

12/9/2016

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1611476

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 11/28/2016 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 #: 1611476

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. #	3ESP170362/3ESP170267
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	11/28/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	12/09/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (163925)	Modified TO-15	5.5 "Hg	5 psi
02A	U1 (163926)	Modified TO-15	5.5 "Hg	5 psi
03A	Lab Blank	Modified TO-15	NA	NA
03B	Lab Blank	Modified TO-15	NA	NA
04A	CCV	Modified TO-15	NA	NA
04B	CCV	Modified TO-15	NA	NA
05A	LCS	Modified TO-15	NA	NA
05AA	LCSD	Modified TO-15	NA	NA
05B	LCS	Modified TO-15	NA	NA
05BB	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 12/09/16

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

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# 1611476

Two 6 Liter Summa Canister (100% Certified) samples were received on November 28, 2016. 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.

Requirement	TO-15	ATL Modifications
Initial Calibration	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	$\leq 30\%$ RSD with 4 compounds allowed out to $< 40\%$ RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

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 (163925)

Lab ID#: 1611476-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.49	0.81	2.4
Freon 11	0.16	0.19	0.92	1.1
Ethanol	0.82	2.7	1.5	5.0
Acetone	0.82	4.2	1.9	9.9
2-Propanol	0.82	2.6	2.0	6.3
Benzene	0.16	0.22	0.52	0.69
Toluene	0.16	0.25	0.62	0.93

Client Sample ID: U1 (163926)

Lab ID#: 1611476-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.81	2.2
Freon 11	0.16	0.19	0.92	1.0
Ethanol	0.82	2.6	1.5	4.9
Acetone	0.82	1.9	1.9	4.6
Benzene	0.16	0.21	0.52	0.67
Toluene	0.16	0.23	0.62	0.87



Air Toxics

Client Sample ID: D1 (163925)

Lab ID#: 1611476-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e112921	Date of Collection:	11/21/16 12:55:00 P
Dil. Factor:	1.64	Date of Analysis:	11/29/16 10:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.49	0.81	2.4
Freon 114	0.16	Not Detected	1.1	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	0.19	0.92	1.1
Ethanol	0.82	2.7	1.5	5.0
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	4.2	1.9	9.9
2-Propanol	0.82	2.6	2.0	6.3
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	0.66	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	0.89	Not Detected
Cyclohexane	0.16	Not Detected	0.56	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	0.22	0.52	0.69
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	Not Detected	0.67	Not Detected
Trichloroethene	0.16	Not Detected	0.88	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	0.74	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.67	Not Detected
Toluene	0.16	0.25	0.62	0.93
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected

Client Sample ID: D1 (163925)

Lab ID#: 1611476-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e112921	Date of Collection:	11/21/16 12:55:00 P
Dil. Factor:	1.64	Date of Analysis:	11/29/16 10:59 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	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
o-Xylene	0.16	Not Detected	0.71	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	8.7	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: U1 (163926)

Lab ID#: 1611476-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e113008	Date of Collection:	11/21/16 1:05:00 PM
Dil. Factor:	1.64	Date of Analysis:	11/30/16 02:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.81	2.2
Freon 114	0.16	Not Detected	1.1	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	0.19	0.92	1.0
Ethanol	0.82	2.6	1.5	4.9
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	1.9	1.9	4.6
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	0.66	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	0.89	Not Detected
Cyclohexane	0.16	Not Detected	0.56	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	0.21	0.52	0.67
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	Not Detected	0.67	Not Detected
Trichloroethene	0.16	Not Detected	0.88	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	0.74	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.67	Not Detected
Toluene	0.16	0.23	0.62	0.87
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.89	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 (163926)

Lab ID#: 1611476-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e113008	Date of Collection:	11/21/16 1:05:00 PM
Dil. Factor:	1.64	Date of Analysis:	11/30/16 02:04 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	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
o-Xylene	0.16	Not Detected	0.71	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	8.7	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	87	70-130

Client Sample ID: Lab Blank

Lab ID#: 1611476-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e112908	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/29/16 11:31 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#: 1611476-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e112908	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/29/16 11:31 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	105	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	90	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1611476-03B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: e113007

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 11/30/16 12:44 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#: 1611476-03B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e113007	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/16 12:44 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	107	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: CCV

Lab ID#: 1611476-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e112906	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/29/16 09:51 AM

Compound	%Recovery
Freon 12	102
Freon 114	100
Chloromethane	133 Q
Vinyl Chloride	104
1,3-Butadiene	108
Bromomethane	101
Chloroethane	100
Freon 11	99
Ethanol	105
Freon 113	99
1,1-Dichloroethene	95
Acetone	109
2-Propanol	114
Carbon Disulfide	99
3-Chloropropene	97
Methylene Chloride	102
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	98
Hexane	108
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	103
cis-1,2-Dichloroethene	100
Tetrahydrofuran	122
Chloroform	103
1,1,1-Trichloroethane	97
Cyclohexane	97
Carbon Tetrachloride	100
2,2,4-Trimethylpentane	109
Benzene	115
1,2-Dichloroethane	118
Heptane	124
Trichloroethene	108
1,2-Dichloropropane	120
1,4-Dioxane	112
Bromodichloromethane	113
cis-1,3-Dichloropropene	110
4-Methyl-2-pentanone	133 Q
Toluene	112
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	111
Tetrachloroethene	103
2-Hexanone	116

Client Sample ID: CCV

Lab ID#: 1611476-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e112906	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/29/16 09:51 AM

Compound	%Recovery
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	108
Chlorobenzene	106
Ethyl Benzene	108
m,p-Xylene	109
o-Xylene	107
Styrene	107
Bromoform	110
Cumene	108
1,1,2,2-Tetrachloroethane	118
Propylbenzene	110
4-Ethyltoluene	108
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	99
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	105
alpha-Chlorotoluene	106
1,2-Dichlorobenzene	109
1,2,4-Trichlorobenzene	91
Hexachlorobutadiene	97

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: CCV

Lab ID#: 1611476-04B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e113003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/16 09:45 AM

Compound	%Recovery
Freon 12	103
Freon 114	100
Chloromethane	130
Vinyl Chloride	105
1,3-Butadiene	109
Bromomethane	103
Chloroethane	101
Freon 11	98
Ethanol	102
Freon 113	96
1,1-Dichloroethene	94
Acetone	108
2-Propanol	110
Carbon Disulfide	96
3-Chloropropene	95
Methylene Chloride	102
Methyl tert-butyl ether	95
trans-1,2-Dichloroethene	99
Hexane	104
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	97
Tetrahydrofuran	122
Chloroform	103
1,1,1-Trichloroethane	94
Cyclohexane	96
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	108
Benzene	117
1,2-Dichloroethane	119
Heptane	124
Trichloroethene	107
1,2-Dichloropropane	120
1,4-Dioxane	109
Bromodichloromethane	115
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	133 Q
Toluene	113
trans-1,3-Dichloropropene	102
1,1,2-Trichloroethane	110
Tetrachloroethene	99
2-Hexanone	113



Air Toxics

Client Sample ID: CCV

Lab ID#: 1611476-04B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e113003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/16 09:45 AM

Compound	%Recovery
Dibromochloromethane	107
1,2-Dibromoethane (EDB)	105
Chlorobenzene	105
Ethyl Benzene	105
m,p-Xylene	103
o-Xylene	100
Styrene	105
Bromoform	106
Cumene	106
1,1,2,2-Tetrachloroethane	115
Propylbenzene	107
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	103
1,2-Dichlorobenzene	107
1,2,4-Trichlorobenzene	86
Hexachlorobutadiene	98

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: LCS

Lab ID#: 1611476-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e112903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/29/16 07:25 AM

Compound	%Recovery	Method Limits
Freon 12	95	70-130
Freon 114	95	70-130
Chloromethane	130	70-130
Vinyl Chloride	102	70-130
1,3-Butadiene	101	70-130
Bromomethane	95	70-130
Chloroethane	94	70-130
Freon 11	92	70-130
Ethanol	67 Q	70-130
Freon 113	89	70-130
1,1-Dichloroethene	85	70-130
Acetone	99	70-130
2-Propanol	101	70-130
Carbon Disulfide	90	70-130
3-Chloropropene	84	70-130
Methylene Chloride	91	70-130
Methyl tert-butyl ether	88	70-130
trans-1,2-Dichloroethene	93	70-130
Hexane	101	70-130
1,1-Dichloroethane	95	70-130
2-Butanone (Methyl Ethyl Ketone)	88	70-130
cis-1,2-Dichloroethene	88	70-130
Tetrahydrofuran	112	70-130
Chloroform	92	70-130
1,1,1-Trichloroethane	89	70-130
Cyclohexane	91	70-130
Carbon Tetrachloride	65 Q	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	102	70-130
1,2-Dichloroethane	100	70-130
Heptane	110	70-130
Trichloroethene	96	70-130
1,2-Dichloropropane	104	70-130
1,4-Dioxane	96	70-130
Bromodichloromethane	99	70-130
cis-1,3-Dichloropropene	95	70-130
4-Methyl-2-pentanone	116	70-130
Toluene	98	70-130
trans-1,3-Dichloropropene	91	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	93	70-130
2-Hexanone	98	70-130

Client Sample ID: LCS

Lab ID#: 1611476-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e112903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/29/16 07:25 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	96	70-130
1,2-Dibromoethane (EDB)	96	70-130
Chlorobenzene	95	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	96	70-130
o-Xylene	96	70-130
Styrene	97	70-130
Bromoform	95	70-130
Cumene	97	70-130
1,1,2,2-Tetrachloroethane	103	70-130
Propylbenzene	98	70-130
4-Ethyltoluene	96	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	88	70-130
1,3-Dichlorobenzene	92	70-130
1,4-Dichlorobenzene	97	70-130
alpha-Chlorotoluene	95	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	77	70-130
Hexachlorobutadiene	93	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: LCSD

Lab ID#: 1611476-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e112904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/29/16 08:08 AM

Compound	%Recovery	Method Limits
Freon 12	95	70-130
Freon 114	93	70-130
Chloromethane	119	70-130
Vinyl Chloride	98	70-130
1,3-Butadiene	98	70-130
Bromomethane	94	70-130
Chloroethane	94	70-130
Freon 11	90	70-130
Ethanol	68 Q	70-130
Freon 113	88	70-130
1,1-Dichloroethene	84	70-130
Acetone	97	70-130
2-Propanol	99	70-130
Carbon Disulfide	87	70-130
3-Chloropropene	88	70-130
Methylene Chloride	89	70-130
Methyl tert-butyl ether	85	70-130
trans-1,2-Dichloroethene	91	70-130
Hexane	99	70-130
1,1-Dichloroethane	92	70-130
2-Butanone (Methyl Ethyl Ketone)	88	70-130
cis-1,2-Dichloroethene	86	70-130
Tetrahydrofuran	111	70-130
Chloroform	93	70-130
1,1,1-Trichloroethane	88	70-130
Cyclohexane	90	70-130
Carbon Tetrachloride	63 Q	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	100	70-130
1,2-Dichloroethane	101	70-130
Heptane	107	70-130
Trichloroethene	95	70-130
1,2-Dichloropropane	100	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	100	70-130
cis-1,3-Dichloropropene	96	70-130
4-Methyl-2-pentanone	116	70-130
Toluene	97	70-130
trans-1,3-Dichloropropene	89	70-130
1,1,2-Trichloroethane	99	70-130
Tetrachloroethene	92	70-130
2-Hexanone	99	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1611476-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e112904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/29/16 08:08 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	96	70-130
1,2-Dibromoethane (EDB)	94	70-130
Chlorobenzene	93	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	95	70-130
o-Xylene	94	70-130
Styrene	95	70-130
Bromoform	93	70-130
Cumene	95	70-130
1,1,2,2-Tetrachloroethane	101	70-130
Propylbenzene	97	70-130
4-Ethyltoluene	96	70-130
1,3,5-Trimethylbenzene	95	70-130
1,2,4-Trimethylbenzene	89	70-130
1,3-Dichlorobenzene	90	70-130
1,4-Dichlorobenzene	95	70-130
alpha-Chlorotoluene	96	70-130
1,2-Dichlorobenzene	94	70-130
1,2,4-Trichlorobenzene	78	70-130
Hexachlorobutadiene	94	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: LCS

Lab ID#: 1611476-05B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: e113004

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 11/30/16 10:28 AM

Compound	%Recovery	Method Limits
Freon 12	92	70-130
Freon 114	91	70-130
Chloromethane	115	70-130
Vinyl Chloride	97	70-130
1,3-Butadiene	97	70-130
Bromomethane	91	70-130
Chloroethane	91	70-130
Freon 11	88	70-130
Ethanol	68 Q	70-130
Freon 113	83	70-130
1,1-Dichloroethene	83	70-130
Acetone	98	70-130
2-Propanol	98	70-130
Carbon Disulfide	83	70-130
3-Chloropropene	81	70-130
Methylene Chloride	88	70-130
Methyl tert-butyl ether	82	70-130
trans-1,2-Dichloroethene	85	70-130
Hexane	96	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	86	70-130
cis-1,2-Dichloroethene	83	70-130
Tetrahydrofuran	107	70-130
Chloroform	90	70-130
1,1,1-Trichloroethane	84	70-130
Cyclohexane	86	70-130
Carbon Tetrachloride	62 Q	70-130
2,2,4-Trimethylpentane	92	70-130
Benzene	103	70-130
1,2-Dichloroethane	102	70-130
Heptane	110	70-130
Trichloroethene	96	70-130
1,2-Dichloropropane	105	70-130
1,4-Dioxane	94	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	95	70-130
4-Methyl-2-pentanone	118	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	91	70-130
1,1,2-Trichloroethane	97	70-130
Tetrachloroethene	92	70-130
2-Hexanone	98	70-130

Client Sample ID: LCS

Lab ID#: 1611476-05B

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e113004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/16 10:28 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	96	70-130
1,2-Dibromoethane (EDB)	93	70-130
Chlorobenzene	94	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	94	70-130
o-Xylene	95	70-130
Styrene	96	70-130
Bromoform	95	70-130
Cumene	95	70-130
1,1,2,2-Tetrachloroethane	101	70-130
Propylbenzene	98	70-130
4-Ethyltoluene	95	70-130
1,3,5-Trimethylbenzene	95	70-130
1,2,4-Trimethylbenzene	84	70-130
1,3-Dichlorobenzene	89	70-130
1,4-Dichlorobenzene	92	70-130
alpha-Chlorotoluene	95	70-130
1,2-Dichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	74	70-130
Hexachlorobutadiene	91	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCSD

Lab ID#: 1611476-05BB

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e113005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/16 11:21 AM

Compound	%Recovery	Method Limits
Freon 12	97	70-130
Freon 114	94	70-130
Chloromethane	132 Q	70-130
Vinyl Chloride	100	70-130
1,3-Butadiene	99	70-130
Bromomethane	96	70-130
Chloroethane	95	70-130
Freon 11	90	70-130
Ethanol	72	70-130
Freon 113	89	70-130
1,1-Dichloroethene	85	70-130
Acetone	100	70-130
2-Propanol	104	70-130
Carbon Disulfide	87	70-130
3-Chloropropene	87	70-130
Methylene Chloride	91	70-130
Methyl tert-butyl ether	86	70-130
trans-1,2-Dichloroethene	90	70-130
Hexane	100	70-130
1,1-Dichloroethane	93	70-130
2-Butanone (Methyl Ethyl Ketone)	87	70-130
cis-1,2-Dichloroethene	86	70-130
Tetrahydrofuran	113	70-130
Chloroform	92	70-130
1,1,1-Trichloroethane	88	70-130
Cyclohexane	88	70-130
Carbon Tetrachloride	65 Q	70-130
2,2,4-Trimethylpentane	97	70-130
Benzene	101	70-130
1,2-Dichloroethane	103	70-130
Heptane	110	70-130
Trichloroethene	96	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	99	70-130
cis-1,3-Dichloropropene	94	70-130
4-Methyl-2-pentanone	118	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	89	70-130
1,1,2-Trichloroethane	95	70-130
Tetrachloroethene	88	70-130
2-Hexanone	96	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1611476-05BB

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e113005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/30/16 11:21 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	92	70-130
1,2-Dibromoethane (EDB)	91	70-130
Chlorobenzene	93	70-130
Ethyl Benzene	92	70-130
m,p-Xylene	91	70-130
o-Xylene	91	70-130
Styrene	94	70-130
Bromoform	92	70-130
Cumene	92	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	93	70-130
4-Ethyltoluene	93	70-130
1,3,5-Trimethylbenzene	90	70-130
1,2,4-Trimethylbenzene	82	70-130
1,3-Dichlorobenzene	86	70-130
1,4-Dichlorobenzene	90	70-130
alpha-Chlorotoluene	91	70-130
1,2-Dichlorobenzene	89	70-130
1,2,4-Trichlorobenzene	69 Q	70-130
Hexachlorobutadiene	82	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	104	70-130
4-Bromofluorobenzene	97	70-130