

5/21/2018
Mr. Curt Lueckenhoff
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill
Project #:
Workorder #: 1805134

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 5/8/2018 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 #: 1805134

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. #	180406-CFL-A
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	05/08/2018	CONTACT:	Brian Whittaker
DATE COMPLETED:	05/21/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (181388)	Modified TO-15	6.1 "Hg	4.9 psi
02A	U1 (181389)	Modified TO-15	6.7 "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: 05/21/18

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# 1805134

Two 6 Liter Summa Canister (100% Certified) samples were received on May 08, 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 0.5ppbv 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 (181388)

Lab ID#: 1805134-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.17	0.28	0.94	1.6
Ethanol	0.84	3.0	1.6	5.6
Acetone	0.84	5.2	2.0	12
2-Propanol	0.84	6.7	2.1	16

Client Sample ID: U1 (181389)

Lab ID#: 1805134-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.17	0.42	0.98	2.4
Ethanol	0.87	5.2	1.6	9.7
Acetone	0.87	6.1	2.1	14
2-Propanol	0.87	19	2.1	48
Hexane	0.17	0.30	0.61	1.1
Heptane	0.17	0.26	0.71	1.1
Toluene	0.17	0.21	0.66	0.80



Air Toxics

Client Sample ID: D1 (181388)

Lab ID#: 1805134-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050916	Date of Collection:	5/2/18 1:30:00 PM
Dil. Factor:	1.68	Date of Analysis:	5/9/18 07:25 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.84	Not Detected	4.2	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	1.7	Not Detected	6.5	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.28	0.94	1.6
Ethanol	0.84	3.0	1.6	5.6
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	5.2	2.0	12
2-Propanol	0.84	6.7	2.1	16
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	Not Detected	0.59	Not Detected
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	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	Not Detected	0.63	Not Detected
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 (181388)

Lab ID#: 1805134-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050916	Date of Collection:	5/2/18 1:30:00 PM
Dil. Factor:	1.68	Date of Analysis:	5/9/18 07:25 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	113	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	87	70-130



Air Toxics

Client Sample ID: U1 (181389)

Lab ID#: 1805134-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050917	Date of Collection:	5/2/18 1:40:00 PM
Dil. Factor:	1.74	Date of Analysis:	5/9/18 08:32 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.87	Not Detected	4.3	Not Detected
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.87	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	1.7	Not Detected	6.8	Not Detected
Chloroethane	0.87	Not Detected	2.3	Not Detected
Freon 11	0.17	0.42	0.98	2.4
Ethanol	0.87	5.2	1.6	9.7
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Acetone	0.87	6.1	2.1	14
2-Propanol	0.87	19	2.1	48
Carbon Disulfide	0.87	Not Detected	2.7	Not Detected
3-Chloropropene	0.87	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Hexane	0.17	0.30	0.61	1.1
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.87	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Tetrahydrofuran	0.87	Not Detected	2.6	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.95	Not Detected
Cyclohexane	0.17	Not Detected	0.60	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.87	Not Detected	4.1	Not Detected
Benzene	0.17	Not Detected	0.56	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	0.26	0.71	1.1
Trichloroethene	0.17	Not Detected	0.94	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.80	Not Detected
1,4-Dioxane	0.17	Not Detected	0.63	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.71	Not Detected
Toluene	0.17	0.21	0.66	0.80
trans-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.95	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.87	Not Detected	3.6	Not Detected



Client Sample ID: U1 (181389)

Lab ID#: 1805134-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050917	Date of Collection:	5/2/18 1:40:00 PM
Dil. Factor:	1.74	Date of Analysis:	5/9/18 08:32 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.80	Not Detected
Ethyl Benzene	0.17	Not Detected	0.76	Not Detected
m,p-Xylene	0.17	Not Detected	0.76	Not Detected
o-Xylene	0.17	Not Detected	0.76	Not Detected
Styrene	0.17	Not Detected	0.74	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.86	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	0.90	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.87	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.87	Not Detected	9.3	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	81	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1805134-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050915	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/9/18 06:36 PM

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	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#: 1805134-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050915	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/9/18 06:36 PM

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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1805134-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/9/18 09:58 AM

Compound	%Recovery
Freon 12	89
Freon 114	81
Chloromethane	77
Vinyl Chloride	84
1,3-Butadiene	87
Bromomethane	106
Chloroethane	88
Freon 11	82
Ethanol	104
Freon 113	81
1,1-Dichloroethene	94
Acetone	84
2-Propanol	98
Carbon Disulfide	86
3-Chloropropene	100
Methylene Chloride	82
Methyl tert-butyl ether	105
trans-1,2-Dichloroethene	88
Hexane	102
1,1-Dichloroethane	86
2-Butanone (Methyl Ethyl Ketone)	102
cis-1,2-Dichloroethene	93
Tetrahydrofuran	98
Chloroform	85
1,1,1-Trichloroethane	90
Cyclohexane	103
Carbon Tetrachloride	90
2,2,4-Trimethylpentane	107
Benzene	81
1,2-Dichloroethane	77
Heptane	98
Trichloroethene	82
1,2-Dichloropropane	86
1,4-Dioxane	101
Bromodichloromethane	94
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	117
Toluene	89
trans-1,3-Dichloropropene	102
1,1,2-Trichloroethane	90
Tetrachloroethene	90
2-Hexanone	118



Air Toxics

Client Sample ID: CCV

Lab ID#: 1805134-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/9/18 09:58 AM

Compound	%Recovery
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	99
Chlorobenzene	88
Ethyl Benzene	97
m,p-Xylene	98
o-Xylene	102
Styrene	98
Bromoform	108
Cumene	92
1,1,2,2-Tetrachloroethane	96
Propylbenzene	95
4-Ethyltoluene	112
1,3,5-Trimethylbenzene	114
1,2,4-Trimethylbenzene	122
1,3-Dichlorobenzene	87
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	94
1,2-Dichlorobenzene	89
1,2,4-Trichlorobenzene	99
Hexachlorobutadiene	85

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	89	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1805134-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050904	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/9/18 10:45 AM

Compound	%Recovery	Method Limits
Freon 12	88	70-130
Freon 114	82	70-130
Chloromethane	79	70-130
Vinyl Chloride	86	70-130
1,3-Butadiene	86	70-130
Bromomethane	106	70-130
Chloroethane	90	70-130
Freon 11	84	70-130
Ethanol	94	70-130
Freon 113	80	70-130
1,1-Dichloroethene	94	70-130
Acetone	82	70-130
2-Propanol	97	70-130
Carbon Disulfide	90	70-130
3-Chloropropene	105	70-130
Methylene Chloride	80	70-130
Methyl tert-butyl ether	102	70-130
trans-1,2-Dichloroethene	97	70-130
Hexane	104	70-130
1,1-Dichloroethane	87	70-130
2-Butanone (Methyl Ethyl Ketone)	104	70-130
cis-1,2-Dichloroethene	88	70-130
Tetrahydrofuran	101	70-130
Chloroform	87	70-130
1,1,1-Trichloroethane	90	70-130
Cyclohexane	104	70-130
Carbon Tetrachloride	60 Q	70-130
2,2,4-Trimethylpentane	107	70-130
Benzene	82	70-130
1,2-Dichloroethane	78	70-130
Heptane	99	70-130
Trichloroethene	105	70-130
1,2-Dichloropropane	87	70-130
1,4-Dioxane	105	70-130
Bromodichloromethane	100	70-130
cis-1,3-Dichloropropene	111	70-130
4-Methyl-2-pentanone	122	70-130
Toluene	89	70-130
trans-1,3-Dichloropropene	106	70-130
1,1,2-Trichloroethane	91	70-130
Tetrachloroethene	89	70-130
2-Hexanone	122	70-130

Client Sample ID: LCS

Lab ID#: 1805134-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/9/18 10:45 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	103	70-130
Chlorobenzene	91	70-130
Ethyl Benzene	100	70-130
m,p-Xylene	104	70-130
o-Xylene	107	70-130
Styrene	106	70-130
Bromoform	107	70-130
Cumene	95	70-130
1,1,2,2-Tetrachloroethane	74	70-130
Propylbenzene	100	70-130
4-Ethyltoluene	118	70-130
1,3,5-Trimethylbenzene	113	70-130
1,2,4-Trimethylbenzene	122	70-130
1,3-Dichlorobenzene	87	70-130
1,4-Dichlorobenzene	92	70-130
alpha-Chlorotoluene	102	70-130
1,2-Dichlorobenzene	89	70-130
1,2,4-Trichlorobenzene	85	70-130
Hexachlorobutadiene	76	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	90	70-130



Client Sample ID: LCSD

Lab ID#: 1805134-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050905	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/9/18 11:37 AM

Compound	%Recovery	Method Limits
Freon 12	89	70-130
Freon 114	81	70-130
Chloromethane	81	70-130
Vinyl Chloride	88	70-130
1,3-Butadiene	87	70-130
Bromomethane	109	70-130
Chloroethane	92	70-130
Freon 11	83	70-130
Ethanol	100	70-130
Freon 113	82	70-130
1,1-Dichloroethene	94	70-130
Acetone	87	70-130
2-Propanol	106	70-130
Carbon Disulfide	89	70-130
3-Chloropropene	104	70-130
Methylene Chloride	83	70-130
Methyl tert-butyl ether	107	70-130
trans-1,2-Dichloroethene	97	70-130
Hexane	110	70-130
1,1-Dichloroethane	87	70-130
2-Butanone (Methyl Ethyl Ketone)	107	70-130
cis-1,2-Dichloroethene	87	70-130
Tetrahydrofuran	104	70-130
Chloroform	87	70-130
1,1,1-Trichloroethane	93	70-130
Cyclohexane	107	70-130
Carbon Tetrachloride	61 Q	70-130
2,2,4-Trimethylpentane	114	70-130
Benzene	82	70-130
1,2-Dichloroethane	76	70-130
Heptane	100	70-130
Trichloroethene	104	70-130
1,2-Dichloropropane	86	70-130
1,4-Dioxane	102	70-130
Bromodichloromethane	98	70-130
cis-1,3-Dichloropropene	110	70-130
4-Methyl-2-pentanone	123	70-130
Toluene	91	70-130
trans-1,3-Dichloropropene	104	70-130
1,1,2-Trichloroethane	91	70-130
Tetrachloroethene	91	70-130
2-Hexanone	124	70-130

Client Sample ID: LCSD

Lab ID#: 1805134-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21050905	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/9/18 11:37 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	104	70-130
1,2-Dibromoethane (EDB)	104	70-130
Chlorobenzene	91	70-130
Ethyl Benzene	100	70-130
m,p-Xylene	102	70-130
o-Xylene	107	70-130
Styrene	106	70-130
Bromoform	105	70-130
Cumene	94	70-130
1,1,2,2-Tetrachloroethane	74	70-130
Propylbenzene	96	70-130
4-Ethyltoluene	116	70-130
1,3,5-Trimethylbenzene	114	70-130
1,2,4-Trimethylbenzene	121	70-130
1,3-Dichlorobenzene	85	70-130
1,4-Dichlorobenzene	92	70-130
alpha-Chlorotoluene	102	70-130
1,2-Dichlorobenzene	87	70-130
1,2,4-Trichlorobenzene	81	70-130
Hexachlorobutadiene	73	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	91	70-130