

12/11/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1711463

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 11/28/2017 at Air Toxics Ltd.

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

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

Regards,



Brian Whittaker
Project Manager

WORK ORDER #: 1711463

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. #	3ESP180351
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	11/28/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	12/11/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (174042)	Modified TO-15	4.3 "Hg	5 psi
02A	U1 (174043)	Modified TO-15	4.5 "Hg	5.3 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: 12/11/17

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

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

LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1711463

Two 6 Liter Summa Canister (100% Certified) samples were received on November 28, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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

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

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Initial Calibration	</=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. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

2-Propanol exceeded the instrument's calibration range for sample U1 (174043) and was flagged accordingly.

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 (174042)

Lab ID#: 1711463-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.77	2.1
Freon 11	0.16	0.20	0.88	1.1
Ethanol	0.78	2.6	1.5	4.9
Acetone	0.78	5.8	1.8	14
2-Propanol	0.78	1.3	1.9	3.3
Hexane	0.16	0.19	0.55	0.69
2-Butanone (Methyl Ethyl Ketone)	0.78	1.0	2.3	3.1
Benzene	0.16	0.19	0.50	0.60
Toluene	0.16	0.18	0.59	0.69

Client Sample ID: U1 (174043)

Lab ID#: 1711463-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.79	2.2
Freon 11	0.16	0.20	0.90	1.1
Ethanol	0.80	4.7	1.5	8.9
Acetone	0.80	11	1.9	27
2-Propanol	0.80	36 E	2.0	88 E
Hexane	0.16	0.49	0.56	1.7
2-Butanone (Methyl Ethyl Ketone)	0.80	1.1	2.4	3.2
Benzene	0.16	0.17	0.51	0.55
Heptane	0.16	0.36	0.66	1.5
Toluene	0.16	0.19	0.60	0.71



Air Toxics

Client Sample ID: D1 (174042)

Lab ID#: 1711463-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120507	Date of Collection:	11/21/17 1:05:00 PM
Dil. Factor:	1.56	Date of Analysis:	12/5/17 02:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.77	2.1
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.78	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.40	Not Detected
1,3-Butadiene	0.16	Not Detected	0.34	Not Detected
Bromomethane	0.78	Not Detected	3.0	Not Detected
Chloroethane	0.78	Not Detected	2.0	Not Detected
Freon 11	0.16	0.20	0.88	1.1
Ethanol	0.78	2.6	1.5	4.9
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Acetone	0.78	5.8	1.8	14
2-Propanol	0.78	1.3	1.9	3.3
Carbon Disulfide	0.78	Not Detected	2.4	Not Detected
3-Chloropropene	0.78	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.56	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Hexane	0.16	0.19	0.55	0.69
1,1-Dichloroethane	0.16	Not Detected	0.63	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.78	1.0	2.3	3.1
cis-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Tetrahydrofuran	0.78	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.76	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.85	Not Detected
Cyclohexane	0.16	Not Detected	0.54	Not Detected
Carbon Tetrachloride	0.16	Not Detected	0.98	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.6	Not Detected
Benzene	0.16	0.19	0.50	0.60
1,2-Dichloroethane	0.16	Not Detected	0.63	Not Detected
Heptane	0.16	Not Detected	0.64	Not Detected
Trichloroethene	0.16	Not Detected	0.84	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected	0.56	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.64	Not Detected
Toluene	0.16	0.18	0.59	0.69
trans-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.85	Not Detected
Tetrachloroethene	0.16	Not Detected	1.0	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected



Air Toxics

Client Sample ID: D1 (174042)

Lab ID#: 1711463-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120507	Date of Collection:	11/21/17 1:05:00 PM
Dil. Factor:	1.56	Date of Analysis:	12/5/17 02:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.72	Not Detected
Ethyl Benzene	0.16	Not Detected	0.68	Not Detected
m,p-Xylene	0.16	Not Detected	0.68	Not Detected
o-Xylene	0.16	Not Detected	0.68	Not Detected
Styrene	0.16	Not Detected	0.66	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.77	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.77	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.77	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.77	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.77	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.81	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected
Hexachlorobutadiene	0.78	Not Detected	8.3	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	97	70-130



Air Toxics

Client Sample ID: U1 (174043)

Lab ID#: 1711463-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120508	Date of Collection:	11/21/17 1:20:00 PM
Dil. Factor:	1.60	Date of Analysis:	12/5/17 03:33 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.79	2.2
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.80	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,3-Butadiene	0.16	Not Detected	0.35	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.16	0.20	0.90	1.1
Ethanol	0.80	4.7	1.5	8.9
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.80	11	1.9	27
2-Propanol	0.80	36 E	2.0	88 E
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
3-Chloropropene	0.80	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.58	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Hexane	0.16	0.49	0.56	1.7
1,1-Dichloroethane	0.16	Not Detected	0.65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	1.1	2.4	3.2
cis-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.78	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.87	Not Detected
Cyclohexane	0.16	Not Detected	0.55	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.80	Not Detected	3.7	Not Detected
Benzene	0.16	0.17	0.51	0.55
1,2-Dichloroethane	0.16	Not Detected	0.65	Not Detected
Heptane	0.16	0.36	0.66	1.5
Trichloroethene	0.16	Not Detected	0.86	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.74	Not Detected
1,4-Dioxane	0.16	Not Detected	0.58	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.66	Not Detected
Toluene	0.16	0.19	0.60	0.71
trans-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.87	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.80	Not Detected	3.3	Not Detected



Client Sample ID: U1 (174043)

Lab ID#: 1711463-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120508	Date of Collection:	11/21/17 1:20:00 PM
Dil. Factor:	1.60	Date of Analysis:	12/5/17 03:33 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	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	Not Detected	0.69	Not Detected
m,p-Xylene	0.16	Not Detected	0.69	Not Detected
o-Xylene	0.16	Not Detected	0.69	Not Detected
Styrene	0.16	Not Detected	0.68	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.79	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.79	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.79	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	5.9	Not Detected
Hexachlorobutadiene	0.80	Not Detected	8.5	Not Detected

E = Exceeds instrument calibration range.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1711463-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120506	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/5/17 01:48 PM

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	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#: 1711463-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120506	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/5/17 01:48 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	114	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1711463-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/5/17 09:18 AM

Compound	%Recovery
Freon 12	101
Freon 114	87
Chloromethane	98
Vinyl Chloride	90
1,3-Butadiene	100
Bromomethane	99
Chloroethane	100
Freon 11	91
Ethanol	105
Freon 113	90
1,1-Dichloroethene	92
Acetone	91
2-Propanol	114
Carbon Disulfide	95
3-Chloropropene	98
Methylene Chloride	94
Methyl tert-butyl ether	96
trans-1,2-Dichloroethene	93
Hexane	95
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	93
Tetrahydrofuran	102
Chloroform	92
1,1,1-Trichloroethane	91
Cyclohexane	94
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	99
Benzene	90
1,2-Dichloroethane	86
Heptane	92
Trichloroethene	89
1,2-Dichloropropane	93
1,4-Dioxane	109
Bromodichloromethane	95
cis-1,3-Dichloropropene	96
4-Methyl-2-pentanone	114
Toluene	89
trans-1,3-Dichloropropene	102
1,1,2-Trichloroethane	94
Tetrachloroethene	90
2-Hexanone	128

Client Sample ID: CCV

Lab ID#: 1711463-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/5/17 09:18 AM

Compound	%Recovery
Dibromochloromethane	101
1,2-Dibromoethane (EDB)	96
Chlorobenzene	92
Ethyl Benzene	94
m,p-Xylene	94
o-Xylene	94
Styrene	104
Bromoform	107
Cumene	95
1,1,2,2-Tetrachloroethane	100
Propylbenzene	93
4-Ethyltoluene	88
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	88
1,3-Dichlorobenzene	89
1,4-Dichlorobenzene	86
alpha-Chlorotoluene	138 Q
1,2-Dichlorobenzene	90
1,2,4-Trichlorobenzene	104
Hexachlorobutadiene	96

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1711463-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/5/17 11:55 AM

Compound	%Recovery	Method Limits
Freon 12	108	70-130
Freon 114	95	70-130
Chloromethane	103	70-130
Vinyl Chloride	97	70-130
1,3-Butadiene	101	70-130
Bromomethane	107	70-130
Chloroethane	108	70-130
Freon 11	97	70-130
Ethanol	119	70-130
Freon 113	92	70-130
1,1-Dichloroethene	96	70-130
Acetone	95	70-130
2-Propanol	122	70-130
Carbon Disulfide	88	70-130
3-Chloropropene	95	70-130
Methylene Chloride	99	70-130
Methyl tert-butyl ether	99	70-130
trans-1,2-Dichloroethene	85	70-130
Hexane	97	70-130
1,1-Dichloroethane	98	70-130
2-Butanone (Methyl Ethyl Ketone)	103	70-130
cis-1,2-Dichloroethene	106	70-130
Tetrahydrofuran	107	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	94	70-130
Cyclohexane	98	70-130
Carbon Tetrachloride	59 Q	70-130
2,2,4-Trimethylpentane	105	70-130
Benzene	96	70-130
1,2-Dichloroethane	91	70-130
Heptane	96	70-130
Trichloroethene	107	70-130
1,2-Dichloropropane	99	70-130
1,4-Dioxane	113	70-130
Bromodichloromethane	100	70-130
cis-1,3-Dichloropropene	96	70-130
4-Methyl-2-pentanone	124	70-130
Toluene	94	70-130
trans-1,3-Dichloropropene	107	70-130
1,1,2-Trichloroethane	97	70-130
Tetrachloroethene	97	70-130
2-Hexanone	138 Q	70-130



Client Sample ID: LCS

Lab ID#: 1711463-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/5/17 11:55 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	101	70-130
1,2-Dibromoethane (EDB)	100	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	100	70-130
o-Xylene	103	70-130
Styrene	110	70-130
Bromoform	103	70-130
Cumene	102	70-130
1,1,2,2-Tetrachloroethane	91	70-130
Propylbenzene	102	70-130
4-Ethyltoluene	96	70-130
1,3,5-Trimethylbenzene	99	70-130
1,2,4-Trimethylbenzene	94	70-130
1,3-Dichlorobenzene	97	70-130
1,4-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	153 Q	70-130
1,2-Dichlorobenzene	99	70-130
1,2,4-Trichlorobenzene	125	70-130
Hexachlorobutadiene	115	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1711463-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120505	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/5/17 12:49 PM

Compound	%Recovery	Method Limits
Freon 12	108	70-130
Freon 114	96	70-130
Chloromethane	103	70-130
Vinyl Chloride	98	70-130
1,3-Butadiene	102	70-130
Bromomethane	108	70-130
Chloroethane	108	70-130
Freon 11	98	70-130
Ethanol	119	70-130
Freon 113	92	70-130
1,1-Dichloroethene	96	70-130
Acetone	97	70-130
2-Propanol	122	70-130
Carbon Disulfide	88	70-130
3-Chloropropene	96	70-130
Methylene Chloride	99	70-130
Methyl tert-butyl ether	100	70-130
trans-1,2-Dichloroethene	84	70-130
Hexane	97	70-130
1,1-Dichloroethane	98	70-130
2-Butanone (Methyl Ethyl Ketone)	104	70-130
cis-1,2-Dichloroethene	106	70-130
Tetrahydrofuran	108	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	94	70-130
Cyclohexane	98	70-130
Carbon Tetrachloride	59 Q	70-130
2,2,4-Trimethylpentane	104	70-130
Benzene	97	70-130
1,2-Dichloroethane	91	70-130
Heptane	95	70-130
Trichloroethene	107	70-130
1,2-Dichloropropane	99	70-130
1,4-Dioxane	113	70-130
Bromodichloromethane	102	70-130
cis-1,3-Dichloropropene	96	70-130
4-Methyl-2-pentanone	122	70-130
Toluene	94	70-130
trans-1,3-Dichloropropene	108	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	96	70-130
2-Hexanone	139 Q	70-130

Client Sample ID: LCSD

Lab ID#: 1711463-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21120505	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/5/17 12:49 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	102	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	98	70-130
m,p-Xylene	98	70-130
o-Xylene	100	70-130
Styrene	108	70-130
Bromoform	102	70-130
Cumene	100	70-130
1,1,2,2-Tetrachloroethane	91	70-130
Propylbenzene	99	70-130
4-Ethyltoluene	91	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	94	70-130
1,3-Dichlorobenzene	95	70-130
1,4-Dichlorobenzene	91	70-130
alpha-Chlorotoluene	149 Q	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	120	70-130
Hexachlorobutadiene	110	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130