

4/3/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1703389

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 3/21/2017 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 #: 1703389

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. #	3ESP170759/3ESP170712
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	03/21/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	03/28/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (170807)	Modified TO-15	3.5 "Hg	4.8 psi
02A	U1 (170808)	Modified TO-15	4.3 "Hg	4.7 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: 04/03/17

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# 1703389**

Two 6 Liter Summa Canister (100% Certified) samples were received on March 21, 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

There were no analytical discrepancies.

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 (170807)

Lab ID#: 1703389-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.49	0.74	2.4
Freon 11	0.15	0.24	0.84	1.3
Ethanol	0.75	0.86	1.4	1.6
Acetone	0.75	1.5	1.8	3.5
Benzene	0.15	0.21	0.48	0.66

Client Sample ID: U1 (170808)

Lab ID#: 1703389-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.49	0.76	2.4
Freon 11	0.15	0.23	0.86	1.3
Ethanol	0.77	0.92	1.4	1.7
Acetone	0.77	1.8	1.8	4.4
Hexane	0.15	0.25	0.54	0.88
Benzene	0.15	0.18	0.49	0.56
Heptane	0.15	0.26	0.63	1.1



Air Toxics

Client Sample ID: D1 (170807)

Lab ID#: 1703389-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032309	Date of Collection:	3/15/17 1:25:00 PM
Dil. Factor:	1.50	Date of Analysis:	3/23/17 02:01 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.49	0.74	2.4
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.75	Not Detected	1.5	Not Detected
Vinyl Chloride	0.15	Not Detected	0.38	Not Detected
1,3-Butadiene	0.15	Not Detected	0.33	Not Detected
Bromomethane	0.75	Not Detected	2.9	Not Detected
Chloroethane	0.75	Not Detected	2.0	Not Detected
Freon 11	0.15	0.24	0.84	1.3
Ethanol	0.75	0.86	1.4	1.6
Freon 113	0.15	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Acetone	0.75	1.5	1.8	3.5
2-Propanol	0.75	Not Detected	1.8	Not Detected
Carbon Disulfide	0.75	Not Detected	2.3	Not Detected
3-Chloropropene	0.75	Not Detected	2.3	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.54	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Hexane	0.15	Not Detected	0.53	Not Detected
1,1-Dichloroethane	0.15	Not Detected	0.61	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.75	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Tetrahydrofuran	0.75	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.73	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.82	Not Detected
Cyclohexane	0.15	Not Detected	0.52	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.94	Not Detected
2,2,4-Trimethylpentane	0.75	Not Detected	3.5	Not Detected
Benzene	0.15	0.21	0.48	0.66
1,2-Dichloroethane	0.15	Not Detected	0.61	Not Detected
Heptane	0.15	Not Detected	0.61	Not Detected
Trichloroethene	0.15	Not Detected	0.81	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.69	Not Detected
1,4-Dioxane	0.15	Not Detected	0.54	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.61	Not Detected
Toluene	0.15	Not Detected	0.56	Not Detected
trans-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.82	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.75	Not Detected	3.1	Not Detected



Client Sample ID: D1 (170807)

Lab ID#: 1703389-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032309	Date of Collection: 3/15/17 1:25:00 PM
Dil. Factor:	1.50	Date of Analysis: 3/23/17 02:01 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.2	Not Detected
Chlorobenzene	0.15	Not Detected	0.69	Not Detected
Ethyl Benzene	0.15	Not Detected	0.65	Not Detected
m,p-Xylene	0.15	Not Detected	0.65	Not Detected
o-Xylene	0.15	Not Detected	0.65	Not Detected
Styrene	0.15	Not Detected	0.64	Not Detected
Bromoform	0.15	Not Detected	1.6	Not Detected
Cumene	0.15	Not Detected	0.74	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.74	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.74	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.74	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.78	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,2,4-Trichlorobenzene	0.75	Not Detected	5.6	Not Detected
Hexachlorobutadiene	0.75	Not Detected	8.0	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: U1 (170808)

Lab ID#: 1703389-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032310	Date of Collection:	3/15/17 1:15:00 PM
Dil. Factor:	1.54	Date of Analysis:	3/23/17 02:42 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.49	0.76	2.4
Freon 114	0.15	Not Detected	1.1	Not Detected
Chloromethane	0.77	Not Detected	1.6	Not Detected
Vinyl Chloride	0.15	Not Detected	0.39	Not Detected
1,3-Butadiene	0.15	Not Detected	0.34	Not Detected
Bromomethane	0.77	Not Detected	3.0	Not Detected
Chloroethane	0.77	Not Detected	2.0	Not Detected
Freon 11	0.15	0.23	0.86	1.3
Ethanol	0.77	0.92	1.4	1.7
Freon 113	0.15	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.61	Not Detected
Acetone	0.77	1.8	1.8	4.4
2-Propanol	0.77	Not Detected	1.9	Not Detected
Carbon Disulfide	0.77	Not Detected	2.4	Not Detected
3-Chloropropene	0.77	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.56	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.61	Not Detected
Hexane	0.15	0.25	0.54	0.88
1,1-Dichloroethane	0.15	Not Detected	0.62	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.77	Not Detected	2.3	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.61	Not Detected
Tetrahydrofuran	0.77	Not Detected	2.3	Not Detected
Chloroform	0.15	Not Detected	0.75	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.84	Not Detected
Cyclohexane	0.15	Not Detected	0.53	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.97	Not Detected
2,2,4-Trimethylpentane	0.77	Not Detected	3.6	Not Detected
Benzene	0.15	0.18	0.49	0.56
1,2-Dichloroethane	0.15	Not Detected	0.62	Not Detected
Heptane	0.15	0.26	0.63	1.1
Trichloroethene	0.15	Not Detected	0.83	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.71	Not Detected
1,4-Dioxane	0.15	Not Detected	0.55	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.70	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.63	Not Detected
Toluene	0.15	Not Detected	0.58	Not Detected
trans-1,3-Dichloropropene	0.15	Not Detected	0.70	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.84	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.77	Not Detected	3.2	Not Detected

Client Sample ID: U1 (170808)

Lab ID#: 1703389-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032310	Date of Collection: 3/15/17 1:15:00 PM
Dil. Factor:	1.54	Date of Analysis: 3/23/17 02:42 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.2	Not Detected
Chlorobenzene	0.15	Not Detected	0.71	Not Detected
Ethyl Benzene	0.15	Not Detected	0.67	Not Detected
m,p-Xylene	0.15	Not Detected	0.67	Not Detected
o-Xylene	0.15	Not Detected	0.67	Not Detected
Styrene	0.15	Not Detected	0.66	Not Detected
Bromoform	0.15	Not Detected	1.6	Not Detected
Cumene	0.15	Not Detected	0.76	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.76	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.76	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.76	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.76	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.92	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.92	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.92	Not Detected
1,2,4-Trichlorobenzene	0.77	Not Detected	5.7	Not Detected
Hexachlorobutadiene	0.77	Not Detected	8.2	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	130	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1703389-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032308	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/23/17 12:58 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#: 1703389-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032308	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/23/17 12:58 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	130	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1703389-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/23/17 08:07 AM

Compound	%Recovery
Freon 12	109
Freon 114	94
Chloromethane	81
Vinyl Chloride	77
1,3-Butadiene	78
Bromomethane	94
Chloroethane	88
Freon 11	114
Ethanol	70
Freon 113	91
1,1-Dichloroethene	84
Acetone	82
2-Propanol	84
Carbon Disulfide	79
3-Chloropropene	81
Methylene Chloride	74
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	91
Hexane	84
1,1-Dichloroethane	94
2-Butanone (Methyl Ethyl Ketone)	86
cis-1,2-Dichloroethene	88
Tetrahydrofuran	85
Chloroform	96
1,1,1-Trichloroethane	104
Cyclohexane	91
Carbon Tetrachloride	104
2,2,4-Trimethylpentane	84
Benzene	89
1,2-Dichloroethane	110
Heptane	88
Trichloroethene	94
1,2-Dichloropropane	86
1,4-Dioxane	91
Bromodichloromethane	106
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	97
Toluene	97
trans-1,3-Dichloropropene	98
1,1,2-Trichloroethane	86
Tetrachloroethene	94
2-Hexanone	91



Air Toxics

Client Sample ID: CCV

Lab ID#: 1703389-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/23/17 08:07 AM

Compound	%Recovery
Dibromochloromethane	100
1,2-Dibromoethane (EDB)	89
Chlorobenzene	90
Ethyl Benzene	99
m,p-Xylene	101
o-Xylene	101
Styrene	102
Bromoform	104
Cumene	106
1,1,2,2-Tetrachloroethane	80
Propylbenzene	100
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	91
alpha-Chlorotoluene	101
1,2-Dichlorobenzene	97
1,2,4-Trichlorobenzene	86
Hexachlorobutadiene	99

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1703389-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/23/17 08:53 AM

Compound	%Recovery	Method Limits
Freon 12	116	70-130
Freon 114	97	70-130
Chloromethane	86	70-130
Vinyl Chloride	84	70-130
1,3-Butadiene	85	70-130
Bromomethane	97	70-130
Chloroethane	90	70-130
Freon 11	122	70-130
Ethanol	75	70-130
Freon 113	90	70-130
1,1-Dichloroethene	88	70-130
Acetone	81	70-130
2-Propanol	97	70-130
Carbon Disulfide	89	70-130
3-Chloropropene	100	70-130
Methylene Chloride	76	70-130
Methyl tert-butyl ether	106	70-130
trans-1,2-Dichloroethene	102	70-130
Hexane	93	70-130
1,1-Dichloroethane	92	70-130
2-Butanone (Methyl Ethyl Ketone)	93	70-130
cis-1,2-Dichloroethene	86	70-130
Tetrahydrofuran	90	70-130
Chloroform	102	70-130
1,1,1-Trichloroethane	113	70-130
Cyclohexane	98	70-130
Carbon Tetrachloride	109	70-130
2,2,4-Trimethylpentane	89	70-130
Benzene	83	70-130
1,2-Dichloroethane	103	70-130
Heptane	85	70-130
Trichloroethene	99	70-130
1,2-Dichloropropane	81	70-130
1,4-Dioxane	88	70-130
Bromodichloromethane	104	70-130
cis-1,3-Dichloropropene	99	70-130
4-Methyl-2-pentanone	96	70-130
Toluene	91	70-130
trans-1,3-Dichloropropene	101	70-130
1,1,2-Trichloroethane	91	70-130
Tetrachloroethene	96	70-130
2-Hexanone	95	70-130



Client Sample ID: LCS

Lab ID#: 1703389-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/23/17 08:53 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	101	70-130
1,2-Dibromoethane (EDB)	89	70-130
Chlorobenzene	93	70-130
Ethyl Benzene	96	70-130
m,p-Xylene	102	70-130
o-Xylene	101	70-130
Styrene	110	70-130
Bromoform	108	70-130
Cumene	108	70-130
1,1,2,2-Tetrachloroethane	74	70-130
Propylbenzene	102	70-130
4-Ethyltoluene	113	70-130
1,3,5-Trimethylbenzene	111	70-130
1,2,4-Trimethylbenzene	110	70-130
1,3-Dichlorobenzene	100	70-130
1,4-Dichlorobenzene	97	70-130
alpha-Chlorotoluene	107	70-130
1,2-Dichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	93	70-130
Hexachlorobutadiene	103	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	111	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1703389-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/23/17 09:37 AM

Compound	%Recovery	Method Limits
Freon 12	107	70-130
Freon 114	92	70-130
Chloromethane	75	70-130
Vinyl Chloride	81	70-130
1,3-Butadiene	76	70-130
Bromomethane	91	70-130
Chloroethane	83	70-130
Freon 11	112	70-130
Ethanol	73	70-130
Freon 113	93	70-130
1,1-Dichloroethene	89	70-130
Acetone	76	70-130
2-Propanol	90	70-130
Carbon Disulfide	82	70-130
3-Chloropropene	86	70-130
Methylene Chloride	68 Q	70-130
Methyl tert-butyl ether	98	70-130
trans-1,2-Dichloroethene	99	70-130
Hexane	86	70-130
1,1-Dichloroethane	88	70-130
2-Butanone (Methyl Ethyl Ketone)	90	70-130
cis-1,2-Dichloroethene	84	70-130
Tetrahydrofuran	85	70-130
Chloroform	97	70-130
1,1,1-Trichloroethane	105	70-130
Cyclohexane	93	70-130
Carbon Tetrachloride	102	70-130
2,2,4-Trimethylpentane	83	70-130
Benzene	86	70-130
1,2-Dichloroethane	106	70-130
Heptane	88	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	81	70-130
1,4-Dioxane	90	70-130
Bromodichloromethane	104	70-130
cis-1,3-Dichloropropene	99	70-130
4-Methyl-2-pentanone	96	70-130
Toluene	93	70-130
trans-1,3-Dichloropropene	103	70-130
1,1,2-Trichloroethane	91	70-130
Tetrachloroethene	97	70-130
2-Hexanone	94	70-130

Client Sample ID: LCSD

Lab ID#: 1703389-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e032304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/23/17 09:37 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	102	70-130
1,2-Dibromoethane (EDB)	92	70-130
Chlorobenzene	92	70-130
Ethyl Benzene	102	70-130
m,p-Xylene	104	70-130
o-Xylene	107	70-130
Styrene	109	70-130
Bromoform	109	70-130
Cumene	109	70-130
1,1,2,2-Tetrachloroethane	76	70-130
Propylbenzene	103	70-130
4-Ethyltoluene	111	70-130
1,3,5-Trimethylbenzene	111	70-130
1,2,4-Trimethylbenzene	112	70-130
1,3-Dichlorobenzene	100	70-130
1,4-Dichlorobenzene	95	70-130
alpha-Chlorotoluene	108	70-130
1,2-Dichlorobenzene	99	70-130
1,2,4-Trichlorobenzene	93	70-130
Hexachlorobutadiene	104	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	109	70-130