

5/7/2016

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1604603

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 4/27/2016 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 #: 1604603

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. #	3ESP160808
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	04/27/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	05/07/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1(162228)	Modified TO-15	5.5 "Hg	5 psi
02A	D2(162229)	Modified TO-15	5.0 "Hg	5 psi
03A	U1(162230)	Modified TO-15	7.0 "Hg	5 psi
04A	U2(162231)	Modified TO-15	7.0 "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: 05/07/16

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# 1604603**

Four 6 Liter Summa Canister (100% Certified) samples were received on April 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

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 CCV 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(162228)

Lab ID#: 1604603-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.48	0.81	2.4
Freon 11	0.16	0.38	0.92	2.1
Ethanol	0.82	5.2	1.5	9.7
Acetone	0.82	8.0	1.9	19
Hexane	0.16	0.18	0.58	0.64
2-Butanone (Methyl Ethyl Ketone)	0.82	1.6	2.4	4.6
Benzene	0.16	0.30	0.52	0.96
Toluene	0.16	0.23	0.62	0.88

Client Sample ID: D2(162229)

Lab ID#: 1604603-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.52	0.80	2.6
Freon 11	0.16	0.30	0.90	1.7
Ethanol	0.80	3.0	1.5	5.7
Acetone	0.80	3.3	1.9	7.8
Methylene Chloride	0.32	0.37	1.1	1.3
Hexane	0.16	0.18	0.57	0.65
Benzene	0.16	0.28	0.51	0.89
Heptane	0.16	0.19	0.66	0.79
Toluene	0.16	0.16 J	0.61	0.59 J

Client Sample ID: U1(162230)

Lab ID#: 1604603-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.54	0.86	2.7
Freon 11	0.18	0.46	0.98	2.6
Ethanol	0.88	7.0	1.6	13
Acetone	0.88	6.1	2.1	14
Methylene Chloride	0.35	0.44	1.2	1.5
Toluene	0.18	0.75	0.66	2.8

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

Client Sample ID: U1(162230)

Lab ID#: 1604603-03A

Client Sample ID: U2(162231)

Lab ID#: 1604603-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.51	0.86	2.5
Freon 11	0.18	0.37	0.98	2.1
Ethanol	0.88	36	1.6	67
Acetone	0.88	5.6	2.1	13
2-Propanol	0.88	2.4	2.2	5.8
Methylene Chloride	0.35	4.7	1.2	16
Hexane	0.18	0.22	0.62	0.77
Benzene	0.18	0.19	0.56	0.62
Toluene	0.18	1.0	0.66	3.8



Air Toxics

Client Sample ID: D1(162228)

Lab ID#: 1604603-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042907	Date of Collection:	4/21/16 12:55:00 PM
Dil. Factor:	1.64	Date of Analysis:	4/29/16 11:06 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.48	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	0.38	0.92	2.1
Ethanol	0.82	5.2	1.5	9.7
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	8.0	1.9	19
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	0.18	0.58	0.64
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	1.6	2.4	4.6
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	0.30	0.52	0.96
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	0.88
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



Air Toxics

Client Sample ID: D1(162228)

Lab ID#: 1604603-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042907	Date of Collection:	4/21/16 12:55:00 PM
Dil. Factor:	1.64	Date of Analysis:	4/29/16 11:06 AM

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	108	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: D2(162229)

Lab ID#: 1604603-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042908	Date of Collection:	4/21/16 1:00:00 PM
Dil. Factor:	1.61	Date of Analysis:	4/29/16 11:47 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.52	0.80	2.6
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.80	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.16	0.30	0.90	1.7
Ethanol	0.80	3.0	1.5	5.7
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.80	3.3	1.9	7.8
2-Propanol	0.80	Not Detected	2.0	Not Detected
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
3-Chloropropene	0.80	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	0.37	1.1	1.3
Methyl tert-butyl ether	0.16	Not Detected	0.58	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Hexane	0.16	0.18	0.57	0.65
1,1-Dichloroethane	0.16	Not Detected	0.65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Cyclohexane	0.16	Not Detected	0.55	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.80	Not Detected	3.8	Not Detected
Benzene	0.16	0.28	0.51	0.89
1,2-Dichloroethane	0.16	Not Detected	0.65	Not Detected
Heptane	0.16	0.19	0.66	0.79
Trichloroethene	0.16	Not Detected	0.86	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.74	Not Detected
1,4-Dioxane	0.16	Not Detected	0.58	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.66	Not Detected
Toluene	0.16	0.16 J	0.61	0.59 J
trans-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.80	Not Detected	3.3	Not Detected



Client Sample ID: D2(162229)

Lab ID#: 1604603-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042908	Date of Collection: 4/21/16 1:00:00 PM
Dil. Factor:	1.61	Date of Analysis: 4/29/16 11:47 AM

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	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	Not Detected	0.70	Not Detected
m,p-Xylene	0.16	Not Detected	0.70	Not Detected
o-Xylene	0.16	Not Detected	0.70	Not Detected
Styrene	0.16	Not Detected	0.68	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.79	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.79	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.79	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	6.0	Not Detected
Hexachlorobutadiene	0.80	Not Detected	8.6	Not Detected

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: U1(162230)

Lab ID#: 1604603-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042909	Date of Collection:	4/21/16 12:45:00 PM
Dil. Factor:	1.75	Date of Analysis:	4/29/16 12:27 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.54	0.86	2.7
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	0.46	0.98	2.6
Ethanol	0.88	7.0	1.6	13
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	6.1	2.1	14
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	2.7	Not Detected
Methylene Chloride	0.35	0.44	1.2	1.5
Methyl tert-butyl ether	0.18	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Hexane	0.18	Not Detected	0.62	Not Detected
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	0.69	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.95	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	Not Detected	0.56	Not Detected
1,2-Dichloroethane	0.18	Not Detected	0.71	Not Detected
Heptane	0.18	Not Detected	0.72	Not Detected
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	0.79	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
Toluene	0.18	0.75	0.66	2.8
trans-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.88	Not Detected	3.6	Not Detected



Client Sample ID: U1(162230)

Lab ID#: 1604603-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042909	Date of Collection: 4/21/16 12:45:00 PM
Dil. Factor:	1.75	Date of Analysis: 4/29/16 12:27 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	1.3	Not Detected
Chlorobenzene	0.18	Not Detected	0.80	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	0.74	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	0.90	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	9.3	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: U2(162231)

Lab ID#: 1604603-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042910	Date of Collection:	4/21/16 12:30:00 PM
Dil. Factor:	1.75	Date of Analysis:	4/29/16 01:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.51	0.86	2.5
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	0.37	0.98	2.1
Ethanol	0.88	36	1.6	67
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	5.6	2.1	13
2-Propanol	0.88	2.4	2.2	5.8
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	0.88	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	4.7	1.2	16
Methyl tert-butyl ether	0.18	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Hexane	0.18	0.22	0.62	0.77
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	0.69	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.95	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	0.19	0.56	0.62
1,2-Dichloroethane	0.18	Not Detected	0.71	Not Detected
Heptane	0.18	Not Detected	0.72	Not Detected
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	0.79	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
Toluene	0.18	1.0	0.66	3.8
trans-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.88	Not Detected	3.6	Not Detected

Client Sample ID: U2(162231)

Lab ID#: 1604603-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042910	Date of Collection: 4/21/16 12:30:00 PM
Dil. Factor:	1.75	Date of Analysis: 4/29/16 01:07 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	1.3	Not Detected
Chlorobenzene	0.18	Not Detected	0.80	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	0.74	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	0.90	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	9.3	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1604603-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042906	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/29/16 10:23 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#: 1604603-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042906	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/29/16 10:23 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	106	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1604603-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/29/16 07:12 AM

Compound	%Recovery
Freon 12	106
Freon 114	106
Chloromethane	101
Vinyl Chloride	103
1,3-Butadiene	103
Bromomethane	110
Chloroethane	104
Freon 11	112
Ethanol	103
Freon 113	111
1,1-Dichloroethene	108
Acetone	102
2-Propanol	98
Carbon Disulfide	108
3-Chloropropene	103
Methylene Chloride	104
Methyl tert-butyl ether	112
trans-1,2-Dichloroethene	104
Hexane	110
1,1-Dichloroethane	106
2-Butanone (Methyl Ethyl Ketone)	110
cis-1,2-Dichloroethene	106
Tetrahydrofuran	109
Chloroform	110
1,1,1-Trichloroethane	110
Cyclohexane	108
Carbon Tetrachloride	122
2,2,4-Trimethylpentane	111
Benzene	115
1,2-Dichloroethane	122
Heptane	117
Trichloroethene	111
1,2-Dichloropropane	112
1,4-Dioxane	122
Bromodichloromethane	121
cis-1,3-Dichloropropene	115
4-Methyl-2-pentanone	118
Toluene	114
trans-1,3-Dichloropropene	120
1,1,2-Trichloroethane	113
Tetrachloroethene	120
2-Hexanone	110



Air Toxics

Client Sample ID: CCV

Lab ID#: 1604603-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/29/16 07:12 AM

Compound	%Recovery
Dibromochloromethane	127
1,2-Dibromoethane (EDB)	122
Chlorobenzene	112
Ethyl Benzene	117
m,p-Xylene	114
o-Xylene	116
Styrene	116
Bromoform	131 Q
Cumene	118
1,1,2,2-Tetrachloroethane	118
Propylbenzene	105
4-Ethyltoluene	99
1,3,5-Trimethylbenzene	116
1,2,4-Trimethylbenzene	117
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	100
alpha-Chlorotoluene	111
1,2-Dichlorobenzene	101
1,2,4-Trichlorobenzene	96
Hexachlorobutadiene	92

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1604603-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042903	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/29/16 08:12 AM

Compound	%Recovery	Method Limits
Freon 12	111	70-130
Freon 114	113	70-130
Chloromethane	103	70-130
Vinyl Chloride	109	70-130
1,3-Butadiene	102	70-130
Bromomethane	113	70-130
Chloroethane	111	70-130
Freon 11	116	70-130
Ethanol	112	70-130
Freon 113	111	70-130
1,1-Dichloroethene	108	70-130
Acetone	110	70-130
2-Propanol	101	70-130
Carbon Disulfide	96	70-130
3-Chloropropene	99	70-130
Methylene Chloride	105	70-130
Methyl tert-butyl ether	108	70-130
trans-1,2-Dichloroethene	110	70-130
Hexane	109	70-130
1,1-Dichloroethane	106	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	107	70-130
Tetrahydrofuran	108	70-130
Chloroform	110	70-130
1,1,1-Trichloroethane	112	70-130
Cyclohexane	108	70-130
Carbon Tetrachloride	128	70-130
2,2,4-Trimethylpentane	113	70-130
Benzene	115	70-130
1,2-Dichloroethane	120	70-130
Heptane	115	70-130
Trichloroethene	110	70-130
1,2-Dichloropropane	111	70-130
1,4-Dioxane	111	70-130
Bromodichloromethane	122	70-130
cis-1,3-Dichloropropene	105	70-130
4-Methyl-2-pentanone	118	70-130
Toluene	113	70-130
trans-1,3-Dichloropropene	116	70-130
1,1,2-Trichloroethane	112	70-130
Tetrachloroethene	122	70-130
2-Hexanone	106	70-130

Client Sample ID: LCS

Lab ID#: 1604603-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/29/16 08:12 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	132 Q	70-130
1,2-Dibromoethane (EDB)	122	70-130
Chlorobenzene	112	70-130
Ethyl Benzene	115	70-130
m,p-Xylene	112	70-130
o-Xylene	116	70-130
Styrene	119	70-130
Bromoform	136 Q	70-130
Cumene	118	70-130
1,1,2,2-Tetrachloroethane	117	70-130
Propylbenzene	106	70-130
4-Ethyltoluene	100	70-130
1,3,5-Trimethylbenzene	116	70-130
1,2,4-Trimethylbenzene	115	70-130
1,3-Dichlorobenzene	103	70-130
1,4-Dichlorobenzene	102	70-130
alpha-Chlorotoluene	115	70-130
1,2-Dichlorobenzene	102	70-130
1,2,4-Trichlorobenzene	98	70-130
Hexachlorobutadiene	97	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1604603-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/29/16 08:56 AM

Compound	%Recovery	Method Limits
Freon 12	110	70-130
Freon 114	114	70-130
Chloromethane	103	70-130
Vinyl Chloride	106	70-130
1,3-Butadiene	100	70-130
Bromomethane	114	70-130
Chloroethane	111	70-130
Freon 11	118	70-130
Ethanol	112	70-130
Freon 113	113	70-130
1,1-Dichloroethene	107	70-130
Acetone	109	70-130
2-Propanol	102	70-130
Carbon Disulfide	97	70-130
3-Chloropropene	98	70-130
Methylene Chloride	108	70-130
Methyl tert-butyl ether	109	70-130
trans-1,2-Dichloroethene	110	70-130
Hexane	109	70-130
1,1-Dichloroethane	108	70-130
2-Butanone (Methyl Ethyl Ketone)	108	70-130
cis-1,2-Dichloroethene	106	70-130
Tetrahydrofuran	109	70-130
Chloroform	113	70-130
1,1,1-Trichloroethane	114	70-130
Cyclohexane	112	70-130
Carbon Tetrachloride	130	70-130
2,2,4-Trimethylpentane	115	70-130
Benzene	118	70-130
1,2-Dichloroethane	119	70-130
Heptane	119	70-130
Trichloroethene	112	70-130
1,2-Dichloropropane	115	70-130
1,4-Dioxane	118	70-130
Bromodichloromethane	125	70-130
cis-1,3-Dichloropropene	109	70-130
4-Methyl-2-pentanone	120	70-130
Toluene	116	70-130
trans-1,3-Dichloropropene	119	70-130
1,1,2-Trichloroethane	114	70-130
Tetrachloroethene	124	70-130
2-Hexanone	112	70-130

Client Sample ID: LCSD

Lab ID#: 1604603-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20042904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/29/16 08:56 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	135 Q	70-130
1,2-Dibromoethane (EDB)	126	70-130
Chlorobenzene	116	70-130
Ethyl Benzene	119	70-130
m,p-Xylene	118	70-130
o-Xylene	120	70-130
Styrene	126	70-130
Bromoform	142 Q	70-130
Cumene	124	70-130
1,1,2,2-Tetrachloroethane	120	70-130
Propylbenzene	112	70-130
4-Ethyltoluene	104	70-130
1,3,5-Trimethylbenzene	121	70-130
1,2,4-Trimethylbenzene	118	70-130
1,3-Dichlorobenzene	110	70-130
1,4-Dichlorobenzene	105	70-130
alpha-Chlorotoluene	120	70-130
1,2-Dichlorobenzene	109	70-130
1,2,4-Trichlorobenzene	115	70-130
Hexachlorobutadiene	112	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	106	70-130