

4/23/2018

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1804194

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 4/10/2018 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 #: 1804194

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. #	3ESP180794
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	04/10/2018	CONTACT:	Brian Whittaker
DATE COMPLETED:	04/23/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (181378)	Modified TO-15	6.0 "Hg	5 psi
02A	U1 (181379)	Modified TO-15	5.5 "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: 04/23/18

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

LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1804194

Two 6 Liter Summa Canister (100% Certified) samples were received on April 10, 2018. Two 6 Liter Summa Canister (100% Certified) samples were received on April 10, 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	</=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

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 Bromomethane was raised from 0.50ppbv 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 (181378)

Lab ID#: 1804194-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.40	0.83	2.0
Freon 11	0.17	0.21	0.94	1.2
Ethanol	0.84	2.8	1.6	5.2
Acetone	0.84	5.4	2.0	13
2-Propanol	0.84	0.84 J	2.1	2.0 J
Hexane	0.17	0.32	0.59	1.1
2-Butanone (Methyl Ethyl Ketone)	0.84	1.0	2.5	3.0
Heptane	0.17	0.24	0.69	1.0
Toluene	0.17	0.18	0.63	0.66

Client Sample ID: U1 (181379)

Lab ID#: 1804194-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.41	0.81	2.0
Freon 11	0.16	0.21	0.92	1.2
Ethanol	0.82	2.6	1.5	5.0
Acetone	0.82	7.0	1.9	17
2-Butanone (Methyl Ethyl Ketone)	0.82	1.4	2.4	4.2



Air Toxics

Client Sample ID: D1 (181378)

Lab ID#: 1804194-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042007	Date of Collection:	4/5/18 12:50:00 PM
Dil. Factor:	1.68	Date of Analysis:	4/20/18 11:11 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.40	0.83	2.0
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	1.7	Not Detected	6.5	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.21	0.94	1.2
Ethanol	0.84	2.8	1.6	5.2
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	5.4	2.0	13
2-Propanol	0.84	0.84 J	2.1	2.0 J
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	0.32	0.59	1.1
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.0	2.5	3.0
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	0.24	0.69	1.0
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	0.18	0.63	0.66
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 (181378)

Lab ID#: 1804194-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042007	Date of Collection:	4/5/18 12:50:00 PM
Dil. Factor:	1.68	Date of Analysis:	4/20/18 11:11 AM

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

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	86	70-130



Air Toxics

Client Sample ID: U1 (181379)

Lab ID#: 1804194-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042008	Date of Collection:	4/5/18 1:45:00 PM
Dil. Factor:	1.64	Date of Analysis:	4/20/18 11:50 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.41	0.81	2.0
Freon 114	0.16	Not Detected	1.1	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	1.6	Not Detected	6.4	Not Detected
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.16	0.21	0.92	1.2
Ethanol	0.82	2.6	1.5	5.0
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	7.0	1.9	17
2-Propanol	0.82	Not Detected	2.0	Not Detected
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	Not Detected	0.58	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	1.4	2.4	4.2
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	0.89	Not Detected
Cyclohexane	0.16	Not Detected	0.56	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	0.52	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	Not Detected	0.67	Not Detected
Trichloroethene	0.16	Not Detected	0.88	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	0.74	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.67	Not Detected
Toluene	0.16	Not Detected	0.62	Not Detected
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected



Air Toxics

Client Sample ID: U1 (181379)

Lab ID#: 1804194-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042008	Date of Collection: 4/5/18 1:45:00 PM
Dil. Factor:	1.64	Date of Analysis: 4/20/18 11:50 AM

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	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
o-Xylene	0.16	Not Detected	0.71	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	8.7	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	88	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1804194-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042006	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/20/18 10:23 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	1.0	Not Detected	3.9	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#: 1804194-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042006	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/20/18 10:23 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
1,1,2,2-Tetrachloroethane	0.10	Not Detected	0.69	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	87	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1804194-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/20/18 07:53 AM

Compound	%Recovery
Freon 12	99
Freon 114	90
Chloromethane	86
Vinyl Chloride	94
1,3-Butadiene	99
Bromomethane	117
Chloroethane	98
Freon 11	91
Ethanol	106
Freon 113	87
1,1-Dichloroethene	106
Acetone	93
2-Propanol	110
Carbon Disulfide	96
3-Chloropropene	110
Methylene Chloride	92
Methyl tert-butyl ether	117
trans-1,2-Dichloroethene	98
Hexane	118
1,1-Dichloroethane	96
2-Butanone (Methyl Ethyl Ketone)	112
cis-1,2-Dichloroethene	104
Tetrahydrofuran	110
Chloroform	96
1,1,1-Trichloroethane	99
Cyclohexane	117
Carbon Tetrachloride	92
2,2,4-Trimethylpentane	126
Benzene	90
1,2-Dichloroethane	84
Heptane	112
Trichloroethene	90
1,2-Dichloropropane	95
1,4-Dioxane	111
Bromodichloromethane	98
cis-1,3-Dichloropropene	113
4-Methyl-2-pentanone	126
Toluene	99
trans-1,3-Dichloropropene	107
1,1,2-Trichloroethane	92
Tetrachloroethene	96
2-Hexanone	123

Client Sample ID: CCV

Lab ID#: 1804194-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/20/18 07:53 AM

Compound	%Recovery
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	102
Chlorobenzene	94
Ethyl Benzene	109
m,p-Xylene	110
o-Xylene	114
Styrene	116
Bromoform	113
Cumene	104
1,1,2,2-Tetrachloroethane	103
Propylbenzene	99
4-Ethyltoluene	117
1,3,5-Trimethylbenzene	118
1,2,4-Trimethylbenzene	128
1,3-Dichlorobenzene	90
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	116
1,2-Dichlorobenzene	92
1,2,4-Trichlorobenzene	125
Hexachlorobutadiene	107

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1804194-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/20/18 08:36 AM

Compound	%Recovery	Method Limits
Freon 12	101	70-130
Freon 114	91	70-130
Chloromethane	91	70-130
Vinyl Chloride	98	70-130
1,3-Butadiene	99	70-130
Bromomethane	121	70-130
Chloroethane	102	70-130
Freon 11	93	70-130
Ethanol	106	70-130
Freon 113	88	70-130
1,1-Dichloroethene	104	70-130
Acetone	96	70-130
2-Propanol	114	70-130
Carbon Disulfide	99	70-130
3-Chloropropene	116	70-130
Methylene Chloride	93	70-130
Methyl tert-butyl ether	117	70-130
trans-1,2-Dichloroethene	107	70-130
Hexane	122	70-130
1,1-Dichloroethane	97	70-130
2-Butanone (Methyl Ethyl Ketone)	117	70-130
cis-1,2-Dichloroethene	97	70-130
Tetrahydrofuran	116	70-130
Chloroform	97	70-130
1,1,1-Trichloroethane	101	70-130
Cyclohexane	120	70-130
Carbon Tetrachloride	80	70-130
2,2,4-Trimethylpentane	128	70-130
Benzene	90	70-130
1,2-Dichloroethane	83	70-130
Heptane	112	70-130
Trichloroethene	104	70-130
1,2-Dichloropropane	95	70-130
1,4-Dioxane	113	70-130
Bromodichloromethane	99	70-130
cis-1,3-Dichloropropene	121	70-130
4-Methyl-2-pentanone	132 Q	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	107	70-130
1,1,2-Trichloroethane	95	70-130
Tetrachloroethene	86	70-130
2-Hexanone	130	70-130

Client Sample ID: LCS

Lab ID#: 1804194-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/20/18 08:36 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	104	70-130
1,2-Dibromoethane (EDB)	106	70-130
Chlorobenzene	94	70-130
Ethyl Benzene	107	70-130
m,p-Xylene	108	70-130
o-Xylene	111	70-130
Styrene	112	70-130
Bromoform	106	70-130
Cumene	99	70-130
1,1,2,2-Tetrachloroethane	84	70-130
Propylbenzene	97	70-130
4-Ethyltoluene	116	70-130
1,3,5-Trimethylbenzene	111	70-130
1,2,4-Trimethylbenzene	121	70-130
1,3-Dichlorobenzene	85	70-130
1,4-Dichlorobenzene	89	70-130
alpha-Chlorotoluene	108	70-130
1,2-Dichlorobenzene	86	70-130
1,2,4-Trichlorobenzene	71	70-130
Hexachlorobutadiene	65 Q	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	101	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1804194-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042004	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/20/18 09:13 AM

Compound	%Recovery	Method Limits
Freon 12	101	70-130
Freon 114	93	70-130
Chloromethane	92	70-130
Vinyl Chloride	100	70-130
1,3-Butadiene	98	70-130
Bromomethane	123	70-130
Chloroethane	104	70-130
Freon 11	95	70-130
Ethanol	112	70-130
Freon 113	91	70-130
1,1-Dichloroethene	106	70-130
Acetone	99	70-130
2-Propanol	120	70-130
Carbon Disulfide	101	70-130
3-Chloropropene	119	70-130
Methylene Chloride	95	70-130
Methyl tert-butyl ether	119	70-130
trans-1,2-Dichloroethene	109	70-130
Hexane	123	70-130
1,1-Dichloroethane	98	70-130
2-Butanone (Methyl Ethyl Ketone)	120	70-130
cis-1,2-Dichloroethene	99	70-130
Tetrahydrofuran	118	70-130
Chloroform	98	70-130
1,1,1-Trichloroethane	104	70-130
Cyclohexane	121	70-130
Carbon Tetrachloride	83	70-130
2,2,4-Trimethylpentane	130	70-130
Benzene	91	70-130
1,2-Dichloroethane	84	70-130
Heptane	115	70-130
Trichloroethene	105	70-130
1,2-Dichloropropane	97	70-130
1,4-Dioxane	115	70-130
Bromodichloromethane	103	70-130
cis-1,3-Dichloropropene	122	70-130
4-Methyl-2-pentanone	137 Q	70-130
Toluene	100	70-130
trans-1,3-Dichloropropene	112	70-130
1,1,2-Trichloroethane	95	70-130
Tetrachloroethene	95	70-130
2-Hexanone	133 Q	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1804194-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21042004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/20/18 09:13 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	108	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	112	70-130
m,p-Xylene	114	70-130
o-Xylene	114	70-130
Styrene	118	70-130
Bromoform	115	70-130
Cumene	104	70-130
1,1,2,2-Tetrachloroethane	87	70-130
Propylbenzene	101	70-130
4-Ethyltoluene	119	70-130
1,3,5-Trimethylbenzene	116	70-130
1,2,4-Trimethylbenzene	124	70-130
1,3-Dichlorobenzene	86	70-130
1,4-Dichlorobenzene	93	70-130
alpha-Chlorotoluene	114	70-130
1,2-Dichlorobenzene	88	70-130
1,2,4-Trichlorobenzene	72	70-130
Hexachlorobutadiene	67 Q	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	100	70-130
4-Bromofluorobenzene	95	70-130