

10/5/2016  
Mr. Curt Lueckenhoff  
Missouri Dept. of Natural Resources  
2710 West Main

Jefferson City MO 65109

Project Name:  
Project #:  
Workorder #: 1609641

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 9/27/2016 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 #: 1609641**

Work Order Summary

<b>CLIENT:</b>	Mr. Curt Lueckenhoff Missouri Dept. of Natural Resources 2710 West Main Jefferson City, MO 65109	<b>BILL TO:</b>	Accounts Payable Missouri Dept. of Natural Resources P.O Box 176 Jefferson City, MO 65102
<b>PHONE:</b>	573-526-3363	<b>P.O. #</b>	3ESP170163
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	
<b>DATE RECEIVED:</b>	09/27/2016	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	10/05/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (163463)	Modified TO-15	6.7 "Hg	4.8 psi
02A	D2 (163464)	Modified TO-15	5.3 "Hg	4.9 psi
03A	U1 (163465)	Modified TO-15	6.5 "Hg	5 psi
04A	U2 (163466)	Modified TO-15	6.7 "Hg	4.8 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: 10/05/16

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  
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**LABORATORY NARRATIVE  
Modified TO-15  
Missouri Dept. of Natural Resources  
Workorder# 1609641**

Four 6 Liter Summa Canister (100% Certified) samples were received on September 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 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 (163463)**

**Lab ID#: 1609641-01A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.57	0.84	2.8
Freon 11	0.17	0.29	0.96	1.6
Ethanol	0.86	25	1.6	47
Acetone	0.86	8.8	2.0	21
2-Butanone (Methyl Ethyl Ketone)	0.86	1.4	2.5	4.0
Benzene	0.17	0.17	0.55	0.55
Heptane	0.17	0.17	0.70	0.70
Toluene	0.17	0.30	0.64	1.1

**Client Sample ID: D2 (163464)**

**Lab ID#: 1609641-02A**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.54	0.80	2.7
Freon 11	0.16	0.63	0.91	3.6
Ethanol	0.81	54	1.5	100
Acetone	0.81	45	1.9	110
2-Propanol	0.81	18	2.0	44
Methylene Chloride	0.32	2.0	1.1	6.9
Hexane	0.16	0.56	0.57	2.0
2-Butanone (Methyl Ethyl Ketone)	0.81	28	2.4	83
Cyclohexane	0.16	0.47	0.56	1.6
Benzene	0.16	0.28	0.52	0.91
Heptane	0.16	0.68	0.66	2.8
Trichloroethene	0.16	0.25	0.87	1.3
4-Methyl-2-pentanone	0.16	1.4	0.66	5.6
Toluene	0.16	10	0.61	38
Ethyl Benzene	0.16	1.0	0.70	4.5
m,p-Xylene	0.16	2.5	0.70	11
o-Xylene	0.16	0.92	0.70	4.0
Styrene	0.16	0.43	0.69	1.8
4-Ethyltoluene	0.16	0.33	0.80	1.6
1,2,4-Trimethylbenzene	0.16	0.28	0.80	1.4

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

**Client Sample ID: U1 (163465)**

**Lab ID#: 1609641-03A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 12	0.17	0.62	0.84	3.1
Freon 11	0.17	0.32	0.96	1.8
Ethanol	0.86	6.5	1.6	12
Acetone	0.86	12	2.0	28
2-Butanone (Methyl Ethyl Ketone)	0.86	1.7	2.5	5.0
cis-1,2-Dichloroethene	0.17	1.9	0.68	7.7
Benzene	0.17	0.44	0.55	1.4
Trichloroethene	0.17	1.2	0.92	6.7
1,4-Dioxane	0.17	0.18	0.62	0.65
Toluene	0.17	0.62	0.64	2.4
Chlorobenzene	0.17	12	0.79	56
1,3-Dichlorobenzene	0.17	0.88	1.0	5.3
1,4-Dichlorobenzene	0.17	3.4	1.0	21
1,2-Dichlorobenzene	0.17	5.2	1.0	31

**Client Sample ID: U2 (163466)**

**Lab ID#: 1609641-04A**

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Freon 12	0.17	0.60	0.84	3.0
Freon 11	0.17	0.24	0.96	1.4
Ethanol	0.86	6.3	1.6	12
Acetone	0.86	8.2	2.0	20
Methylene Chloride	0.34	0.50	1.2	1.7
2-Butanone (Methyl Ethyl Ketone)	0.86	1.2	2.5	3.6



Air Toxics

Client Sample ID: D1 (163463)

Lab ID#: 1609641-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092913	Date of Collection:	9/21/16 1:15:00 PM
Dil. Factor:	1.71	Date of Analysis:	9/29/16 05:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.57	0.84	2.8
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.2	Not Detected
Freon 11	0.17	0.29	0.96	1.6
Ethanol	0.86	25	1.6	47
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	8.8	2.0	21
2-Propanol	0.86	Not Detected	2.1	Not Detected
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	Not Detected	0.60	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	1.4	2.5	4.0
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Cyclohexane	0.17	Not Detected	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	0.17	0.55	0.55
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	0.17	0.70	0.70
Trichloroethene	0.17	Not Detected	0.92	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	0.30	0.64	1.1
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected



Client Sample ID: D1 (163463)

Lab ID#: 1609641-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092913	Date of Collection:	9/21/16 1:15:00 PM
Dil. Factor:	1.71	Date of Analysis:	9/29/16 05:10 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	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.73	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	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	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.1	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130





Air Toxics

Client Sample ID: D2 (163464)

Lab ID#: 1609641-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092914	Date of Collection:	9/21/16 1:35:00 PM
Dil. Factor:	1.62	Date of Analysis:	9/29/16 05:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.54	0.80	2.7
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.81	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	0.81	Not Detected	3.1	Not Detected
Chloroethane	0.81	Not Detected	2.1	Not Detected
Freon 11	0.16	0.63	0.91	3.6
Ethanol	0.81	54	1.5	100
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.81	45	1.9	110
2-Propanol	0.81	18	2.0	44
Carbon Disulfide	0.81	Not Detected	2.5	Not Detected
3-Chloropropene	0.81	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	2.0	1.1	6.9
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	0.56	0.57	2.0
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.81	28	2.4	83
cis-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Tetrahydrofuran	0.81	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	0.47	0.56	1.6
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.81	Not Detected	3.8	Not Detected
Benzene	0.16	0.28	0.52	0.91
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	0.68	0.66	2.8
Trichloroethene	0.16	0.25	0.87	1.3
1,2-Dichloropropane	0.16	Not Detected	0.75	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	0.74	Not Detected
4-Methyl-2-pentanone	0.16	1.4	0.66	5.6
Toluene	0.16	10	0.61	38
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	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	0.81	Not Detected	3.3	Not Detected



Client Sample ID: D2 (163464)

Lab ID#: 1609641-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092914	Date of Collection:	9/21/16 1:35:00 PM
Dil. Factor:	1.62	Date of Analysis:	9/29/16 05:53 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	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	1.0	0.70	4.5
m,p-Xylene	0.16	2.5	0.70	11
o-Xylene	0.16	0.92	0.70	4.0
Styrene	0.16	0.43	0.69	1.8
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.80	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.80	Not Detected
4-Ethyltoluene	0.16	0.33	0.80	1.6
1,3,5-Trimethylbenzene	0.16	Not Detected	0.80	Not Detected
1,2,4-Trimethylbenzene	0.16	0.28	0.80	1.4
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	0.84	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.81	Not Detected	6.0	Not Detected
Hexachlorobutadiene	0.81	Not Detected	8.6	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: U1 (163465)

Lab ID#: 1609641-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092915	Date of Collection:	9/21/16 1:45:00 PM
Dil. Factor:	1.71	Date of Analysis:	9/29/16 06:59 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.62	0.84	3.1
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.2	Not Detected
Freon 11	0.17	0.32	0.96	1.8
Ethanol	0.86	6.5	1.6	12
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	12	2.0	28
2-Propanol	0.86	Not Detected	2.1	Not Detected
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	Not Detected	0.60	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	1.7	2.5	5.0
cis-1,2-Dichloroethene	0.17	1.9	0.68	7.7
Tetrahydrofuran	0.86	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Cyclohexane	0.17	Not Detected	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	0.44	0.55	1.4
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	Not Detected	0.70	Not Detected
Trichloroethene	0.17	1.2	0.92	6.7
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	0.18	0.62	0.65
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	0.62	0.64	2.4
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected



Client Sample ID: U1 (163465)

Lab ID#: 1609641-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092915	Date of Collection:	9/21/16 1:45:00 PM
Dil. Factor:	1.71	Date of Analysis:	9/29/16 06:59 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	12	0.79	56
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.73	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,3-Dichlorobenzene	0.17	0.88	1.0	5.3
1,4-Dichlorobenzene	0.17	3.4	1.0	21
alpha-Chlorotoluene	0.17	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.17	5.2	1.0	31
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.1	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: U2 (163466)

Lab ID#: 1609641-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092916	Date of Collection:	9/21/16 1:55:00 PM
Dil. Factor:	1.71	Date of Analysis:	9/29/16 07:43 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.60	0.84	3.0
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.2	Not Detected
Freon 11	0.17	0.24	0.96	1.4
Ethanol	0.86	6.3	1.6	12
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	8.2	2.0	20
2-Propanol	0.86	Not Detected	2.1	Not Detected
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	0.50	1.2	1.7
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	Not Detected	0.60	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	1.2	2.5	3.6
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Cyclohexane	0.17	Not Detected	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	Not Detected	0.70	Not Detected
Trichloroethene	0.17	Not Detected	0.92	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	Not Detected	0.64	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected



Client Sample ID: U2 (163466)

Lab ID#: 1609641-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092916	Date of Collection:	9/21/16 1:55:00 PM
Dil. Factor:	1.71	Date of Analysis:	9/29/16 07:43 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	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.73	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	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	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.1	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	91	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1609641-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092907	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/29/16 12:34 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#: 1609641-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092907	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/29/16 12:34 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	112	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	88	70-130





Air Toxics

Client Sample ID: CCV

Lab ID#: 1609641-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/29/16 07:46 AM

Compound	%Recovery
Freon 12	111
Freon 114	99
Chloromethane	105
Vinyl Chloride	102
1,3-Butadiene	101
Bromomethane	118
Chloroethane	101
Freon 11	103
Ethanol	96
Freon 113	93
1,1-Dichloroethene	89
Acetone	96
2-Propanol	92
Carbon Disulfide	106
3-Chloropropene	99
Methylene Chloride	94
Methyl tert-butyl ether	95
trans-1,2-Dichloroethene	96
Hexane	96
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	101
cis-1,2-Dichloroethene	97
Tetrahydrofuran	103
Chloroform	107
1,1,1-Trichloroethane	104
Cyclohexane	96
Carbon Tetrachloride	105
2,2,4-Trimethylpentane	101
Benzene	116
1,2-Dichloroethane	128
Heptane	127
Trichloroethene	109
1,2-Dichloropropane	120
1,4-Dioxane	111
Bromodichloromethane	129
cis-1,3-Dichloropropene	116
4-Methyl-2-pentanone	130
Toluene	116
trans-1,3-Dichloropropene	123
1,1,2-Trichloroethane	115
Tetrachloroethene	106
2-Hexanone	113



Air Toxics

Client Sample ID: CCV

Lab ID#: 1609641-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/29/16 07:46 AM

Compound	%Recovery
Dibromochloromethane	132 Q
1,2-Dibromoethane (EDB)	118
Chlorobenzene	111
Ethyl Benzene	114
m,p-Xylene	114
o-Xylene	110
Styrene	119
Bromoform	131 Q
Cumene	118
1,1,2,2-Tetrachloroethane	128
Propylbenzene	111
4-Ethyltoluene	102
1,3,5-Trimethylbenzene	118
1,2,4-Trimethylbenzene	113
1,3-Dichlorobenzene	104
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	120
1,2-Dichlorobenzene	105
1,2,4-Trichlorobenzene	87
Hexachlorobutadiene	86

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	108	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1609641-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/29/16 09:34 AM

Compound	%Recovery	Method Limits
Freon 12	90	70-130
Freon 114	83	70-130
Chloromethane	84	70-130
Vinyl Chloride	83	70-130
1,3-Butadiene	78	70-130
Bromomethane	99	70-130
Chloroethane	80	70-130
Freon 11	83	70-130
Ethanol	77	70-130
Freon 113	73	70-130
1,1-Dichloroethene	71	70-130
Acetone	93	70-130
2-Propanol	78	70-130
Carbon Disulfide	73	70-130
3-Chloropropene	72	70-130
Methylene Chloride	77	70-130
Methyl tert-butyl ether	70	70-130
trans-1,2-Dichloroethene	78	70-130
Hexane	76	70-130
1,1-Dichloroethane	79	70-130
2-Butanone (Methyl Ethyl Ketone)	75	70-130
cis-1,2-Dichloroethene	72	70-130
Tetrahydrofuran	76	70-130
Chloroform	82	70-130
1,1,1-Trichloroethane	79	70-130
Cyclohexane	75	70-130
Carbon Tetrachloride	90	70-130
2,2,4-Trimethylpentane	78	70-130
Benzene	85	70-130
1,2-Dichloroethane	93	70-130
Heptane	88	70-130
Trichloroethene	79	70-130
1,2-Dichloropropane	87	70-130
1,4-Dioxane	77	70-130
Bromodichloromethane	97	70-130
cis-1,3-Dichloropropene	76	70-130
4-Methyl-2-pentanone	92	70-130
Toluene	83	70-130
trans-1,3-Dichloropropene	89	70-130
1,1,2-Trichloroethane	84	70-130
Tetrachloroethene	80	70-130
2-Hexanone	80	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1609641-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/29/16 09:34 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	98	70-130
1,2-Dibromoethane (EDB)	86	70-130
Chlorobenzene	82	70-130
Ethyl Benzene	83	70-130
m,p-Xylene	83	70-130
o-Xylene	83	70-130
Styrene	82	70-130
Bromoform	99	70-130
Cumene	88	70-130
1,1,2,2-Tetrachloroethane	95	70-130
Propylbenzene	85	70-130
4-Ethyltoluene	75	70-130
1,3,5-Trimethylbenzene	85	70-130
1,2,4-Trimethylbenzene	78	70-130
1,3-Dichlorobenzene	80	70-130
1,4-Dichlorobenzene	75	70-130
alpha-Chlorotoluene	99	70-130
1,2-Dichlorobenzene	81	70-130
1,2,4-Trichlorobenzene	81	70-130
Hexachlorobutadiene	81	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1609641-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092905	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/29/16 10:43 AM

Compound	%Recovery	Method Limits
Freon 12	90	70-130
Freon 114	81	70-130
Chloromethane	83	70-130
Vinyl Chloride	83	70-130
1,3-Butadiene	77	70-130
Bromomethane	96	70-130
Chloroethane	82	70-130
Freon 11	83	70-130
Ethanol	79	70-130
Freon 113	73	70-130
1,1-Dichloroethene	73	70-130
Acetone	94	70-130
2-Propanol	74	70-130
Carbon Disulfide	72	70-130
3-Chloropropene	73	70-130
Methylene Chloride	76	70-130
Methyl tert-butyl ether	70	70-130
trans-1,2-Dichloroethene	78	70-130
Hexane	76	70-130
1,1-Dichloroethane	78	70-130
2-Butanone (Methyl Ethyl Ketone)	74	70-130
cis-1,2-Dichloroethene	71	70-130
Tetrahydrofuran	78	70-130
Chloroform	81	70-130
1,1,1-Trichloroethane	79	70-130
Cyclohexane	73	70-130
Carbon Tetrachloride	90	70-130
2,2,4-Trimethylpentane	78	70-130
Benzene	83	70-130
1,2-Dichloroethane	88	70-130
Heptane	85	70-130
Trichloroethene	79	70-130
1,2-Dichloropropane	85	70-130
1,4-Dioxane	75	70-130
Bromodichloromethane	96	70-130
cis-1,3-Dichloropropene	76	70-130
4-Methyl-2-pentanone	89	70-130
Toluene	82	70-130
trans-1,3-Dichloropropene	89	70-130
1,1,2-Trichloroethane	83	70-130
Tetrachloroethene	76	70-130
2-Hexanone	79	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1609641-07AA

**MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN**

File Name:	20092905	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/29/16 10:43 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	95	70-130
1,2-Dibromoethane (EDB)	86	70-130
Chlorobenzene	79	70-130
Ethyl Benzene	84	70-130
m,p-Xylene	81	70-130
o-Xylene	81	70-130
Styrene	81	70-130
Bromoform	98	70-130
Cumene	87	70-130
1,1,2,2-Tetrachloroethane	91	70-130
Propylbenzene	84	70-130
4-Ethyltoluene	74	70-130
1,3,5-Trimethylbenzene	82	70-130
1,2,4-Trimethylbenzene	76	70-130
1,3-Dichlorobenzene	77	70-130
1,4-Dichlorobenzene	72	70-130
alpha-Chlorotoluene	95	70-130
1,2-Dichlorobenzene	77	70-130
1,2,4-Trichlorobenzene	72	70-130
Hexachlorobutadiene	74	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	100	70-130