

6/28/2018

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1806342

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 6/18/2018 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 #: 1806342

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. #	180517-CFL-A
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	06/18/2018	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/28/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (182081)	Modified TO-15	5.5 "Hg	5 psi
02A	U1 (182082)	Modified TO-15	7.5 "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: 06/28/18

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# 1806342

Two 6 Liter Summa Canister (100% Certified) samples were received on June 18, 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

The reported result for 4-Ethyltoluene in sample D1 (182081) may be biased high due to co-elution with a non target compound with similar characteristic ions. Both the primary and secondary ion for 4-Ethyltoluene exhibited potential interference.

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 (182081)

Lab ID#: 1806342-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Chloromethane	0.82	0.95	1.7	2.0
Ethanol	0.82	29	1.5	55
Acetone	0.82	440 E	1.9	1000 E
2-Propanol	0.82	20	2.0	50
Methylene Chloride	0.33	1.4	1.1	5.0
trans-1,2-Dichloroethene	0.16	1.7	0.65	6.8
Hexane	0.16	2.6	0.58	9.1
2-Butanone (Methyl Ethyl Ketone)	0.82	5.3	2.4	16
Tetrahydrofuran	0.82	3.1	2.4	9.1
Cyclohexane	0.16	1.1	0.56	3.8
2,2,4-Trimethylpentane	0.82	6.4	3.8	30
Benzene	0.16	0.88	0.52	2.8
Heptane	0.16	2.1	0.67	8.5
4-Methyl-2-pentanone	0.16	2.8	0.67	12
Toluene	0.16	16	0.62	60
Tetrachloroethene	0.16	0.18	1.1	1.2
Ethyl Benzene	0.16	2.4	0.71	10
m,p-Xylene	0.16	8.2	0.71	36
o-Xylene	0.16	2.7	0.71	12
Styrene	0.16	0.88	0.70	3.8
Propylbenzene	0.16	0.32	0.81	1.6
4-Ethyltoluene	0.16	1.4	0.81	7.1
1,3,5-Trimethylbenzene	0.16	0.45	0.81	2.2
1,2,4-Trimethylbenzene	0.16	1.3	0.81	6.5

Client Sample ID: U1 (182082)

Lab ID#: 1806342-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Ethanol	0.90	3.9	1.7	7.4
Acetone	0.90	8.0	2.1	19
2-Propanol	0.90	4.8	2.2	12
2-Butanone (Methyl Ethyl Ketone)	0.90	1.0	2.6	3.0

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: U1 (182082)

Lab ID#: 1806342-02A

Heptane	0.18	0.32	0.73	1.3
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Air Toxics

Client Sample ID: D1 (182081)

Lab ID#: 1806342-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062219	Date of Collection:	6/13/18 1:15:00 PM
Dil. Factor:	1.64	Date of Analysis:	6/22/18 08:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.82	Not Detected	4.0	Not Detected
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.82	0.95	1.7	2.0
Vinyl Chloride	0.16	Not Detected	0.42	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.82	Not Detected	3.2	Not Detected
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.16	Not Detected	0.92	Not Detected
Ethanol	0.82	29	1.5	55
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	440 E	1.9	1000 E
2-Propanol	0.82	20	2.0	50
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	1.4	1.1	5.0
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected
trans-1,2-Dichloroethene	0.16	1.7	0.65	6.8
Hexane	0.16	2.6	0.58	9.1
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	5.3	2.4	16
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Tetrahydrofuran	0.82	3.1	2.4	9.1
Chloroform	0.16	Not Detected	0.80	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Cyclohexane	0.16	1.1	0.56	3.8
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.82	6.4	3.8	30
Benzene	0.16	0.88	0.52	2.8
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	2.1	0.67	8.5
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	2.8	0.67	12
Toluene	0.16	16	0.62	60
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	0.18	1.1	1.2
2-Hexanone	0.82	Not Detected	3.4	Not Detected

Client Sample ID: D1 (182081)

Lab ID#: 1806342-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062219	Date of Collection:	6/13/18 1:15:00 PM
Dil. Factor:	1.64	Date of Analysis:	6/22/18 08:14 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	2.4	0.71	10
m,p-Xylene	0.16	8.2	0.71	36
o-Xylene	0.16	2.7	0.71	12
Styrene	0.16	0.88	0.70	3.8
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	0.32	0.81	1.6
4-Ethyltoluene	0.16	1.4	0.81	7.1
1,3,5-Trimethylbenzene	0.16	0.45	0.81	2.2
1,2,4-Trimethylbenzene	0.16	1.3	0.81	6.5
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

E = Exceeds instrument calibration range.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: U1 (182082)

Lab ID#: 1806342-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062220	Date of Collection:	6/13/18 1:30:00 PM
Dil. Factor:	1.79	Date of Analysis:	6/22/18 08:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.90	Not Detected	4.4	Not Detected
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.90	Not Detected	1.8	Not Detected
Vinyl Chloride	0.18	Not Detected	0.46	Not Detected
1,3-Butadiene	0.18	Not Detected	0.40	Not Detected
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.18	Not Detected	1.0	Not Detected
Ethanol	0.90	3.9	1.7	7.4
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.71	Not Detected
Acetone	0.90	8.0	2.1	19
2-Propanol	0.90	4.8	2.2	12
Carbon Disulfide	0.90	Not Detected	2.8	Not Detected
3-Chloropropene	0.90	Not Detected	2.8	Not Detected
Methylene Chloride	0.36	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.64	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
Hexane	0.18	Not Detected	0.63	Not Detected
1,1-Dichloroethane	0.18	Not Detected	0.72	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	1.0	2.6	3.0
cis-1,2-Dichloroethene	0.18	Not Detected	0.71	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.98	Not Detected
Cyclohexane	0.18	Not Detected	0.62	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.90	Not Detected	4.2	Not Detected
Benzene	0.18	Not Detected	0.57	Not Detected
1,2-Dichloroethane	0.18	Not Detected	0.72	Not Detected
Heptane	0.18	0.32	0.73	1.3
Trichloroethene	0.18	Not Detected	0.96	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.83	Not Detected
1,4-Dioxane	0.18	Not Detected	0.64	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.81	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.73	Not Detected
Toluene	0.18	Not Detected	0.67	Not Detected
trans-1,3-Dichloropropene	0.18	Not Detected	0.81	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.98	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.90	Not Detected	3.7	Not Detected



Client Sample ID: U1 (182082)

Lab ID#: 1806342-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062220	Date of Collection:	6/13/18 1:30:00 PM
Dil. Factor:	1.79	Date of Analysis:	6/22/18 08:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.18	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.82	Not Detected
Ethyl Benzene	0.18	Not Detected	0.78	Not Detected
m,p-Xylene	0.18	Not Detected	0.78	Not Detected
o-Xylene	0.18	Not Detected	0.78	Not Detected
Styrene	0.18	Not Detected	0.76	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.88	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.88	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.88	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.88	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.88	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.93	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.90	Not Detected	6.6	Not Detected
Hexachlorobutadiene	0.90	Not Detected	9.5	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1806342-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062206	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/22/18 11:08 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	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#: 1806342-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062206	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/22/18 11:08 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	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1806342-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/22/18 08:37 AM

Compound	%Recovery
Freon 12	103
Freon 114	98
Chloromethane	94
Vinyl Chloride	98
1,3-Butadiene	102
Bromomethane	106
Chloroethane	102
Freon 11	97
Ethanol	92
Freon 113	99
1,1-Dichloroethene	101
Acetone	96
2-Propanol	97
Carbon Disulfide	106
3-Chloropropene	116
Methylene Chloride	99
Methyl tert-butyl ether	102
trans-1,2-Dichloroethene	101
Hexane	105
1,1-Dichloroethane	101
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	103
Tetrahydrofuran	107
Chloroform	100
1,1,1-Trichloroethane	101
Cyclohexane	107
Carbon Tetrachloride	103
2,2,4-Trimethylpentane	103
Benzene	102
1,2-Dichloroethane	97
Heptane	108
Trichloroethene	99
1,2-Dichloropropane	104
1,4-Dioxane	109
Bromodichloromethane	102
cis-1,3-Dichloropropene	106
4-Methyl-2-pentanone	112
Toluene	105
trans-1,3-Dichloropropene	103
1,1,2-Trichloroethane	105
Tetrachloroethene	100
2-Hexanone	106



Air Toxics

Client Sample ID: CCV

Lab ID#: 1806342-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/22/18 08:37 AM

Compound	%Recovery
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	109
Chlorobenzene	99
Ethyl Benzene	106
m,p-Xylene	109
o-Xylene	110
Styrene	115
Bromoform	119
Cumene	112
1,1,2,2-Tetrachloroethane	113
Propylbenzene	107
4-Ethyltoluene	111
1,3,5-Trimethylbenzene	114
1,2,4-Trimethylbenzene	109
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	99
alpha-Chlorotoluene	110
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	104
Hexachlorobutadiene	101

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1806342-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062203	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/22/18 09:13 AM

Compound	%Recovery	Method Limits
Freon 12	100	70-130
Freon 114	96	70-130
Chloromethane	98	70-130
Vinyl Chloride	97	70-130
1,3-Butadiene	91	70-130
Bromomethane	104	70-130
Chloroethane	102	70-130
Freon 11	93	70-130
Ethanol	107	70-130
Freon 113	94	70-130
1,1-Dichloroethene	96	70-130
Acetone	94	70-130
2-Propanol	101	70-130
Carbon Disulfide	100	70-130
3-Chloropropene	116	70-130
Methylene Chloride	94	70-130
Methyl tert-butyl ether	98	70-130
trans-1,2-Dichloroethene	106	70-130
Hexane	102	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	107	70-130
cis-1,2-Dichloroethene	91	70-130
Tetrahydrofuran	103	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	96	70-130
Cyclohexane	104	70-130
Carbon Tetrachloride	97	70-130
2,2,4-Trimethylpentane	125	70-130
Benzene	97	70-130
1,2-Dichloroethane	93	70-130
Heptane	103	70-130
Trichloroethene	95	70-130
1,2-Dichloropropane	101	70-130
1,4-Dioxane	108	70-130
Bromodichloromethane	106	70-130
cis-1,3-Dichloropropene	110	70-130
4-Methyl-2-pentanone	112	70-130
Toluene	98	70-130
trans-1,3-Dichloropropene	106	70-130
1,1,2-Trichloroethane	107	70-130
Tetrachloroethene	97	70-130
2-Hexanone	116	70-130

Client Sample ID: LCS

Lab ID#: 1806342-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/22/18 09:13 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	112	70-130
1,2-Dibromoethane (EDB)	112	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	106	70-130
m,p-Xylene	111	70-130
o-Xylene	111	70-130
Styrene	115	70-130
Bromoform	125	70-130
Cumene	112	70-130
1,1,2,2-Tetrachloroethane	114	70-130
Propylbenzene	110	70-130
4-Ethyltoluene	117	70-130
1,3,5-Trimethylbenzene	115	70-130
1,2,4-Trimethylbenzene	112	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	103	70-130
alpha-Chlorotoluene	115	70-130
1,2-Dichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	99	70-130
Hexachlorobutadiene	98	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1806342-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/22/18 09:48 AM

Compound	%Recovery	Method Limits
Freon 12	99	70-130
Freon 114	94	70-130
Chloromethane	101	70-130
Vinyl Chloride	96	70-130
1,3-Butadiene	90	70-130
Bromomethane	103	70-130
Chloroethane	102	70-130
Freon 11	92	70-130
Ethanol	107	70-130
Freon 113	92	70-130
1,1-Dichloroethene	93	70-130
Acetone	94	70-130
2-Propanol	102	70-130
Carbon Disulfide	99	70-130
3-Chloropropene	114	70-130
Methylene Chloride	94	70-130
Methyl tert-butyl ether	98	70-130
trans-1,2-Dichloroethene	104	70-130
Hexane	101	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	106	70-130
cis-1,2-Dichloroethene	89	70-130
Tetrahydrofuran	105	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	95	70-130
Cyclohexane	102	70-130
Carbon Tetrachloride	97	70-130
2,2,4-Trimethylpentane	127	70-130
Benzene	94	70-130
1,2-Dichloroethane	91	70-130
Heptane	103	70-130
Trichloroethene	94	70-130
1,2-Dichloropropane	99	70-130
1,4-Dioxane	107	70-130
Bromodichloromethane	102	70-130
cis-1,3-Dichloropropene	110	70-130
4-Methyl-2-pentanone	113	70-130
Toluene	98	70-130
trans-1,3-Dichloropropene	104	70-130
1,1,2-Trichloroethane	105	70-130
Tetrachloroethene	96	70-130
2-Hexanone	114	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1806342-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21062204	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/22/18 09:48 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	112	70-130
1,2-Dibromoethane (EDB)	109	70-130
Chlorobenzene	96	70-130
Ethyl Benzene	103	70-130
m,p-Xylene	108	70-130
o-Xylene	109	70-130
Styrene	118	70-130
Bromoform	124	70-130
Cumene	110	70-130
1,1,2,2-Tetrachloroethane	112	70-130
Propylbenzene	109	70-130
4-Ethyltoluene	116	70-130
1,3,5-Trimethylbenzene	114	70-130
1,2,4-Trimethylbenzene	109	70-130
1,3-Dichlorobenzene	98	70-130
1,4-Dichlorobenzene	98	70-130
alpha-Chlorotoluene	116	70-130
1,2-Dichlorobenzene	99	70-130
1,2,4-Trichlorobenzene	88	70-130
Hexachlorobutadiene	91	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130