobenzene	90	70-130
1,4-Dichlorobenzene	93	70-130
alpha-Chlorotoluene	88	70-130
1,2-Dichlorobenzene	90	70-130
1,2,4-Trichlorobenzene	70	70-130
Hexachlorobutadiene	73	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130