

6/21/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1706258

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 6/13/2017 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 #: 1706258

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:	06/13/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/21/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172336)	Modified TO-15	6.1 "Hg	5 psi
02A	U1 (172337)	Modified TO-15	5.9 "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: 06/21/17

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# 1706258

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on June 13, 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 (172336)

Lab ID#: 1706258-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.39	0.83	1.9
Freon 11	0.17	0.18	0.94	1.0
Ethanol	0.84	4.7	1.6	8.9
Acetone	0.84	4.3	2.0	10

Client Sample ID: U1 (172337)

Lab ID#: 1706258-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.40	0.82	2.0
Freon 11	0.17	0.18	0.94	1.0
Ethanol	0.84	7.6	1.6	14
Acetone	0.84	4.9	2.0	12



Air Toxics

Client Sample ID: D1 (172336)

Lab ID#: 1706258-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061614	Date of Collection:	6/7/17 1:30:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/16/17 04:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.39	0.83	1.9
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	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.18	0.94	1.0
Ethanol	0.84	4.7	1.6	8.9
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	4.3	2.0	10
2-Propanol	0.84	Not Detected	2.1	Not Detected
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 (172336)

Lab ID#: 1706258-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061614	Date of Collection:	6/7/17 1:30:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/16/17 04:38 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% Cert Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	110	70-130



Air Toxics

Client Sample ID: U1 (172337)

Lab ID#: 1706258-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061615	Date of Collection:	6/7/17 1:45:00 PM
Dil. Factor:	1.67	Date of Analysis:	6/16/17 05:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.40	0.82	2.0
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.84	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.2	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.18	0.94	1.0
Ethanol	0.84	7.6	1.6	14
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.84	4.9	2.0	12
2-Propanol	0.84	Not Detected	2.0	Not Detected
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	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	0.66	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	0.66	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	0.91	Not Detected
Cyclohexane	0.17	Not Detected	0.57	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	0.53	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	Not Detected	0.68	Not Detected
Trichloroethene	0.17	Not Detected	0.90	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.77	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	0.68	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	0.91	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.84	Not Detected	3.4	Not Detected



Client Sample ID: U1 (172337)

Lab ID#: 1706258-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061615	Date of Collection: 6/7/17 1:45:00 PM
Dil. Factor:	1.67	Date of Analysis: 6/16/17 05:30 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	0.72	Not Detected
m,p-Xylene	0.17	Not Detected	0.72	Not Detected
o-Xylene	0.17	Not Detected	0.72	Not Detected
Styrene	0.17	Not Detected	0.71	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	1.1	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	0.86	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	8.9	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	113	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1706258-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061607	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/16/17 11:42 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#: 1706258-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061607	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 11:42 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	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	112	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1706258-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 09:21 AM

Compound	%Recovery
Freon 12	87
Freon 114	81
Chloromethane	70
Vinyl Chloride	84
1,3-Butadiene	88
Bromomethane	126
Chloroethane	98
Freon 11	85
Ethanol	92
Freon 113	82
1,1-Dichloroethene	80
Acetone	84
2-Propanol	92
Carbon Disulfide	79
3-Chloropropene	80
Methylene Chloride	81
Methyl tert-butyl ether	89
trans-1,2-Dichloroethene	77
Hexane	87
1,1-Dichloroethane	84
2-Butanone (Methyl Ethyl Ketone)	85
cis-1,2-Dichloroethene	81
Tetrahydrofuran	93
Chloroform	86
1,1,1-Trichloroethane	84
Cyclohexane	82
Carbon Tetrachloride	79
2,2,4-Trimethylpentane	89
Benzene	77
1,2-Dichloroethane	86
Heptane	87
Trichloroethene	78
1,2-Dichloropropane	82
1,4-Dioxane	83
Bromodichloromethane	81
cis-1,3-Dichloropropene	84
4-Methyl-2-pentanone	94
Toluene	84
trans-1,3-Dichloropropene	83
1,1,2-Trichloroethane	79
Tetrachloroethene	80
2-Hexanone	94



Air Toxics

Client Sample ID: CCV

Lab ID#: 1706258-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 09:21 AM

Compound	%Recovery
Dibromochloromethane	82
1,2-Dibromoethane (EDB)	82
Chlorobenzene	86
Ethyl Benzene	91
m,p-Xylene	106
o-Xylene	104
Styrene	105
Bromoform	84
Cumene	109
1,1,2,2-Tetrachloroethane	83
Propylbenzene	121
4-Ethyltoluene	124
1,3,5-Trimethylbenzene	112
1,2,4-Trimethylbenzene	120
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	98
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	106
Hexachlorobutadiene	113

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	113	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1706258-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061605	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/16/17 10:03 AM

Compound	%Recovery	Method Limits
Freon 12	95	70-130
Freon 114	89	70-130
Chloromethane	78	70-130
Vinyl Chloride	95	70-130
1,3-Butadiene	92	70-130
Bromomethane	138 Q	70-130
Chloroethane	97	70-130
Freon 11	93	70-130
Ethanol	90	70-130
Freon 113	88	70-130
1,1-Dichloroethene	85	70-130
Acetone	93	70-130
2-Propanol	106	70-130
Carbon Disulfide	88	70-130
3-Chloropropene	89	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	95	70-130
Hexane	97	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	98	70-130
cis-1,2-Dichloroethene	79	70-130
Tetrahydrofuran	103	70-130
Chloroform	94	70-130
1,1,1-Trichloroethane	92	70-130
Cyclohexane	92	70-130
Carbon Tetrachloride	79	70-130
2,2,4-Trimethylpentane	93	70-130
Benzene	84	70-130
1,2-Dichloroethane	92	70-130
Heptane	97	70-130
Trichloroethene	86	70-130
1,2-Dichloropropane	89	70-130
1,4-Dioxane	96	70-130
Bromodichloromethane	88	70-130
cis-1,3-Dichloropropene	99	70-130
4-Methyl-2-pentanone	107	70-130
Toluene	91	70-130
trans-1,3-Dichloropropene	90	70-130
1,1,2-Trichloroethane	88	70-130
Tetrachloroethene	85	70-130
2-Hexanone	112	70-130

Client Sample ID: LCS

Lab ID#: 1706258-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061605	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 10:03 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	89	70-130
1,2-Dibromoethane (EDB)	88	70-130
Chlorobenzene	92	70-130
Ethyl Benzene	98	70-130
m,p-Xylene	114	70-130
o-Xylene	115	70-130
Styrene	116	70-130
Bromoform	92	70-130
Cumene	118	70-130
1,1,2,2-Tetrachloroethane	89	70-130
Propylbenzene	131 Q	70-130
4-Ethyltoluene	136 Q	70-130
1,3,5-Trimethylbenzene	120	70-130
1,2,4-Trimethylbenzene	131 Q	70-130
1,3-Dichlorobenzene	116	70-130
1,4-Dichlorobenzene	112	70-130
alpha-Chlorotoluene	112	70-130
1,2-Dichlorobenzene	109	70-130
1,2,4-Trichlorobenzene	113	70-130
Hexachlorobutadiene	116	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	115	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1706258-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061606	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 10:52 AM

Compound	%Recovery	Method Limits
Freon 12	96	70-130
Freon 114	90	70-130
Chloromethane	77	70-130
Vinyl Chloride	95	70-130
1,3-Butadiene	94	70-130
Bromomethane	137 Q	70-130
Chloroethane	97	70-130
Freon 11	93	70-130
Ethanol	88	70-130
Freon 113	87	70-130
1,1-Dichloroethene	88	70-130
Acetone	91	70-130
2-Propanol	105	70-130
Carbon Disulfide	86	70-130
3-Chloropropene	90	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	94	70-130
Hexane	97	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	94	70-130
cis-1,2-Dichloroethene	81	70-130
Tetrahydrofuran	104	70-130
Chloroform	92	70-130
1,1,1-Trichloroethane	90	70-130
Cyclohexane	90	70-130
Carbon Tetrachloride	79	70-130
2,2,4-Trimethylpentane	93	70-130
Benzene	84	70-130
1,2-Dichloroethane	90	70-130
Heptane	97	70-130
Trichloroethene	85	70-130
1,2-Dichloropropane	89	70-130
1,4-Dioxane	97	70-130
Bromodichloromethane	89	70-130
cis-1,3-Dichloropropene	98	70-130
4-Methyl-2-pentanone	106	70-130
Toluene	91	70-130
trans-1,3-Dichloropropene	90	70-130
1,1,2-Trichloroethane	88	70-130
Tetrachloroethene	85	70-130
2-Hexanone	113	70-130

Client Sample ID: LCSD

Lab ID#: 1706258-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061606	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/17 10:52 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	90	70-130
1,2-Dibromoethane (EDB)	88	70-130
Chlorobenzene	92	70-130
Ethyl Benzene	98	70-130
m,p-Xylene	113	70-130
o-Xylene	114	70-130
Styrene	117	70-130
Bromoform	93	70-130
Cumene	117	70-130
1,1,2,2-Tetrachloroethane	89	70-130
Propylbenzene	133 Q	70-130
4-Ethyltoluene	137 Q	70-130
1,3,5-Trimethylbenzene	121	70-130
1,2,4-Trimethylbenzene	133 Q	70-130
1,3-Dichlorobenzene	115	70-130
1,4-Dichlorobenzene	112	70-130
alpha-Chlorotoluene	114	70-130
1,2-Dichlorobenzene	111	70-130
1,2,4-Trichlorobenzene	118	70-130
Hexachlorobutadiene	116	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	114	70-130