

1/31/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1701368

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 1/26/2017 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 #: 1701368

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. #	3ESP170587
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	01/26/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	01/31/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (170787)	Modified TO-15	7.3 "Hg	4.9 psi
02A	U1 (170788)	Modified TO-15	5.9 "Hg	4.8 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: 01/31/17

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# 1701368

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on January 26, 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 (170787)

Lab ID#: 1701368-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.53	0.87	2.6
Freon 11	0.18	0.24	0.99	1.3
Ethanol	0.88	4.8	1.6	9.0
Acetone	0.88	2.0	2.1	4.7
Hexane	0.18	0.68	0.62	2.4
Benzene	0.18	0.21	0.56	0.68
Heptane	0.18	0.60	0.72	2.4
Toluene	0.18	0.34	0.66	1.3

Client Sample ID: U1 (170788)

Lab ID#: 1701368-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.51	0.82	2.5
Freon 11	0.16	0.23	0.93	1.3
Ethanol	0.82	1.4	1.6	2.6
Acetone	0.82	4.6	2.0	11
Benzene	0.16	0.19	0.53	0.61
Toluene	0.16	0.20	0.62	0.75



Air Toxics

Client Sample ID: D1 (170787)

Lab ID#: 1701368-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012710	Date of Collection:	1/20/17 12:35:00 PM
Dil. Factor:	1.76	Date of Analysis:	1/27/17 03:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.53	0.87	2.6
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	0.24	0.99	1.3
Ethanol	0.88	4.8	1.6	9.0
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Acetone	0.88	2.0	2.1	4.7
2-Propanol	0.88	Not Detected	2.2	Not Detected
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	0.88	Not Detected	2.8	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	0.70	Not Detected
Hexane	0.18	0.68	0.62	2.4
1,1-Dichloroethane	0.18	Not Detected	0.71	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.96	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	0.21	0.56	0.68
1,2-Dichloroethane	0.18	Not Detected	0.71	Not Detected
Heptane	0.18	0.60	0.72	2.4
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	0.80	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
Toluene	0.18	0.34	0.66	1.3
trans-1,3-Dichloropropene	0.18	Not Detected	0.80	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.96	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 (170787)

Lab ID#: 1701368-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012710	Date of Collection:	1/20/17 12:35:00 PM
Dil. Factor:	1.76	Date of Analysis:	1/27/17 03:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.18	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.81	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	0.75	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	0.91	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	9.4	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: U1 (170788)

Lab ID#: 1701368-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012711	Date of Collection:	1/20/17 1:10:00 PM
Dil. Factor:	1.65	Date of Analysis:	1/27/17 04:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.51	0.82	2.5
Freon 114	0.16	Not Detected	1.2	Not Detected
Chloromethane	0.82	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.42	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.82	Not Detected	3.2	Not Detected
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.16	0.23	0.93	1.3
Ethanol	0.82	1.4	1.6	2.6
Freon 113	0.16	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	4.6	2.0	11
2-Propanol	0.82	Not Detected	2.0	Not Detected
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Hexane	0.16	Not Detected	0.58	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Tetrahydrofuran	0.82	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Cyclohexane	0.16	Not Detected	0.57	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.82	Not Detected	3.8	Not Detected
Benzene	0.16	0.19	0.53	0.61
1,2-Dichloroethane	0.16	Not Detected	0.67	Not Detected
Heptane	0.16	Not Detected	0.68	Not Detected
Trichloroethene	0.16	Not Detected	0.89	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.76	Not Detected
1,4-Dioxane	0.16	Not Detected	0.59	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.75	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.68	Not Detected
Toluene	0.16	0.20	0.62	0.75
trans-1,3-Dichloropropene	0.16	Not Detected	0.75	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected



Client Sample ID: U1 (170788)

Lab ID#: 1701368-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012711	Date of Collection:	1/20/17 1:10:00 PM
Dil. Factor:	1.65	Date of Analysis:	1/27/17 04:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.72	Not Detected
m,p-Xylene	0.16	Not Detected	0.72	Not Detected
o-Xylene	0.16	Not Detected	0.72	Not Detected
Styrene	0.16	Not Detected	0.70	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.81	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.81	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.81	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.1	Not Detected
Hexachlorobutadiene	0.82	Not Detected	8.8	Not Detected

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

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: Lab Blank

Lab ID#: 1701368-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012709	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/27/17 02:54 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#: 1701368-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012709	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/27/17 02:54 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	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	88	70-130



Client Sample ID: CCV

Lab ID#: 1701368-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/27/17 07:29 AM

Compound	%Recovery
Freon 12	98
Freon 114	90
Chloromethane	99
Vinyl Chloride	97
1,3-Butadiene	96
Bromomethane	93
Chloroethane	111
Freon 11	94
Ethanol	77
Freon 113	87
1,1-Dichloroethene	83
Acetone	86
2-Propanol	88
Carbon Disulfide	98
3-Chloropropene	102
Methylene Chloride	84
Methyl tert-butyl ether	99
trans-1,2-Dichloroethene	92
Hexane	95
1,1-Dichloroethane	98
2-Butanone (Methyl Ethyl Ketone)	94
cis-1,2-Dichloroethene	90
Tetrahydrofuran	100
Chloroform	95
1,1,1-Trichloroethane	95
Cyclohexane	93
Carbon Tetrachloride	108
2,2,4-Trimethylpentane	100
Benzene	105
1,2-Dichloroethane	112
Heptane	112
Trichloroethene	96
1,2-Dichloropropane	106
1,4-Dioxane	108
Bromodichloromethane	103
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	118
Toluene	104
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	98
Tetrachloroethene	93
2-Hexanone	106

Client Sample ID: CCV

Lab ID#: 1701368-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/27/17 07:29 AM

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	99
Chlorobenzene	95
Ethyl Benzene	103
m,p-Xylene	103
o-Xylene	104
Styrene	106
Bromoform	105
Cumene	107
1,1,2,2-Tetrachloroethane	103
Propylbenzene	102
4-Ethyltoluene	98
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	93
1,4-Dichlorobenzene	89
alpha-Chlorotoluene	109
1,2-Dichlorobenzene	92
1,2,4-Trichlorobenzene	90
Hexachlorobutadiene	88

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	110	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1701368-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012705	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/27/17 10:01 AM

Compound	%Recovery	Method Limits
Freon 12	101	70-130
Freon 114	94	70-130
Chloromethane	102	70-130
Vinyl Chloride	102	70-130
1,3-Butadiene	98	70-130
Bromomethane	95	70-130
Chloroethane	97	70-130
Freon 11	101	70-130
Ethanol	72	70-130
Freon 113	92	70-130
1,1-Dichloroethene	92	70-130
Acetone	95	70-130
2-Propanol	94	70-130
Carbon Disulfide	108	70-130
3-Chloropropene	108	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	99	70-130
trans-1,2-Dichloroethene	106	70-130
Hexane	103	70-130
1,1-Dichloroethane	99	70-130
2-Butanone (Methyl Ethyl Ketone)	102	70-130
cis-1,2-Dichloroethene	87	70-130
Tetrahydrofuran	109	70-130
Chloroform	101	70-130
1,1,1-Trichloroethane	102	70-130
Cyclohexane	101	70-130
Carbon Tetrachloride	102	70-130
2,2,4-Trimethylpentane	107	70-130
Benzene	112	70-130
1,2-Dichloroethane	119	70-130
Heptane	119	70-130
Trichloroethene	107	70-130
1,2-Dichloropropane	115	70-130
1,4-Dioxane	113	70-130
Bromodichloromethane	115	70-130
cis-1,3-Dichloropropene	120	70-130
4-Methyl-2-pentanone	131 Q	70-130
Toluene	110	70-130
trans-1,3-Dichloropropene	110	70-130
1,1,2-Trichloroethane	107	70-130
Tetrachloroethene	101	70-130
2-Hexanone	115	70-130

Client Sample ID: LCS

Lab ID#: 1701368-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012705	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/27/17 10:01 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	115	70-130
1,2-Dibromoethane (EDB)	106	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	111	70-130
m,p-Xylene	111	70-130
o-Xylene	109	70-130
Styrene	116	70-130
Bromoform	116	70-130
Cumene	113	70-130
1,1,2,2-Tetrachloroethane	109	70-130
Propylbenzene	107	70-130
4-Ethyltoluene	104	70-130
1,3,5-Trimethylbenzene	108	70-130
1,2,4-Trimethylbenzene	99	70-130
1,3-Dichlorobenzene	96	70-130
1,4-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	119	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	89	70-130
Hexachlorobutadiene	91	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	110	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1701368-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012706	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/27/17 11:03 AM

Compound	%Recovery	Method Limits
Freon 12	104	70-130
Freon 114	96	70-130
Chloromethane	105	70-130
Vinyl Chloride	105	70-130
1,3-Butadiene	102	70-130
Bromomethane	106	70-130
Chloroethane	121	70-130
Freon 11	99	70-130
Ethanol	74	70-130
Freon 113	92	70-130
1,1-Dichloroethene	90	70-130
Acetone	96	70-130
2-Propanol	95	70-130
Carbon Disulfide	108	70-130
3-Chloropropene	107	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	101	70-130
trans-1,2-Dichloroethene	109	70-130
Hexane	105	70-130
1,1-Dichloroethane	99	70-130
2-Butanone (Methyl Ethyl Ketone)	102	70-130
cis-1,2-Dichloroethene	89	70-130
Tetrahydrofuran	109	70-130
Chloroform	101	70-130
1,1,1-Trichloroethane	102	70-130
Cyclohexane	102	70-130
Carbon Tetrachloride	102	70-130
2,2,4-Trimethylpentane	108	70-130
Benzene	108	70-130
1,2-Dichloroethane	116	70-130
Heptane	120	70-130
Trichloroethene	105	70-130
1,2-Dichloropropane	115	70-130
1,4-Dioxane	110	70-130
Bromodichloromethane	115	70-130
cis-1,3-Dichloropropene	119	70-130
4-Methyl-2-pentanone	129	70-130
Toluene	109	70-130
trans-1,3-Dichloropropene	113	70-130
1,1,2-Trichloroethane	108	70-130
Tetrachloroethene	101	70-130
2-Hexanone	115	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1701368-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012706	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/27/17 11:03 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	115	70-130
1,2-Dibromoethane (EDB)	108	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	111	70-130
m,p-Xylene	111	70-130
o-Xylene	112	70-130
Styrene	116	70-130
Bromoform	116	70-130
Cumene	115	70-130
1,1,2,2-Tetrachloroethane	109	70-130
Propylbenzene	108	70-130
4-Ethyltoluene	105	70-130
1,3,5-Trimethylbenzene	102	70-130
1,2,4-Trimethylbenzene	96	70-130
1,3-Dichlorobenzene	96	70-130
1,4-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	122	70-130
1,2-Dichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	97	70-130
Hexachlorobutadiene	101	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	107	70-130