

6/29/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1706320

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 6/16/2017 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 #: 1706320

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. #	3ESP171083
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	06/16/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/29/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172338)	Modified TO-15	7.3 "Hg	4.7 psi
02A	U1 (172339)	Modified TO-15	7.1 "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: 06/29/17

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

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**LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1706320**

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on June 16, 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.

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 (172338)

Lab ID#: 1706320-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.41	0.86	2.0
Freon 11	0.18	0.19	0.98	1.1
Ethanol	0.88	4.4	1.6	8.2
Acetone	0.88	8.4	2.1	20
2-Propanol	0.88	4.0	2.2	9.8
2-Butanone (Methyl Ethyl Ketone)	0.88	1.8	2.6	5.4
Heptane	0.18	0.21	0.72	0.88

Client Sample ID: U1 (172339)

Lab ID#: 1706320-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.37	0.88	1.8
Freon 11	0.18	0.19	1.0	1.0
Ethanol	0.89	3.4	1.7	6.5
Acetone	0.89	10	2.1	24
2-Propanol	0.89	11	2.2	27
2-Butanone (Methyl Ethyl Ketone)	0.89	2.1	2.6	6.3
Heptane	0.18	0.19	0.73	0.79



Air Toxics

Client Sample ID: D1 (172338)

Lab ID#: 1706320-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061712	Date of Collection:	6/12/17 1:15:00 PM
Dil. Factor:	1.75	Date of Analysis:	6/17/17 04:55 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.41	0.86	2.0
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.88	Not Detected	1.8	Not Detected
Vinyl Chloride	0.18	Not Detected	0.45	Not Detected
1,3-Butadiene	0.18	Not Detected	0.39	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.18	0.19	0.98	1.1
Ethanol	0.88	4.4	1.6	8.2
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	8.4	2.1	20
2-Propanol	0.88	4.0	2.2	9.8
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	0.88	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Hexane	0.18	Not Detected	0.62	Not Detected
1,1-Dichloroethane	0.18	Not Detected	0.71	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	1.8	2.6	5.4
cis-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Cyclohexane	0.18	Not Detected	0.60	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.88	Not Detected	4.1	Not Detected
Benzene	0.18	Not Detected	0.56	Not Detected
1,2-Dichloroethane	0.18	Not Detected	0.71	Not Detected
Heptane	0.18	0.21	0.72	0.88
Trichloroethene	0.18	Not Detected	0.94	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.81	Not Detected
1,4-Dioxane	0.18	Not Detected	0.63	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
Toluene	0.18	Not Detected	0.66	Not Detected
trans-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.88	Not Detected	3.6	Not Detected



Client Sample ID: D1 (172338)

Lab ID#: 1706320-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061712	Date of Collection:	6/12/17 1:15:00 PM
Dil. Factor:	1.75	Date of Analysis:	6/17/17 04:55 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	1.3	Not Detected
Chlorobenzene	0.18	Not Detected	0.80	Not Detected
Ethyl Benzene	0.18	Not Detected	0.76	Not Detected
m,p-Xylene	0.18	Not Detected	0.76	Not Detected
o-Xylene	0.18	Not Detected	0.76	Not Detected
Styrene	0.18	Not Detected	0.74	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.88	Not Detected	6.5	Not Detected
Hexachlorobutadiene	0.88	Not Detected	9.3	Not Detected

Container Type: 6 Liter Summa Canister (100% Cert Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	116	70-130



Air Toxics

Client Sample ID: U1 (172339)

Lab ID#: 1706320-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061713	Date of Collection:	6/12/17 1:40:00 PM
Dil. Factor:	1.78	Date of Analysis:	6/17/17 05:39 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.37	0.88	1.8
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.89	Not Detected	1.8	Not Detected
Vinyl Chloride	0.18	Not Detected	0.46	Not Detected
1,3-Butadiene	0.18	Not Detected	0.39	Not Detected
Bromomethane	0.89	Not Detected	3.4	Not Detected
Chloroethane	0.89	Not Detected	2.3	Not Detected
Freon 11	0.18	0.19	1.0	1.0
Ethanol	0.89	3.4	1.7	6.5
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Acetone	0.89	10	2.1	24
2-Propanol	0.89	11	2.2	27
Carbon Disulfide	0.89	Not Detected	2.8	Not Detected
3-Chloropropene	0.89	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	0.70	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)	0.89	2.1	2.6	6.3
cis-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Tetrahydrofuran	0.89	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.97	Not Detected
Cyclohexane	0.18	Not Detected	0.61	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.89	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	0.19	0.73	0.79
Trichloroethene	0.18	Not Detected	0.96	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.82	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	0.97	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.89	Not Detected	3.6	Not Detected



Client Sample ID: U1 (172339)

Lab ID#: 1706320-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061713	Date of Collection: 6/12/17 1:40:00 PM
Dil. Factor:	1.78	Date of Analysis: 6/17/17 05:39 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	0.77	Not Detected
m,p-Xylene	0.18	Not Detected	0.77	Not Detected
o-Xylene	0.18	Not Detected	0.77	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	0.92	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.89	Not Detected	6.6	Not Detected
Hexachlorobutadiene	0.89	Not Detected	9.5	Not Detected

Container Type: 6 Liter Summa Canister (100% Cert Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	114	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1706320-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061705	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/17/17 10:45 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	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#: 1706320-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061705	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/17/17 10:45 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	110	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	115	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1706320-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/17/17 07:56 AM

Compound	%Recovery
Freon 12	85
Freon 114	81
Chloromethane	75
Vinyl Chloride	83
1,3-Butadiene	90
Bromomethane	126
Chloroethane	94
Freon 11	85
Ethanol	92
Freon 113	79
1,1-Dichloroethene	80
Acetone	84
2-Propanol	95
Carbon Disulfide	84
3-Chloropropene	82
Methylene Chloride	81
Methyl tert-butyl ether	86
trans-1,2-Dichloroethene	79
Hexane	87
1,1-Dichloroethane	83
2-Butanone (Methyl Ethyl Ketone)	88
cis-1,2-Dichloroethene	79
Tetrahydrofuran	94
Chloroform	85
1,1,1-Trichloroethane	84
Cyclohexane	83
Carbon Tetrachloride	78
2,2,4-Trimethylpentane	88
Benzene	76
1,2-Dichloroethane	85
Heptane	90
Trichloroethene	77
1,2-Dichloropropane	81
1,4-Dioxane	84
Bromodichloromethane	80
cis-1,3-Dichloropropene	84
4-Methyl-2-pentanone	94
Toluene	83
trans-1,3-Dichloropropene	79
1,1,2-Trichloroethane	77
Tetrachloroethene	76
2-Hexanone	92

Client Sample ID: CCV

Lab ID#: 1706320-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/17/17 07:56 AM

Compound	%Recovery
Dibromochloromethane	77
1,2-Dibromoethane (EDB)	77
Chlorobenzene	82
Ethyl Benzene	88
m,p-Xylene	100
o-Xylene	102
Styrene	102
Bromoform	81
Cumene	106
1,1,2,2-Tetrachloroethane	77
Propylbenzene	119
4-Ethyltoluene	120
1,3,5-Trimethylbenzene	110
1,2,4-Trimethylbenzene	120
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	96
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	103
Hexachlorobutadiene	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	114	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1706320-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/17/17 08:54 AM

Compound	%Recovery	Method Limits
Freon 12	92	70-130
Freon 114	87	70-130
Chloromethane	77	70-130
Vinyl Chloride	93	70-130
1,3-Butadiene	93	70-130
Bromomethane	135 Q	70-130
Chloroethane	94	70-130
Freon 11	92	70-130
Ethanol	90	70-130
Freon 113	86	70-130
1,1-Dichloroethene	86	70-130
Acetone	90	70-130
2-Propanol	105	70-130
Carbon Disulfide	87	70-130
3-Chloropropene	89	70-130
Methylene Chloride	84	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	92	70-130
Hexane	96	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	97	70-130
cis-1,2-Dichloroethene	78	70-130
Tetrahydrofuran	105	70-130
Chloroform	92	70-130
1,1,1-Trichloroethane	90	70-130
Cyclohexane	89	70-130
Carbon Tetrachloride	77	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	82	70-130
1,2-Dichloroethane	91	70-130
Heptane	97	70-130
Trichloroethene	84	70-130
1,2-Dichloropropane	89	70-130
1,4-Dioxane	94	70-130
Bromodichloromethane	88	70-130
cis-1,3-Dichloropropene	98	70-130
4-Methyl-2-pentanone	106	70-130
Toluene	89	70-130
trans-1,3-Dichloropropene	90	70-130
1,1,2-Trichloroethane	89	70-130
Tetrachloroethene	85	70-130
2-Hexanone	112	70-130

Client Sample ID: LCS

Lab ID#: 1706320-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/17/17 08:54 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	89	70-130
1,2-Dibromoethane (EDB)	87	70-130
Chlorobenzene	92	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	113	70-130
o-Xylene	116	70-130
Styrene	117	70-130
Bromoform	93	70-130
Cumene	119	70-130
1,1,2,2-Tetrachloroethane	90	70-130
Propylbenzene	135 Q	70-130
4-Ethyltoluene	138 Q	70-130
1,3,5-Trimethylbenzene	120	70-130
1,2,4-Trimethylbenzene	138 Q	70-130
1,3-Dichlorobenzene	115	70-130
1,4-Dichlorobenzene	115	70-130
alpha-Chlorotoluene	114	70-130
1,2-Dichlorobenzene	112	70-130
1,2,4-Trichlorobenzene	126	70-130
Hexachlorobutadiene	121	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	100	70-130
4-Bromofluorobenzene	115	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1706320-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061704	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/17/17 09:41 AM

Compound	%Recovery	Method Limits
Freon 12	95	70-130
Freon 114	87	70-130
Chloromethane	84	70-130
Vinyl Chloride	95	70-130
1,3-Butadiene	95	70-130
Bromomethane	142 Q	70-130
Chloroethane	99	70-130
Freon 11	93	70-130
Ethanol	90	70-130
Freon 113	87	70-130
1,1-Dichloroethene	89	70-130
Acetone	92	70-130
2-Propanol	108	70-130
Carbon Disulfide	87	70-130
3-Chloropropene	89	70-130
Methylene Chloride	88	70-130
Methyl tert-butyl ether	92	70-130
trans-1,2-Dichloroethene	92	70-130
Hexane	98	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	98	70-130
cis-1,2-Dichloroethene	81	70-130
Tetrahydrofuran	104	70-130
Chloroform	94	70-130
1,1,1-Trichloroethane	91	70-130
Cyclohexane	91	70-130
Carbon Tetrachloride	79	70-130
2,2,4-Trimethylpentane	94	70-130
Benzene	80	70-130
1,2-Dichloroethane	88	70-130
Heptane	94	70-130
Trichloroethene	83	70-130
1,2-Dichloropropane	87	70-130
1,4-Dioxane	93	70-130
Bromodichloromethane	87	70-130
cis-1,3-Dichloropropene	96	70-130
4-Methyl-2-pentanone	104	70-130
Toluene	89	70-130
trans-1,3-Dichloropropene	88	70-130
1,1,2-Trichloroethane	85	70-130
Tetrachloroethene	84	70-130
2-Hexanone	111	70-130

Client Sample ID: LCSD

Lab ID#: 1706320-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/17/17 09:41 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	87	70-130
1,2-Dibromoethane (EDB)	86	70-130
Chlorobenzene	90	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	114	70-130
o-Xylene	115	70-130
Styrene	117	70-130
Bromoform	91	70-130
Cumene	117	70-130
1,1,2,2-Tetrachloroethane	87	70-130
Propylbenzene	136 Q	70-130
4-Ethyltoluene	141 Q	70-130
1,3,5-Trimethylbenzene	124	70-130
1,2,4-Trimethylbenzene	140 Q	70-130
1,3-Dichlorobenzene	116	70-130
1,4-Dichlorobenzene	116	70-130
alpha-Chlorotoluene	114	70-130
1,2-Dichlorobenzene	112	70-130
1,2,4-Trichlorobenzene	139 Q	70-130
Hexachlorobutadiene	126	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	112	70-130