

2/9/2018  
Mr. Curt Lueckenhoff  
Missouri Dept. of Natural Resources  
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1801475

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 1/31/2018 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 #: 1801475**

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>	3ESP180552
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton Landfill
<b>DATE RECEIVED:</b>	01/31/2018	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	02/09/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (180977)	Modified TO-15	5.3 "Hg	5.1 psi
02A	U1 (180978)	Modified TO-15	6.1 "Hg	5 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: 02/09/18

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# 1801475**

Two 6 Liter Summa Canister (100% Certified) samples were received on January 31, 2018. 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	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	$\leq 30\%$ RSD with 4 compounds allowed out to $< 40\%$ RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

### **Receiving Notes**

The Chain of Custody (COC) information for sample D1 (180977) and U1 (180978) did not match the information on the canister with regard to canister identification. The client was notified of the discrepancy and the information on the canister was used to process and report the samples.

### **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.

### **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 (180977)**

**Lab ID#: 1801475-01A**

<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	0.52	0.81	2.6
Freon 11	0.16	0.28	0.92	1.6
Ethanol	0.82	4.3	1.5	8.0
Acetone	0.82	3.8	1.9	9.0
2-Propanol	0.82	1.0	2.0	2.6
Hexane	0.16	0.17	0.58	0.59
2-Butanone (Methyl Ethyl Ketone)	0.82	0.83	2.4	2.4
Benzene	0.16	0.17	0.52	0.55
Toluene	0.16	0.23	0.62	0.87
m,p-Xylene	0.16	0.32	0.71	1.4

**Client Sample ID: U1 (180978)**

**Lab ID#: 1801475-02A**

<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	0.17	0.49	0.83	2.4
Freon 11	0.17	0.50	0.94	2.8
Ethanol	0.84	1.6	1.6	2.9
Acetone	0.84	3.6	2.0	8.6
Hexane	0.17	0.17	0.59	0.59
Toluene	0.17	0.17	0.63	0.64



Air Toxics

Client Sample ID: D1 (180977)

Lab ID#: 1801475-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20020510	Date of Collection:	1/25/18 1:20:00 PM
Dil. Factor:	1.64	Date of Analysis:	2/5/18 03:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.52	0.81	2.6
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	0.28	0.92	1.6
Ethanol	0.82	4.3	1.5	8.0
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	3.8	1.9	9.0
2-Propanol	0.82	1.0	2.0	2.6
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	0.17	0.58	0.59
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	0.83	2.4	2.4
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	0.17	0.52	0.55
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	Not Detected	0.67	Not Detected
Trichloroethene	0.16	Not Detected	0.88	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.76	Not Detected
1,4-Dioxane	0.16	Not Detected	0.59	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.67	Not Detected
Toluene	0.16	0.23	0.62	0.87
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected



Air Toxics

Client Sample ID: D1 (180977)

Lab ID#: 1801475-01A

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

File Name:	20020510	Date of Collection:	1/25/18 1:20:00 PM
Dil. Factor:	1.64	Date of Analysis:	2/5/18 03:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	0.32	0.71	1.4
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	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: U1 (180978)

Lab ID#: 1801475-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20020511	Date of Collection:	1/25/18 1:15:00 PM
Dil. Factor:	1.68	Date of Analysis:	2/5/18 03:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.49	0.83	2.4
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	0.50	0.94	2.8
Ethanol	0.84	1.6	1.6	2.9
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	3.6	2.0	8.6
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	Not Detected	1.2	Not Detected
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	0.17	0.59	0.59
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	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	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	0.17	0.63	0.64
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 (180978)

Lab ID#: 1801475-02A

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

File Name:	20020511	Date of Collection:	1/25/18 1:15:00 PM
Dil. Factor:	1.68	Date of Analysis:	2/5/18 03:49 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	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1801475-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20020506	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/5/18 11:05 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#: 1801475-03A

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

File Name:	20020506	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/5/18 11:05 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	102	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1801475-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20020502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/5/18 08:01 AM

Compound	%Recovery
Freon 12	103
Freon 114	105
Chloromethane	95
Vinyl Chloride	98
1,3-Butadiene	91
Bromomethane	115
Chloroethane	104
Freon 11	107
Ethanol	89
Freon 113	99
1,1-Dichloroethene	103
Acetone	89
2-Propanol	88
Carbon Disulfide	100
3-Chloropropene	111
Methylene Chloride	95
Methyl tert-butyl ether	98
trans-1,2-Dichloroethene	100
Hexane	88
1,1-Dichloroethane	95
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	98
Tetrahydrofuran	88
Chloroform	87
1,1,1-Trichloroethane	102
Cyclohexane	92
Carbon Tetrachloride	79
2,2,4-Trimethylpentane	94
Benzene	95
1,2-Dichloroethane	99
Heptane	88
Trichloroethene	102
1,2-Dichloropropane	94
1,4-Dioxane	101
Bromodichloromethane	105
cis-1,3-Dichloropropene	101
4-Methyl-2-pentanone	89
Toluene	98
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	106
Tetrachloroethene	106
2-Hexanone	94



Air Toxics

Client Sample ID: CCV

Lab ID#: 1801475-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20020502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/5/18 08:01 AM

Compound	%Recovery
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	104
Chlorobenzene	107
Ethyl Benzene	104
m,p-Xylene	101
o-Xylene	100
Styrene	103
Bromoform	108
Cumene	103
1,1,2,2-Tetrachloroethane	101
Propylbenzene	103
4-Ethyltoluene	103
1,3,5-Trimethylbenzene	101
1,2,4-Trimethylbenzene	98
1,3-Dichlorobenzene	103
1,4-Dichlorobenzene	104
alpha-Chlorotoluene	108
1,2-Dichlorobenzene	103
1,2,4-Trichlorobenzene	92
Hexachlorobutadiene	105

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1801475-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20020503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/5/18 08:48 AM

Compound	%Recovery	Method Limits
Freon 12	97	70-130
Freon 114	103	70-130
Chloromethane	87	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	84	70-130
Bromomethane	109	70-130
Chloroethane	100	70-130
Freon 11	104	70-130
Ethanol	90	70-130
Freon 113	95	70-130
1,1-Dichloroethene	95	70-130
Acetone	87	70-130
2-Propanol	86	70-130
Carbon Disulfide	83	70-130
3-Chloropropene	89	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	82	70-130
Hexane	86	70-130
1,1-Dichloroethane	91	70-130
2-Butanone (Methyl Ethyl Ketone)	88	70-130
cis-1,2-Dichloroethene	102	70-130
Tetrahydrofuran	85	70-130
Chloroform	78	70-130
1,1,1-Trichloroethane	95	70-130
Cyclohexane	90	70-130
Carbon Tetrachloride	69 Q	70-130
2,2,4-Trimethylpentane	86	70-130
Benzene	94	70-130
1,2-Dichloroethane	100	70-130
Heptane	89	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	92	70-130
1,4-Dioxane	91	70-130
Bromodichloromethane	105	70-130
cis-1,3-Dichloropropene	92	70-130
4-Methyl-2-pentanone	84	70-130
Toluene	98	70-130
trans-1,3-Dichloropropene	96	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	105	70-130
2-Hexanone	76	70-130

Client Sample ID: LCS

Lab ID#: 1801475-05A

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

<b>File Name:</b>	<b>20020503</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 2/5/18 08:48 AM</b>

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Dibromochloromethane	107	70-130
1,2-Dibromoethane (EDB)	104	70-130
Chlorobenzene	104	70-130
Ethyl Benzene	101	70-130
m,p-Xylene	100	70-130
o-Xylene	103	70-130
Styrene	102	70-130
Bromoform	108	70-130
Cumene	103	70-130
1,1,2,2-Tetrachloroethane	101	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	102	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	96	70-130
1,3-Dichlorobenzene	103	70-130
1,4-Dichlorobenzene	103	70-130
alpha-Chlorotoluene	104	70-130
1,2-Dichlorobenzene	103	70-130
1,2,4-Trichlorobenzene	88	70-130
Hexachlorobutadiene	100	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	93	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130



Client Sample ID: LCSD

Lab ID#: 1801475-05AA

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

File Name:	20020504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/5/18 09:27 AM

Compound	%Recovery	Method Limits
Freon 12	98	70-130
Freon 114	104	70-130
Chloromethane	88	70-130
Vinyl Chloride	95	70-130
1,3-Butadiene	84	70-130
Bromomethane	109	70-130
Chloroethane	102	70-130
Freon 11	104	70-130
Ethanol	88	70-130
Freon 113	94	70-130
1,1-Dichloroethene	96	70-130
Acetone	84	70-130
2-Propanol	87	70-130
Carbon Disulfide	84	70-130
3-Chloropropene	88	70-130
Methylene Chloride	89	70-130
Methyl tert-butyl ether	93	70-130
trans-1,2-Dichloroethene	83	70-130
Hexane	86	70-130
1,1-Dichloroethane	91	70-130
2-Butanone (Methyl Ethyl Ketone)	90	70-130
cis-1,2-Dichloroethene	102	70-130
Tetrahydrofuran	84	70-130
Chloroform	82	70-130
1,1,1-Trichloroethane	96	70-130
Cyclohexane	91	70-130
Carbon Tetrachloride	69 Q	70-130
2,2,4-Trimethylpentane	86	70-130
Benzene	94	70-130
1,2-Dichloroethane	98	70-130
Heptane	84	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	92	70-130
1,4-Dioxane	92	70-130
Bromodichloromethane	105	70-130
cis-1,3-Dichloropropene	91	70-130
4-Methyl-2-pentanone	83	70-130
Toluene	96	70-130
trans-1,3-Dichloropropene	94	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	106	70-130
2-Hexanone	75	70-130





Client Sample ID: LCSD

Lab ID#: 1801475-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20020504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/5/18 09:27 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	103	70-130
Chlorobenzene	104	70-130
Ethyl Benzene	104	70-130
m,p-Xylene	102	70-130
o-Xylene	104	70-130
Styrene	102	70-130
Bromoform	108	70-130
Cumene	103	70-130
1,1,2,2-Tetrachloroethane	102	70-130
Propylbenzene	105	70-130
4-Ethyltoluene	106	70-130
1,3,5-Trimethylbenzene	102	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	106	70-130
1,4-Dichlorobenzene	104	70-130
alpha-Chlorotoluene	107	70-130
1,2-Dichlorobenzene	105	70-130
1,2,4-Trichlorobenzene	92	70-130
Hexachlorobutadiene	103	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	99	70-130
4-Bromofluorobenzene	103	70-130