

10/6/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1709461

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 9/25/2017 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker  
Project Manager

**WORK ORDER #: 1709461**

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>	3ESP180178; 3ESP180137
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton Landfill
<b>DATE RECEIVED:</b>	09/25/2017	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	10/06/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172971)	Modified TO-15	5.9 "Hg	4.8 psi
02A	U1 (172972)	Modified TO-15	7.6 "Hg	4.9 psi
03A	Lab Blank	Modified TO-15	NA	NA
04A	CCV	Modified TO-15	NA	NA
05A	LCS	Modified TO-15	NA	NA
05AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 10/06/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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**LABORATORY NARRATIVE**  
**Modified TO-15**  
**Missouri Dept. of Natural Resources**  
**Workorder# 1709461**

Two 6 Liter Summa Canister (100% Certified) samples were received on September 25, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

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

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

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 (172971)**

**Lab ID#: 1709461-01A**

<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	0.16	0.56	0.82	2.8
Freon 11	0.16	0.25	0.93	1.4
Ethanol	0.82	3.8	1.6	7.2
Acetone	0.82	9.6	2.0	23
2-Propanol	0.82	8.2	2.0	20
Methylene Chloride	0.33	0.51	1.1	1.8
Hexane	0.16	0.41	0.58	1.4
2-Butanone (Methyl Ethyl Ketone)	0.82	1.1	2.4	3.1
Benzene	0.16	0.19	0.53	0.62
Heptane	0.16	0.37	0.68	1.5
Toluene	0.16	0.45	0.62	1.7
m,p-Xylene	0.16	0.19	0.72	0.81

**Client Sample ID: U1 (172972)**

**Lab ID#: 1709461-02A**

<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	0.18	0.52	0.88	2.6
Freon 11	0.18	0.24	1.0	1.4
Ethanol	0.89	4.4	1.7	8.3
Acetone	0.89	8.6	2.1	20
2-Propanol	0.89	5.4	2.2	13
Methylene Chloride	0.36	0.36	1.2	1.2
Hexane	0.18	0.27	0.63	0.96
2-Butanone (Methyl Ethyl Ketone)	0.89	1.2	2.6	3.5
Benzene	0.18	0.19	0.57	0.62
Heptane	0.18	0.25	0.73	1.0
Toluene	0.18	0.35	0.67	1.3



Air Toxics

Client Sample ID: D1 (172971)

Lab ID#: 1709461-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092517	Date of Collection:	9/19/17 1:50:00 PM
Dil. Factor:	1.65	Date of Analysis:	9/26/17 06:03 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.56	0.82	2.8
Freon 114	0.16	Not Detected	1.2	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	0.25	0.93	1.4
Ethanol	0.82	3.8	1.6	7.2
Freon 113	0.16	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	9.6	2.0	23
2-Propanol	0.82	8.2	2.0	20
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	0.51	1.1	1.8
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	0.41	0.58	1.4
1,1-Dichloroethane	0.16	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	1.1	2.4	3.1
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	0.90	Not Detected
Cyclohexane	0.16	Not Detected	0.57	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	0.19	0.53	0.62
1,2-Dichloroethane	0.16	Not Detected	0.67	Not Detected
Heptane	0.16	0.37	0.68	1.5
Trichloroethene	0.16	Not Detected	0.89	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	0.75	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.68	Not Detected
Toluene	0.16	0.45	0.62	1.7
trans-1,3-Dichloropropene	0.16	Not Detected	0.75	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected



Client Sample ID: D1 (172971)

Lab ID#: 1709461-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092517	Date of Collection:	9/19/17 1:50:00 PM
Dil. Factor:	1.65	Date of Analysis:	9/26/17 06:03 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	0.72	Not Detected
m,p-Xylene	0.16	0.19	0.72	0.81
o-Xylene	0.16	Not Detected	0.72	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	8.8	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: U1 (172972)

Lab ID#: 1709461-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092518	Date of Collection:	9/19/17 1:40:00 PM
Dil. Factor:	1.78	Date of Analysis:	9/26/17 06:42 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.52	0.88	2.6
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.89	Not Detected	1.8	Not Detected
Vinyl Chloride	0.18	Not Detected	0.46	Not Detected
1,3-Butadiene	0.18	Not Detected	0.39	Not Detected
Bromomethane	0.89	Not Detected	3.4	Not Detected
Chloroethane	0.89	Not Detected	2.3	Not Detected
Freon 11	0.18	0.24	1.0	1.4
Ethanol	0.89	4.4	1.7	8.3
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Acetone	0.89	8.6	2.1	20
2-Propanol	0.89	5.4	2.2	13
Carbon Disulfide	0.89	Not Detected	2.8	Not Detected
3-Chloropropene	0.89	Not Detected	2.8	Not Detected
Methylene Chloride	0.36	0.36	1.2	1.2
Methyl tert-butyl ether	0.18	Not Detected	0.64	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Hexane	0.18	0.27	0.63	0.96
1,1-Dichloroethane	0.18	Not Detected	0.72	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.89	1.2	2.6	3.5
cis-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Tetrahydrofuran	0.89	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.97	Not Detected
Cyclohexane	0.18	Not Detected	0.61	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.89	Not Detected	4.2	Not Detected
Benzene	0.18	0.19	0.57	0.62
1,2-Dichloroethane	0.18	Not Detected	0.72	Not Detected
Heptane	0.18	0.25	0.73	1.0
Trichloroethene	0.18	Not Detected	0.96	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.82	Not Detected
1,4-Dioxane	0.18	Not Detected	0.64	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.81	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.73	Not Detected
Toluene	0.18	0.35	0.67	1.3
trans-1,3-Dichloropropene	0.18	Not Detected	0.81	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.97	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.89	Not Detected	3.6	Not Detected





Client Sample ID: U1 (172972)

Lab ID#: 1709461-02A

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

<b>File Name:</b>	<b>20092518</b>	<b>Date of Collection:</b>	<b>9/19/17 1:40:00 PM</b>
<b>Dil. Factor:</b>	<b>1.78</b>	<b>Date of Analysis:</b>	<b>9/26/17 06:42 AM</b>

<b>Compound</b>	<b>Rpt. Limit (ppbv)</b>	<b>Amount (ppbv)</b>	<b>Rpt. Limit (ug/m3)</b>	<b>Amount (ug/m3)</b>
Dibromochloromethane	0.18	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.82	Not Detected
Ethyl Benzene	0.18	Not Detected	0.77	Not Detected
m,p-Xylene	0.18	Not Detected	0.77	Not Detected
o-Xylene	0.18	Not Detected	0.77	Not Detected
Styrene	0.18	Not Detected	0.76	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.88	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.88	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.88	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.88	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.88	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	0.92	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.89	Not Detected	6.6	Not Detected
Hexachlorobutadiene	0.89	Not Detected	9.5	Not Detected

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

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	124	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	88	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1709461-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092507	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/25/17 03:01 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#: 1709461-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092507	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/25/17 03:01 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	115	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	91	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1709461-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/25/17 10:24 AM

Compound	%Recovery
Freon 12	105
Freon 114	100
Chloromethane	104
Vinyl Chloride	114
1,3-Butadiene	106
Bromomethane	119
Chloroethane	112
Freon 11	107
Ethanol	121
Freon 113	100
1,1-Dichloroethene	106
Acetone	93
2-Propanol	111
Carbon Disulfide	111
3-Chloropropene	125
Methylene Chloride	102
Methyl tert-butyl ether	108
trans-1,2-Dichloroethene	104
Hexane	102
1,1-Dichloroethane	111
2-Butanone (Methyl Ethyl Ketone)	106
cis-1,2-Dichloroethene	107
Tetrahydrofuran	115
Chloroform	96
1,1,1-Trichloroethane	100
Cyclohexane	104
Carbon Tetrachloride	136 Q
2,2,4-Trimethylpentane	104
Benzene	105
1,2-Dichloroethane	106
Heptane	101
Trichloroethene	100
1,2-Dichloropropane	111
1,4-Dioxane	104
Bromodichloromethane	104
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	103
Toluene	103
trans-1,3-Dichloropropene	109
1,1,2-Trichloroethane	103
Tetrachloroethene	93
2-Hexanone	104



Air Toxics

Client Sample ID: CCV

Lab ID#: 1709461-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/25/17 10:24 AM

Compound	%Recovery
Dibromochloromethane	103
1,2-Dibromoethane (EDB)	102
Chlorobenzene	101
Ethyl Benzene	99
m,p-Xylene	98
o-Xylene	98
Styrene	98
Bromoform	104
Cumene	100
1,1,2,2-Tetrachloroethane	102
Propylbenzene	100
4-Ethyltoluene	99
1,3,5-Trimethylbenzene	97
1,2,4-Trimethylbenzene	101
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	96
alpha-Chlorotoluene	107
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	98
Hexachlorobutadiene	87

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1709461-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092503	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/25/17 11:09 AM

Compound	%Recovery	Method Limits
Freon 12	114	70-130
Freon 114	111	70-130
Chloromethane	114	70-130
Vinyl Chloride	123	70-130
1,3-Butadiene	110	70-130
Bromomethane	118	70-130
Chloroethane	120	70-130
Freon 11	116	70-130
Ethanol	135 Q	70-130
Freon 113	104	70-130
1,1-Dichloroethene	111	70-130
Acetone	101	70-130
2-Propanol	120	70-130
Carbon Disulfide	102	70-130
3-Chloropropene	122	70-130
Methylene Chloride	107	70-130
Methyl tert-butyl ether	112	70-130
trans-1,2-Dichloroethene	92	70-130
Hexane	109	70-130
1,1-Dichloroethane	116	70-130
2-Butanone (Methyl Ethyl Ketone)	111	70-130
cis-1,2-Dichloroethene	123	70-130
Tetrahydrofuran	129	70-130
Chloroform	124	70-130
1,1,1-Trichloroethane	106	70-130
Cyclohexane	110	70-130
Carbon Tetrachloride	137 Q	70-130
2,2,4-Trimethylpentane	121	70-130
Benzene	112	70-130
1,2-Dichloroethane	112	70-130
Heptane	110	70-130
Trichloroethene	103	70-130
1,2-Dichloropropane	113	70-130
1,4-Dioxane	106	70-130
Bromodichloromethane	110	70-130
cis-1,3-Dichloropropene	105	70-130
4-Methyl-2-pentanone	109	70-130
Toluene	108	70-130
trans-1,3-Dichloropropene	112	70-130
1,1,2-Trichloroethane	107	70-130
Tetrachloroethene	99	70-130
2-Hexanone	112	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1709461-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/25/17 11:09 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	107	70-130
1,2-Dibromoethane (EDB)	107	70-130
Chlorobenzene	107	70-130
Ethyl Benzene	103	70-130
m,p-Xylene	104	70-130
o-Xylene	107	70-130
Styrene	105	70-130
Bromoform	111	70-130
Cumene	104	70-130
1,1,2,2-Tetrachloroethane	109	70-130
Propylbenzene	108	70-130
4-Ethyltoluene	105	70-130
1,3,5-Trimethylbenzene	102	70-130
1,2,4-Trimethylbenzene	106	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	102	70-130
alpha-Chlorotoluene	117	70-130
1,2-Dichlorobenzene	98	70-130
1,2,4-Trichlorobenzene	111	70-130
Hexachlorobutadiene	95	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1709461-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20092504	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/25/17 11:53 AM

Compound	%Recovery	Method Limits
Freon 12	111	70-130
Freon 114	107	70-130
Chloromethane	109	70-130
Vinyl Chloride	120	70-130
1,3-Butadiene	108	70-130
Bromomethane	117	70-130
Chloroethane	114	70-130
Freon 11	113	70-130
Ethanol	132 Q	70-130
Freon 113	101	70-130
1,1-Dichloroethene	106	70-130
Acetone	95	70-130
2-Propanol	116	70-130
Carbon Disulfide	99	70-130
3-Chloropropene	125	70-130
Methylene Chloride	104	70-130
Methyl tert-butyl ether	109	70-130
trans-1,2-Dichloroethene	90	70-130
Hexane	107	70-130
1,1-Dichloroethane	113	70-130
2-Butanone (Methyl Ethyl Ketone)	107	70-130
cis-1,2-Dichloroethene	118	70-130
Tetrahydrofuran	115	70-130
Chloroform	112	70-130
1,1,1-Trichloroethane	102	70-130
Cyclohexane	108	70-130
Carbon Tetrachloride	138 Q	70-130
2,2,4-Trimethylpentane	113	70-130
Benzene	111	70-130
1,2-Dichloroethane	109	70-130
Heptane	107	70-130
Trichloroethene	105	70-130
1,2-Dichloropropane	114	70-130
1,4-Dioxane	106	70-130
Bromodichloromethane	110	70-130
cis-1,3-Dichloropropene	107	70-130
4-Methyl-2-pentanone	111	70-130
Toluene	110	70-130
trans-1,3-Dichloropropene	110	70-130
1,1,2-Trichloroethane	107	70-130
Tetrachloroethene	97	70-130
2-Hexanone	111	70-130



Client Sample ID: LCSD

Lab ID#: 1709461-05AA

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

<b>File Name:</b>	<b>20092504</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 9/25/17 11:53 AM</b>

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	108	70-130
1,2-Dibromoethane (EDB)	107	70-130
Chlorobenzene	106	70-130
Ethyl Benzene	102	70-130
m,p-Xylene	101	70-130
o-Xylene	105	70-130
Styrene	102	70-130
Bromoform	111	70-130
Cumene	104	70-130
1,1,2,2-Tetrachloroethane	110	70-130
Propylbenzene	105	70-130
4-Ethyltoluene	100	70-130
1,3,5-Trimethylbenzene	99	70-130
1,2,4-Trimethylbenzene	101	70-130
1,3-Dichlorobenzene	99	70-130
1,4-Dichlorobenzene	98	70-130
alpha-Chlorotoluene	115	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	108	70-130
Hexachlorobutadiene	91	70-130

Q = Exceeds Quality Control limits.

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	94	70-130