

5/8/2018

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1804517

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 4/25/2018 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker
Project Manager

WORK ORDER #: 1804517

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. #	180323-CFL-B
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	04/25/2018	CONTACT:	Brian Whittaker
DATE COMPLETED:	05/08/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (181382)	Modified TO-15	6.3 "Hg	4.8 psi
02A	U1 (181383)	Modified TO-15	6.1 "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: 05/08/18

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1804517

Two 6 Liter Summa Canister (100% Certified) samples were received on April 25, 2018. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Initial Calibration	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	$\leq 30\%$ RSD with 4 compounds allowed out to $< 40\%$ RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Due to the linear calibration range of the instrument, the reporting limit for Freon 12 was raised from 0.5ppbv to 1.0ppbv.

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 (181382)

Lab ID#: 1804517-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.17	0.22	0.94	1.2
Ethanol	0.84	2.1	1.6	4.0
Acetone	0.84	5.0	2.0	12
Hexane	0.17	0.20	0.59	0.72
1,4-Dioxane	0.17	0.37	0.60	1.3
Toluene	0.17	0.49	0.63	1.9

Client Sample ID: U1 (181383)

Lab ID#: 1804517-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.17	0.21	0.95	1.2
Ethanol	0.84	1.8	1.6	3.5
Acetone	0.84	3.3	2.0	7.9
Hexane	0.17	0.65	0.60	2.3
Heptane	0.17	0.40	0.69	1.6



Air Toxics

Client Sample ID: D1 (181382)

Lab ID#: 1804517-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042626	Date of Collection:	4/18/18 1:20:00 PM
Dil. Factor:	1.68	Date of Analysis:	4/26/18 10:19 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.7	Not Detected	8.3	Not Detected
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	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.22	0.94	1.2
Ethanol	0.84	2.1	1.6	4.0
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	5.0	2.0	12
2-Propanol	0.84	Not Detected	2.1	Not Detected
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	0.20	0.59	0.72
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	Not Detected	2.5	Not Detected
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	Not Detected	0.69	Not Detected
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	0.37	0.60	1.3
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	0.49	0.63	1.9
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: D1 (181382)

Lab ID#: 1804517-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042626	Date of Collection:	4/18/18 1:20:00 PM
Dil. Factor:	1.68	Date of Analysis:	4/26/18 10:19 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% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	89	70-130



Air Toxics

Client Sample ID: U1 (181383)

Lab ID#: 1804517-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042627	Date of Collection:	4/18/18 2:00:00 PM
Dil. Factor:	1.69	Date of Analysis:	4/26/18 10:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.7	Not Detected	8.4	Not Detected
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	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.21	0.95	1.2
Ethanol	0.84	1.8	1.6	3.5
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	3.3	2.0	7.9
2-Propanol	0.84	Not Detected	2.1	Not Detected
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	0.61	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Hexane	0.17	0.65	0.60	2.3
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	Not Detected	2.5	Not Detected
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	1.1	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	0.40	0.69	1.6
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	0.69	Not Detected
Toluene	0.17	Not Detected	0.64	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.77	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	3.5	Not Detected



Client Sample ID: U1 (181383)

Lab ID#: 1804517-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042627	Date of Collection:	4/18/18 2:00:00 PM
Dil. Factor:	1.69	Date of Analysis:	4/26/18 10:52 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	0.73	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	0.83	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.83	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.83	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.83	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.83	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	6.3	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	83	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1804517-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042606	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/26/18 10:53 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	1.0	Not Detected	4.9	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#: 1804517-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042606	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/26/18 10:53 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	115	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	87	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1804517-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/26/18 08:35 AM

Compound	%Recovery
Freon 12	94
Freon 114	86
Chloromethane	83
Vinyl Chloride	90
1,3-Butadiene	96
Bromomethane	112
Chloroethane	94
Freon 11	87
Ethanol	113
Freon 113	85
1,1-Dichloroethene	103
Acetone	92
2-Propanol	114
Carbon Disulfide	96
3-Chloropropene	109
Methylene Chloride	89
Methyl tert-butyl ether	114
trans-1,2-Dichloroethene	93
Hexane	114
1,1-Dichloroethane	93
2-Butanone (Methyl Ethyl Ketone)	111
cis-1,2-Dichloroethene	100
Tetrahydrofuran	113
Chloroform	91
1,1,1-Trichloroethane	94
Cyclohexane	112
Carbon Tetrachloride	85
2,2,4-Trimethylpentane	118
Benzene	82
1,2-Dichloroethane	78
Heptane	102
Trichloroethene	86
1,2-Dichloropropane	89
1,4-Dioxane	106
Bromodichloromethane	94
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	122
Toluene	92
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	88
Tetrachloroethene	87
2-Hexanone	119



Air Toxics

Client Sample ID: CCV

Lab ID#: 1804517-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/26/18 08:35 AM

Compound	%Recovery
Dibromochloromethane	103
1,2-Dibromoethane (EDB)	99
Chlorobenzene	91
Ethyl Benzene	104
m,p-Xylene	100
o-Xylene	108
Styrene	108
Bromoform	116
Cumene	101
1,1,2,2-Tetrachloroethane	104
Propylbenzene	97
4-Ethyltoluene	115
1,3,5-Trimethylbenzene	118
1,2,4-Trimethylbenzene	128
1,3-Dichlorobenzene	84
1,4-Dichlorobenzene	86
alpha-Chlorotoluene	112
1,2-Dichlorobenzene	84
1,2,4-Trichlorobenzene	91
Hexachlorobutadiene	78

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1804517-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/26/18 09:14 AM

Compound	%Recovery	Method Limits
Freon 12	101	70-130
Freon 114	92	70-130
Chloromethane	89	70-130
Vinyl Chloride	97	70-130
1,3-Butadiene	97	70-130
Bromomethane	118	70-130
Chloroethane	102	70-130
Freon 11	92	70-130
Ethanol	108	70-130
Freon 113	87	70-130
1,1-Dichloroethene	106	70-130
Acetone	95	70-130
2-Propanol	116	70-130
Carbon Disulfide	100	70-130
3-Chloropropene	120	70-130
Methylene Chloride	92	70-130
Methyl tert-butyl ether	117	70-130
trans-1,2-Dichloroethene	106	70-130
Hexane	119	70-130
1,1-Dichloroethane	97	70-130
2-Butanone (Methyl Ethyl Ketone)	118	70-130
cis-1,2-Dichloroethene	97	70-130
Tetrahydrofuran	118	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	99	70-130
Cyclohexane	117	70-130
Carbon Tetrachloride	74	70-130
2,2,4-Trimethylpentane	125	70-130
Benzene	87	70-130
1,2-Dichloroethane	82	70-130
Heptane	109	70-130
Trichloroethene	103	70-130
1,2-Dichloropropane	94	70-130
1,4-Dioxane	111	70-130
Bromodichloromethane	100	70-130
cis-1,3-Dichloropropene	120	70-130
4-Methyl-2-pentanone	133 Q	70-130
Toluene	97	70-130
trans-1,3-Dichloropropene	110	70-130
1,1,2-Trichloroethane	95	70-130
Tetrachloroethene	92	70-130
2-Hexanone	132 Q	70-130

Client Sample ID: LCS

Lab ID#: 1804517-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/26/18 09:14 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	104	70-130
Chlorobenzene	95	70-130
Ethyl Benzene	109	70-130
m,p-Xylene	113	70-130
o-Xylene	119	70-130
Styrene	123	70-130
Bromoform	109	70-130
Cumene	108	70-130
1,1,2,2-Tetrachloroethane	84	70-130
Propylbenzene	107	70-130
4-Ethyltoluene	124	70-130
1,3,5-Trimethylbenzene	117	70-130
1,2,4-Trimethylbenzene	127	70-130
1,3-Dichlorobenzene	92	70-130
1,4-Dichlorobenzene	97	70-130
alpha-Chlorotoluene	120	70-130
1,2-Dichlorobenzene	93	70-130
1,2,4-Trichlorobenzene	83	70-130
Hexachlorobutadiene	77	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1804517-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/26/18 09:44 AM

Compound	%Recovery	Method Limits
Freon 12	96	70-130
Freon 114	88	70-130
Chloromethane	87	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	95	70-130
Bromomethane	115	70-130
Chloroethane	98	70-130
Freon 11	89	70-130
Ethanol	112	70-130
Freon 113	85	70-130
1,1-Dichloroethene	102	70-130
Acetone	96	70-130
2-Propanol	118	70-130
Carbon Disulfide	96	70-130
3-Chloropropene	115	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	115	70-130
trans-1,2-Dichloroethene	102	70-130
Hexane	116	70-130
1,1-Dichloroethane	93	70-130
2-Butanone (Methyl Ethyl Ketone)	116	70-130
cis-1,2-Dichloroethene	94	70-130
Tetrahydrofuran	114	70-130
Chloroform	93	70-130
1,1,1-Trichloroethane	97	70-130
Cyclohexane	114	70-130
Carbon Tetrachloride	72	70-130
2,2,4-Trimethylpentane	116	70-130
Benzene	87	70-130
1,2-Dichloroethane	81	70-130
Heptane	102	70-130
Trichloroethene	101	70-130
1,2-Dichloropropane	94	70-130
1,4-Dioxane	110	70-130
Bromodichloromethane	106	70-130
cis-1,3-Dichloropropene	120	70-130
4-Methyl-2-pentanone	130	70-130
Toluene	93	70-130
trans-1,3-Dichloropropene	116	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	92	70-130
2-Hexanone	132 Q	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1804517-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/26/18 09:44 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	114	70-130
1,2-Dibromoethane (EDB)	108	70-130
Chlorobenzene	93	70-130
Ethyl Benzene	103	70-130
m,p-Xylene	99	70-130
o-Xylene	104	70-130
Styrene	104	70-130
Bromoform	121	70-130
Cumene	103	70-130
1,1,2,2-Tetrachloroethane	89	70-130
Propylbenzene	99	70-130
4-Ethyltoluene	122	70-130
1,3,5-Trimethylbenzene	123	70-130
1,2,4-Trimethylbenzene	132 Q	70-130
1,3-Dichlorobenzene	80	70-130
1,4-Dichlorobenzene	86	70-130
alpha-Chlorotoluene	109	70-130
1,2-Dichlorobenzene	83	70-130
1,2,4-Trichlorobenzene	87	70-130
Hexachlorobutadiene	76	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	92	70-130