

6/2/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1705428

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 5/22/2017 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 #: 1705428

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. #	3ESP170978 and 3ESP170928
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	05/22/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/02/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172332)	Modified TO-15	6.1 "Hg	5.2 psi
02A	U1 (172333)	Modified TO-15	6.1 "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: 06/02/17

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# 1705428

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on May 22, 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	$\leq 30\%$ RSD with 2 compounds allowed out to <math>< 40\%</math> RSD	$\leq 30\%$ RSD with 4 compounds allowed out to <math>< 40\%</math> 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 1,3-Butadiene was raised from 0.1ppbv to 0.5ppbv.

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 (172332)

Lab ID#: 1705428-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.57	0.84	2.8
Freon 11	0.17	0.28	0.96	1.6
Ethanol	0.85	6.7	1.6	13
Acetone	0.85	9.8	2.0	23
2-Propanol	0.85	3.5	2.1	8.5
Hexane	0.17	0.44	0.60	1.6
2-Butanone (Methyl Ethyl Ketone)	0.85	2.3	2.5	6.7
Heptane	0.17	0.49	0.70	2.0
Toluene	0.17	0.23	0.64	0.88

Client Sample ID: U1 (172333)

Lab ID#: 1705428-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.54	0.83	2.7
Freon 11	0.17	0.27	0.94	1.5
Ethanol	0.84	8.8	1.6	17
Acetone	0.84	9.6	2.0	23
2-Propanol	0.84	10	2.1	26
Hexane	0.17	0.34	0.59	1.2
2-Butanone (Methyl Ethyl Ketone)	0.84	1.9	2.5	5.6
Heptane	0.17	0.37	0.69	1.5
Toluene	0.17	0.19	0.63	0.72



Air Toxics

Client Sample ID: D1 (172332)

Lab ID#: 1705428-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052421	Date of Collection:	5/16/17 1:50:00 PM
Dil. Factor:	1.70	Date of Analysis:	5/24/17 10:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.57	0.84	2.8
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.85	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.85	Not Detected	1.9	Not Detected
Bromomethane	0.85	Not Detected	3.3	Not Detected
Chloroethane	0.85	Not Detected	2.2	Not Detected
Freon 11	0.17	0.28	0.96	1.6
Ethanol	0.85	6.7	1.6	13
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.85	9.8	2.0	23
2-Propanol	0.85	3.5	2.1	8.5
Carbon Disulfide	0.85	Not Detected	2.6	Not Detected
3-Chloropropene	0.85	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.61	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Hexane	0.17	0.44	0.60	1.6
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.85	2.3	2.5	6.7
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Tetrahydrofuran	0.85	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	0.58	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.85	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.54	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	0.49	0.70	2.0
Trichloroethene	0.17	Not Detected	0.91	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
1,4-Dioxane	0.17	Not Detected	0.61	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	0.23	0.64	0.88
trans-1,3-Dichloropropene	0.17	Not Detected	0.77	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	0.85	Not Detected	3.5	Not Detected



Client Sample ID: D1 (172332)

Lab ID#: 1705428-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052421	Date of Collection: 5/16/17 1:50:00 PM
Dil. Factor:	1.70	Date of Analysis: 5/24/17 10:20 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	0.78	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	0.72	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	0.85	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.85	Not Detected	9.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Cert Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: U1 (172333)

Lab ID#: 1705428-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052422	Date of Collection:	5/16/17 2:00:00 PM
Dil. Factor:	1.68	Date of Analysis:	5/24/17 11:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.54	0.83	2.7
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	0.84	Not Detected	1.8	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.27	0.94	1.5
Ethanol	0.84	8.8	1.6	17
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	9.6	2.0	23
2-Propanol	0.84	10	2.1	26
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
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	0.34	0.59	1.2
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.9	2.5	5.6
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	0.37	0.69	1.5
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	0.19	0.63	0.72
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

Client Sample ID: U1 (172333)

Lab ID#: 1705428-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052422	Date of Collection: 5/16/17 2:00:00 PM
Dil. Factor:	1.68	Date of Analysis: 5/24/17 11:00 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% Cert Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1705428-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052406	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/24/17 11:15 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	0.50	Not Detected	1.1	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#: 1705428-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052406	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/24/17 11:15 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	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1705428-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/24/17 08:19 AM

Compound	%Recovery
Freon 12	101
Freon 114	100
Chloromethane	97
Vinyl Chloride	96
1,3-Butadiene	99
Bromomethane	116
Chloroethane	103
Freon 11	101
Ethanol	87
Freon 113	94
1,1-Dichloroethene	90
Acetone	86
2-Propanol	84
Carbon Disulfide	106
3-Chloropropene	92
Methylene Chloride	89
Methyl tert-butyl ether	94
trans-1,2-Dichloroethene	94
Hexane	89
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	97
Tetrahydrofuran	91
Chloroform	97
1,1,1-Trichloroethane	96
Cyclohexane	92
Carbon Tetrachloride	100
2,2,4-Trimethylpentane	87
Benzene	103
1,2-Dichloroethane	106
Heptane	98
Trichloroethene	98
1,2-Dichloropropane	105
1,4-Dioxane	104
Bromodichloromethane	98
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	96
Toluene	103
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	98
Tetrachloroethene	98
2-Hexanone	94



Air Toxics

Client Sample ID: CCV

Lab ID#: 1705428-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052402	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/24/17 08:19 AM

Compound	%Recovery
Dibromochloromethane	99
1,2-Dibromoethane (EDB)	96
Chlorobenzene	98
Ethyl Benzene	101
m,p-Xylene	98
o-Xylene	102
Styrene	96
Bromoform	104
Cumene	98
1,1,2,2-Tetrachloroethane	100
Propylbenzene	93
4-Ethyltoluene	88
1,3,5-Trimethylbenzene	91
1,2,4-Trimethylbenzene	85
1,3-Dichlorobenzene	93
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	111
1,2-Dichlorobenzene	94
1,2,4-Trichlorobenzene	105
Hexachlorobutadiene	86

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1705428-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052403	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/24/17 09:04 AM

Compound	%Recovery	Method Limits
Freon 12	108	70-130
Freon 114	107	70-130
Chloromethane	105	70-130
Vinyl Chloride	108	70-130
1,3-Butadiene	106	70-130
Bromomethane	127	70-130
Chloroethane	111	70-130
Freon 11	109	70-130
Ethanol	76	70-130
Freon 113	98	70-130
1,1-Dichloroethene	94	70-130
Acetone	90	70-130
2-Propanol	92	70-130
Carbon Disulfide	117	70-130
3-Chloropropene	103	70-130
Methylene Chloride	95	70-130
Methyl tert-butyl ether	96	70-130
trans-1,2-Dichloroethene	109	70-130
Hexane	95	70-130
1,1-Dichloroethane	103	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	95	70-130
Tetrahydrofuran	96	70-130
Chloroform	102	70-130
1,1,1-Trichloroethane	101	70-130
Cyclohexane	100	70-130
Carbon Tetrachloride	116	70-130
2,2,4-Trimethylpentane	95	70-130
Benzene	110	70-130
1,2-Dichloroethane	112	70-130
Heptane	109	70-130
Trichloroethene	106	70-130
1,2-Dichloropropane	110	70-130
1,4-Dioxane	102	70-130
Bromodichloromethane	107	70-130
cis-1,3-Dichloropropene	114	70-130
4-Methyl-2-pentanone	101	70-130
Toluene	110	70-130
trans-1,3-Dichloropropene	112	70-130
1,1,2-Trichloroethane	103	70-130
Tetrachloroethene	105	70-130
2-Hexanone	98	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1705428-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052403	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/24/17 09:04 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	108	70-130
1,2-Dibromoethane (EDB)	105	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	107	70-130
m,p-Xylene	102	70-130
o-Xylene	107	70-130
Styrene	102	70-130
Bromoform	111	70-130
Cumene	102	70-130
1,1,2,2-Tetrachloroethane	103	70-130
Propylbenzene	97	70-130
4-Ethyltoluene	96	70-130
1,3,5-Trimethylbenzene	96	70-130
1,2,4-Trimethylbenzene	89	70-130
1,3-Dichlorobenzene	95	70-130
1,4-Dichlorobenzene	100	70-130
alpha-Chlorotoluene	125	70-130
1,2-Dichlorobenzene	99	70-130
1,2,4-Trichlorobenzene	121	70-130
Hexachlorobutadiene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1705428-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052404	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/24/17 09:50 AM

Compound	%Recovery	Method Limits
Freon 12	105	70-130
Freon 114	103	70-130
Chloromethane	100	70-130
Vinyl Chloride	104	70-130
1,3-Butadiene	102	70-130
Bromomethane	126	70-130
Chloroethane	110	70-130
Freon 11	107	70-130
Ethanol	85	70-130
Freon 113	99	70-130
1,1-Dichloroethene	93	70-130
Acetone	89	70-130
2-Propanol	92	70-130
Carbon Disulfide	114	70-130
3-Chloropropene	108	70-130
Methylene Chloride	93	70-130
Methyl tert-butyl ether	95	70-130
trans-1,2-Dichloroethene	107	70-130
Hexane	95	70-130
1,1-Dichloroethane	101	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	91	70-130
Tetrahydrofuran	94	70-130
Chloroform	102	70-130
1,1,1-Trichloroethane	100	70-130
Cyclohexane	98	70-130
Carbon Tetrachloride	112	70-130
2,2,4-Trimethylpentane	92	70-130
Benzene	111	70-130
1,2-Dichloroethane	113	70-130
Heptane	110	70-130
Trichloroethene	107	70-130
1,2-Dichloropropane	112	70-130
1,4-Dioxane	111	70-130
Bromodichloromethane	108	70-130
cis-1,3-Dichloropropene	117	70-130
4-Methyl-2-pentanone	105	70-130
Toluene	110	70-130
trans-1,3-Dichloropropene	110	70-130
1,1,2-Trichloroethane	106	70-130
Tetrachloroethene	109	70-130
2-Hexanone	104	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1705428-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20052404	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/24/17 09:50 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	112	70-130
1,2-Dibromoethane (EDB)	106	70-130
Chlorobenzene	106	70-130
Ethyl Benzene	109	70-130
m,p-Xylene	103	70-130
o-Xylene	105	70-130
Styrene	102	70-130
Bromoform	115	70-130
Cumene	100	70-130
1,1,2,2-Tetrachloroethane	106	70-130
Propylbenzene	94	70-130
4-Ethyltoluene	92	70-130
1,3,5-Trimethylbenzene	95	70-130
1,2,4-Trimethylbenzene	90	70-130
1,3-Dichlorobenzene	94	70-130
1,4-Dichlorobenzene	97	70-130
alpha-Chlorotoluene	124	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	126	70-130
Hexachlorobutadiene	92	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	98	70-130