

12/6/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1711367

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 11/21/2017 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 #: 1711367

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. #	3ESP180351
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	11/21/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	12/06/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (174040)	Modified TO-15	4.1 "Hg	5.1 psi
02A	U1 (174041)	Modified TO-15	4.9 "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: 12/06/17

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
Missouri Dept. of Natural Resources
Workorder# 1711367**

Two 6 Liter Summa Canister (100% Certified) samples were received on November 21, 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 (174040)

Lab ID#: 1711367-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.20	0.88	1.1
Ethanol	0.78	1.3	1.5	2.4
Acetone	0.78	1.5	1.8	3.6
Hexane	0.16	0.21	0.55	0.75
Toluene	0.16	0.18	0.59	0.69

Client Sample ID: U1 (174041)

Lab ID#: 1711367-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.41	0.79	2.0
Freon 11	0.16	0.20	0.90	1.1
Ethanol	0.80	3.6	1.5	6.7
Acetone	0.80	7.1	1.9	17
2-Propanol	0.80	0.80	2.0	2.0
Hexane	0.16	1.7	0.56	5.9
2-Butanone (Methyl Ethyl Ketone)	0.80	1.8	2.4	5.2
2,2,4-Trimethylpentane	0.80	0.84	3.7	3.9
Benzene	0.16	0.17	0.51	0.54
Heptane	0.16	1.2	0.66	5.0
Toluene	0.16	0.23	0.60	0.88



Air Toxics

Client Sample ID: D1 (174040)

Lab ID#: 1711367-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112207	Date of Collection:	11/14/17 1:20:00 PM
Dil. Factor:	1.56	Date of Analysis:	11/22/17 01:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	Not Detected	0.77	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	0.20	0.88	1.1
Ethanol	0.78	1.3	1.5	2.4
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Acetone	0.78	1.5	1.8	3.6
2-Propanol	0.78	Not Detected	1.9	Not Detected
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	0.21	0.55	0.75
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	Not Detected	0.64	Not Detected
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	0.18	0.59	0.69
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 (174040)

Lab ID#: 1711367-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112207	Date of Collection:	11/14/17 1:20:00 PM
Dil. Factor:	1.56	Date of Analysis:	11/22/17 01:48 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	96	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: U1 (174041)

Lab ID#: 1711367-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112208	Date of Collection:	11/14/17 1:10:00 PM
Dil. Factor:	1.60	Date of Analysis:	11/22/17 02:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.41	0.79	2.0
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.80	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,3-Butadiene	0.16	Not Detected	0.35	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	3.6	1.5	6.7
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.80	7.1	1.9	17
2-Propanol	0.80	0.80	2.0	2.0
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	0.63	Not Detected
Hexane	0.16	1.7	0.56	5.9
1,1-Dichloroethane	0.16	Not Detected	0.65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	1.8	2.4	5.2
cis-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.78	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.87	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	0.84	3.7	3.9
Benzene	0.16	0.17	0.51	0.54
1,2-Dichloroethane	0.16	Not Detected	0.65	Not Detected
Heptane	0.16	1.2	0.66	5.0
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	0.23	0.60	0.88
trans-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.87	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.80	Not Detected	3.3	Not Detected



Client Sample ID: U1 (174041)

Lab ID#: 1711367-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112208	Date of Collection:	11/14/17 1:10:00 PM
Dil. Factor:	1.60	Date of Analysis:	11/22/17 02:26 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	0.69	Not Detected
m,p-Xylene	0.16	Not Detected	0.69	Not Detected
o-Xylene	0.16	Not Detected	0.69	Not Detected
Styrene	0.16	Not Detected	0.68	Not Detected
Bromoform	0.16	Not Detected	1.6	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	0.96	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	5.9	Not Detected
Hexachlorobutadiene	0.80	Not Detected	8.5	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	107	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1711367-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112206	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/22/17 12:13 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#: 1711367-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112206	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/22/17 12:13 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	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1711367-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/22/17 08:12 AM

Compound	%Recovery
Freon 12	99
Freon 114	96
Chloromethane	96
Vinyl Chloride	94
1,3-Butadiene	96
Bromomethane	100
Chloroethane	110
Freon 11	97
Ethanol	101
Freon 113	96
1,1-Dichloroethene	93
Acetone	87
2-Propanol	100
Carbon Disulfide	90
3-Chloropropene	91
Methylene Chloride	90
Methyl tert-butyl ether	94
trans-1,2-Dichloroethene	98
Hexane	94
1,1-Dichloroethane	91
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	94
Tetrahydrofuran	122
Chloroform	92
1,1,1-Trichloroethane	97
Cyclohexane	95
Carbon Tetrachloride	95
2,2,4-Trimethylpentane	99
Benzene	90
1,2-Dichloroethane	97
Heptane	100
Trichloroethene	99
1,2-Dichloropropane	93
1,4-Dioxane	94
Bromodichloromethane	98
cis-1,3-Dichloropropene	94
4-Methyl-2-pentanone	99
Toluene	94
trans-1,3-Dichloropropene	98
1,1,2-Trichloroethane	94
Tetrachloroethene	104
2-Hexanone	102



Air Toxics

Client Sample ID: CCV

Lab ID#: 1711367-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/22/17 08:12 AM

Compound	%Recovery
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	101
Chlorobenzene	96
Ethyl Benzene	96
m,p-Xylene	92
o-Xylene	96
Styrene	98
Bromoform	112
Cumene	92
1,1,2,2-Tetrachloroethane	91
Propylbenzene	93
4-Ethyltoluene	97
1,3,5-Trimethylbenzene	95
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	95
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	104
Hexachlorobutadiene	109

Container Type: NA - Not Applicable

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



Air Toxics

Client Sample ID: LCS

Lab ID#: 1711367-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112203	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/22/17 09:05 AM

Compound	%Recovery	Method Limits
Freon 12	97	70-130
Freon 114	96	70-130
Chloromethane	95	70-130
Vinyl Chloride	93	70-130
1,3-Butadiene	92	70-130
Bromomethane	99	70-130
Chloroethane	112	70-130
Freon 11	97	70-130
Ethanol	102	70-130
Freon 113	92	70-130
1,1-Dichloroethene	92	70-130
Acetone	82	70-130
2-Propanol	99	70-130
Carbon Disulfide	77	70-130
3-Chloropropene	86	70-130
Methylene Chloride	88	70-130
Methyl tert-butyl ether	89	70-130
trans-1,2-Dichloroethene	79	70-130
Hexane	92	70-130
1,1-Dichloroethane	89	70-130
2-Butanone (Methyl Ethyl Ketone)	96	70-130
cis-1,2-Dichloroethene	98	70-130
Tetrahydrofuran	89	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	93	70-130
Cyclohexane	92	70-130
Carbon Tetrachloride	82	70-130
2,2,4-Trimethylpentane	95	70-130
Benzene	90	70-130
1,2-Dichloroethane	96	70-130
Heptane	98	70-130
Trichloroethene	98	70-130
1,2-Dichloropropane	94	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	89	70-130
4-Methyl-2-pentanone	100	70-130
Toluene	93	70-130
trans-1,3-Dichloropropene	101	70-130
1,1,2-Trichloroethane	96	70-130
Tetrachloroethene	107	70-130
2-Hexanone	104	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1711367-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/22/17 09:05 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	105	70-130
1,2-Dibromoethane (EDB)	103	70-130
Chlorobenzene	97	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	92	70-130
o-Xylene	98	70-130
Styrene	98	70-130
Bromoform	113	70-130
Cumene	90	70-130
1,1,2,2-Tetrachloroethane	92	70-130
Propylbenzene	93	70-130
4-Ethyltoluene	97	70-130
1,3,5-Trimethylbenzene	97	70-130
1,2,4-Trimethylbenzene	104	70-130
1,3-Dichlorobenzene	95	70-130
1,4-Dichlorobenzene	97	70-130
alpha-Chlorotoluene	97	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	105	70-130
Hexachlorobutadiene	105	70-130

Container Type: NA - Not Applicable

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



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1711367-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112204	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/22/17 09:55 AM

Compound	%Recovery	Method Limits
Freon 12	97	70-130
Freon 114	98	70-130
Chloromethane	94	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	92	70-130
Bromomethane	104	70-130
Chloroethane	110	70-130
Freon 11	99	70-130
Ethanol	103	70-130
Freon 113	94	70-130
1,1-Dichloroethene	95	70-130
Acetone	85	70-130
2-Propanol	99	70-130
Carbon Disulfide	77	70-130
3-Chloropropene	92	70-130
Methylene Chloride	88	70-130
Methyl tert-butyl ether	92	70-130
trans-1,2-Dichloroethene	82	70-130
Hexane	98	70-130
1,1-Dichloroethane	92	70-130
2-Butanone (Methyl Ethyl Ketone)	97	70-130
cis-1,2-Dichloroethene	100	70-130
Tetrahydrofuran	92	70-130
Chloroform	91	70-130
1,1,1-Trichloroethane	96	70-130
Cyclohexane	94	70-130
Carbon Tetrachloride	83	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	86	70-130
1,2-Dichloroethane	94	70-130
Heptane	98	70-130
Trichloroethene	95	70-130
1,2-Dichloropropane	92	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	96	70-130
cis-1,3-Dichloropropene	88	70-130
4-Methyl-2-pentanone	97	70-130
Toluene	91	70-130
trans-1,3-Dichloropropene	95	70-130
1,1,2-Trichloroethane	91	70-130
Tetrachloroethene	103	70-130
2-Hexanone	100	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1711367-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/22/17 09:55 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	100	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	92	70-130
Ethyl Benzene	93	70-130
m,p-Xylene	88	70-130
o-Xylene	91	70-130
Styrene	92	70-130
Bromoform	108	70-130
Cumene	86	70-130
1,1,2,2-Tetrachloroethane	90	70-130
Propylbenzene	88	70-130
4-Ethyltoluene	91	70-130
1,3,5-Trimethylbenzene	91	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	91	70-130
1,4-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	96	70-130
1,2-Dichlorobenzene	91	70-130
1,2,4-Trichlorobenzene	101	70-130
Hexachlorobutadiene	97	70-130

Container Type: NA - Not Applicable

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