

7/9/2016

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1606545

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 6/27/2016 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 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 #: 1606545

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. #	3ESP160983
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	06/27/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	07/09/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (162927)	Modified TO-15	8.0 "Hg	5 psi
02A	D2 (162928)	Modified TO-15	6.0 "Hg	5 psi
03A	U1 (162929)	Modified TO-15	6.0 "Hg	5 psi
04A	U2 (162930)	Modified TO-15	6.0 "Hg	5 psi
05A	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

 Technical Director

DATE: 07/09/16

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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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1606545**

Four 6 Liter Summa Canister (100% Certified) samples were received on June 27, 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.

<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 (162927)

Lab ID#: 1606545-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.56	0.90	2.8
Freon 11	0.18	0.23	1.0	1.3
Ethanol	0.92	20	1.7	37
Acetone	0.92	7.3	2.2	17
2-Propanol	0.92	1.1	2.2	2.7
Hexane	0.18	0.31	0.64	1.1
2-Butanone (Methyl Ethyl Ketone)	0.92	1.3	2.7	3.9
Heptane	0.18	0.24	0.75	0.98
Toluene	0.18	0.19	0.69	0.71

Client Sample ID: D2 (162928)

Lab ID#: 1606545-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.58	0.83	2.9
Freon 11	0.17	0.23	0.94	1.3
Ethanol	0.84	7.0	1.6	13
Acetone	0.84	6.1	2.0	14
2-Propanol	0.84	0.87	2.1	2.1
Methylene Chloride	0.34	0.34	1.2	1.2
2-Butanone (Methyl Ethyl Ketone)	0.84	0.87	2.5	2.6
1,4-Dioxane	0.17	0.20	0.60	0.74

Client Sample ID: U1 (162929)

Lab ID#: 1606545-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.60	0.83	3.0
Freon 11	0.17	0.27	0.94	1.5
Ethanol	0.84	7.6	1.6	14
Acetone	0.84	5.3	2.0	13
Methylene Chloride	0.34	0.43	1.2	1.5
Hexane	0.17	0.97	0.59	3.4

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: U1 (162929)

Lab ID#: 1606545-03A

Heptane	0.17	0.61	0.69	2.5
Toluene	0.17	0.27	0.63	1.0

Client Sample ID: U2 (162930)

Lab ID#: 1606545-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.57	0.83	2.8
Freon 11	0.17	0.27	0.94	1.5
Ethanol	0.84	110 E	1.6	210 E
Acetone	0.84	17	2.0	41
2-Propanol	0.84	45	2.1	110
Methylene Chloride	0.34	0.77	1.2	2.7
trans-1,2-Dichloroethene	0.17	0.31	0.67	1.2
Hexane	0.17	0.30	0.59	1.0
2-Butanone (Methyl Ethyl Ketone)	0.84	1.8	2.5	5.4
Cyclohexane	0.17	0.35	0.58	1.2
1,2-Dichloroethane	0.17	0.49	0.68	2.0
Heptane	0.17	0.46	0.69	1.9
Toluene	0.17	2.3	0.63	8.5
Ethyl Benzene	0.17	0.17	0.73	0.76
m,p-Xylene	0.17	0.50	0.73	2.2
o-Xylene	0.17	0.17	0.73	0.76



Air Toxics

Client Sample ID: D1 (162927)

Lab ID#: 1606545-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062808	Date of Collection:	6/21/16 12:25:00 PM
Dil. Factor:	1.83	Date of Analysis:	6/28/16 01:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.56	0.90	2.8
Freon 114	0.18	Not Detected	1.3	Not Detected
Chloromethane	0.92	Not Detected	1.9	Not Detected
Vinyl Chloride	0.18	Not Detected	0.47	Not Detected
1,3-Butadiene	0.18	Not Detected	0.40	Not Detected
Bromomethane	0.92	Not Detected	3.6	Not Detected
Chloroethane	0.92	Not Detected	2.4	Not Detected
Freon 11	0.18	0.23	1.0	1.3
Ethanol	0.92	20	1.7	37
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Acetone	0.92	7.3	2.2	17
2-Propanol	0.92	1.1	2.2	2.7
Carbon Disulfide	0.92	Not Detected	2.8	Not Detected
3-Chloropropene	0.92	Not Detected	2.9	Not Detected
Methylene Chloride	0.37	Not Detected	1.3	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.66	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Hexane	0.18	0.31	0.64	1.1
1,1-Dichloroethane	0.18	Not Detected	0.74	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.92	1.3	2.7	3.9
cis-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Tetrahydrofuran	0.92	Not Detected	2.7	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	1.0	Not Detected
Cyclohexane	0.18	Not Detected	0.63	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.2	Not Detected
2,2,4-Trimethylpentane	0.92	Not Detected	4.3	Not Detected
Benzene	0.18	Not Detected	0.58	Not Detected
1,2-Dichloroethane	0.18	Not Detected	0.74	Not Detected
Heptane	0.18	0.24	0.75	0.98
Trichloroethene	0.18	Not Detected	0.98	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.84	Not Detected
1,4-Dioxane	0.18	Not Detected	0.66	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.83	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.75	Not Detected
Toluene	0.18	0.19	0.69	0.71
trans-1,3-Dichloropropene	0.18	Not Detected	0.83	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	1.0	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.92	Not Detected	3.7	Not Detected



Client Sample ID: D1 (162927)

Lab ID#: 1606545-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062808	Date of Collection: 6/21/16 12:25:00 PM
Dil. Factor:	1.83	Date of Analysis: 6/28/16 01:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.18	Not Detected	1.6	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.84	Not Detected
Ethyl Benzene	0.18	Not Detected	0.79	Not Detected
m,p-Xylene	0.18	Not Detected	0.79	Not Detected
o-Xylene	0.18	Not Detected	0.79	Not Detected
Styrene	0.18	Not Detected	0.78	Not Detected
Bromoform	0.18	Not Detected	1.9	Not Detected
Cumene	0.18	Not Detected	0.90	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.90	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.90	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.90	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.90	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.95	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.92	Not Detected	6.8	Not Detected
Hexachlorobutadiene	0.92	Not Detected	9.8	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: D2 (162928)

Lab ID#: 1606545-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062809	Date of Collection:	6/21/16 1:30:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/28/16 02:33 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.58	0.83	2.9
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	0.23	0.94	1.3
Ethanol	0.84	7.0	1.6	13
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	6.1	2.0	14
2-Propanol	0.84	0.87	2.1	2.1
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	0.34	1.2	1.2
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	0.87	2.5	2.6
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	0.20	0.60	0.74
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: D2 (162928)

Lab ID#: 1606545-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062809	Date of Collection:	6/21/16 1:30:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/28/16 02:33 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% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: U1 (162929)

Lab ID#: 1606545-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062810	Date of Collection:	6/21/16 1:50:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/28/16 03:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.60	0.83	3.0
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	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.27	0.94	1.5
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	0.67	Not Detected
Acetone	0.84	5.3	2.0	13
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	0.43	1.2	1.5
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	0.97	0.59	3.4
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	0.61	0.69	2.5
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	0.27	0.63	1.0
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: U1 (162929)

Lab ID#: 1606545-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062810	Date of Collection:	6/21/16 1:50:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/28/16 03:22 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% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: U2 (162930)

Lab ID#: 1606545-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062811	Date of Collection:	6/21/16 1:40:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/28/16 04:01 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.57	0.83	2.8
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	0.27	0.94	1.5
Ethanol	0.84	110 E	1.6	210 E
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	17	2.0	41
2-Propanol	0.84	45	2.1	110
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	0.77	1.2	2.7
Methyl tert-butyl ether	0.17	Not Detected	0.60	Not Detected
trans-1,2-Dichloroethene	0.17	0.31	0.67	1.2
Hexane	0.17	0.30	0.59	1.0
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.8	2.5	5.4
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	0.35	0.58	1.2
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	0.49	0.68	2.0
Heptane	0.17	0.46	0.69	1.9
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	2.3	0.63	8.5
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: U2 (162930)

Lab ID#: 1606545-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062811	Date of Collection:	6/21/16 1:40:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/28/16 04:01 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	0.17	0.73	0.76
m,p-Xylene	0.17	0.50	0.73	2.2
o-Xylene	0.17	0.17	0.73	0.76
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

E = Exceeds instrument calibration range.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1606545-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062807	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/28/16 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#: 1606545-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062807	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/28/16 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	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1606545-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/28/16 09:29 AM

Compound	%Recovery
Freon 12	112
Freon 114	110
Chloromethane	108
Vinyl Chloride	109
1,3-Butadiene	107
Bromomethane	94
Chloroethane	110
Freon 11	108
Ethanol	113
Freon 113	106
1,1-Dichloroethene	109
Acetone	106
2-Propanol	108
Carbon Disulfide	111
3-Chloropropene	113
Methylene Chloride	105
Methyl tert-butyl ether	111
trans-1,2-Dichloroethene	110
Hexane	110
1,1-Dichloroethane	109
2-Butanone (Methyl Ethyl Ketone)	112
cis-1,2-Dichloroethene	114
Tetrahydrofuran	111
Chloroform	109
1,1,1-Trichloroethane	106
Cyclohexane	109
Carbon Tetrachloride	126
2,2,4-Trimethylpentane	112
Benzene	105
1,2-Dichloroethane	105
Heptane	109
Trichloroethene	108
1,2-Dichloropropane	106
1,4-Dioxane	110
Bromodichloromethane	112
cis-1,3-Dichloropropene	112
4-Methyl-2-pentanone	114
Toluene	110
trans-1,3-Dichloropropene	115
1,1,2-Trichloroethane	107
Tetrachloroethene	107
2-Hexanone	110

Client Sample ID: CCV

Lab ID#: 1606545-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/28/16 09:29 AM

Compound	%Recovery
Dibromochloromethane	119
1,2-Dibromoethane (EDB)	112
Chlorobenzene	108
Ethyl Benzene	111
m,p-Xylene	111
o-Xylene	114
Styrene	113
Bromoform	118
Cumene	113
1,1,2,2-Tetrachloroethane	112
Propylbenzene	105
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	114
1,2,4-Trimethylbenzene	114
1,3-Dichlorobenzene	102
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	108
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	92
Hexachlorobutadiene	86

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1606545-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062804	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/28/16 10:12 AM

Compound	%Recovery	Method Limits
Freon 12	114	70-130
Freon 114	115	70-130
Chloromethane	108	70-130
Vinyl Chloride	112	70-130
1,3-Butadiene	105	70-130
Bromomethane	93	70-130
Chloroethane	118	70-130
Freon 11	112	70-130
Ethanol	114	70-130
Freon 113	105	70-130
1,1-Dichloroethene	112	70-130
Acetone	105	70-130
2-Propanol	114	70-130
Carbon Disulfide	97	70-130
3-Chloropropene	110	70-130
Methylene Chloride	106	70-130
Methyl tert-butyl ether	111	70-130
trans-1,2-Dichloroethene	111	70-130
Hexane	114	70-130
1,1-Dichloroethane	109	70-130
2-Butanone (Methyl Ethyl Ketone)	111	70-130
cis-1,2-Dichloroethene	110	70-130
Tetrahydrofuran	110	70-130
Chloroform	109	70-130
1,1,1-Trichloroethane	109	70-130
Cyclohexane	112	70-130
Carbon Tetrachloride	123	70-130
2,2,4-Trimethylpentane	115	70-130
Benzene	110	70-130
1,2-Dichloroethane	107	70-130
Heptane	113	70-130
Trichloroethene	116	70-130
1,2-Dichloropropane	110	70-130
1,4-Dioxane	107	70-130
Bromodichloromethane	118	70-130
cis-1,3-Dichloropropene	109	70-130
4-Methyl-2-pentanone	117	70-130
Toluene	114	70-130
trans-1,3-Dichloropropene	119	70-130
1,1,2-Trichloroethane	112	70-130
Tetrachloroethene	112	70-130
2-Hexanone	111	70-130

Client Sample ID: LCS

Lab ID#: 1606545-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062804	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/28/16 10:12 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	123	70-130
1,2-Dibromoethane (EDB)	117	70-130
Chlorobenzene	110	70-130
Ethyl Benzene	112	70-130
m,p-Xylene	114	70-130
o-Xylene	116	70-130
Styrene	115	70-130
Bromoform	124	70-130
Cumene	113	70-130
1,1,2,2-Tetrachloroethane	113	70-130
Propylbenzene	107	70-130
4-Ethyltoluene	102	70-130
1,3,5-Trimethylbenzene	114	70-130
1,2,4-Trimethylbenzene	115	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	96	70-130
alpha-Chlorotoluene	110	70-130
1,2-Dichlorobenzene	101	70-130
1,2,4-Trichlorobenzene	74	70-130
Hexachlorobutadiene	73	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1606545-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062805	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/28/16 10:56 AM

Compound	%Recovery	Method Limits
Freon 12	114	70-130
Freon 114	113	70-130
Chloromethane	107	70-130
Vinyl Chloride	112	70-130
1,3-Butadiene	104	70-130
Bromomethane	94	70-130
Chloroethane	116	70-130
Freon 11	110	70-130
Ethanol	116	70-130
Freon 113	104	70-130
1,1-Dichloroethene	109	70-130
Acetone	105	70-130
2-Propanol	112	70-130
Carbon Disulfide	95	70-130
3-Chloropropene	106	70-130
Methylene Chloride	106	70-130
Methyl tert-butyl ether	111	70-130
trans-1,2-Dichloroethene	110	70-130
Hexane	116	70-130
1,1-Dichloroethane	107	70-130
2-Butanone (Methyl Ethyl Ketone)	110	70-130
cis-1,2-Dichloroethene	109	70-130
Tetrahydrofuran	108	70-130
Chloroform	108	70-130
1,1,1-Trichloroethane	107	70-130
Cyclohexane	112	70-130
Carbon Tetrachloride	121	70-130
2,2,4-Trimethylpentane	117	70-130
Benzene	111	70-130
1,2-Dichloroethane	106	70-130
Heptane	113	70-130
Trichloroethene	114	70-130
1,2-Dichloropropane	112	70-130
1,4-Dioxane	106	70-130
Bromodichloromethane	119	70-130
cis-1,3-Dichloropropene	109	70-130
4-Methyl-2-pentanone	118	70-130
Toluene	115	70-130
trans-1,3-Dichloropropene	122	70-130
1,1,2-Trichloroethane	113	70-130
Tetrachloroethene	113	70-130
2-Hexanone	113	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1606545-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20062805	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/28/16 10:56 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	126	70-130
1,2-Dibromoethane (EDB)	118	70-130
Chlorobenzene	113	70-130
Ethyl Benzene	113	70-130
m,p-Xylene	113	70-130
o-Xylene	117	70-130
Styrene	116	70-130
Bromoform	129	70-130
Cumene	114	70-130
1,1,2,2-Tetrachloroethane	117	70-130
Propylbenzene	106	70-130
4-Ethyltoluene	101	70-130
1,3,5-Trimethylbenzene	115	70-130
1,2,4-Trimethylbenzene	115	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	96	70-130
alpha-Chlorotoluene	112	70-130
1,2-Dichlorobenzene	103	70-130
1,2,4-Trichlorobenzene	82	70-130
Hexachlorobutadiene	75	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130