

4/25/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1704191

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 4/12/2017 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 #: 1704191**

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>	3ESP170798/3ESP170129
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton Landfill
<b>DATE RECEIVED:</b>	04/12/2017	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	04/25/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (170813)	Modified TO-15	5.5 "Hg	5.2 psi
02A	U1 (170814)	Modified TO-15	5.3 "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: 04/25/17

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# 1704191**

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on April 12, 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.

**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 (170813)**

**Lab ID#: 1704191-01A**

<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	0.17	0.39	0.82	1.9
Freon 11	0.17	0.18	0.93	1.0
Ethanol	0.83	1.1	1.6	2.1
Acetone	0.83	3.6	2.0	8.6
Hexane	0.17	0.32	0.58	1.1
2-Butanone (Methyl Ethyl Ketone)	0.83	1.0	2.4	3.0
Heptane	0.17	0.24	0.68	0.97

**Client Sample ID: U1 (170814)**

**Lab ID#: 1704191-02A**

<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	0.16	0.40	0.81	2.0
Freon 11	0.16	0.21	0.92	1.2
Ethanol	0.82	1.8	1.5	3.3
Acetone	0.82	4.6	1.9	11
2-Butanone (Methyl Ethyl Ketone)	0.82	1.1	2.4	3.3
Heptane	0.16	0.24	0.67	0.97



Air Toxics

Client Sample ID: D1 (170813)

Lab ID#: 1704191-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041212	Date of Collection:	4/6/17 1:20:00 PM
Dil. Factor:	1.66	Date of Analysis:	4/12/17 05:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.39	0.82	1.9
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.83	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.42	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.83	Not Detected	3.2	Not Detected
Chloroethane	0.83	Not Detected UJ	2.2	Not Detected UJ
Freon 11	0.17	0.18	0.93	1.0
Ethanol	0.83	1.1	1.6	2.1
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.83	3.6	2.0	8.6
2-Propanol	0.83	Not Detected	2.0	Not Detected
Carbon Disulfide	0.83	Not Detected	2.6	Not Detected
3-Chloropropene	0.83	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	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	0.66	Not Detected
Hexane	0.17	0.32	0.58	1.1
1,1-Dichloroethane	0.17	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.83	1.0	2.4	3.0
cis-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Tetrahydrofuran	0.83	Not Detected	2.4	Not Detected
Chloroform	0.17	Not Detected	0.81	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.90	Not Detected
Cyclohexane	0.17	Not Detected	0.57	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.83	Not Detected	3.9	Not Detected
Benzene	0.17	Not Detected	0.53	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.67	Not Detected
Heptane	0.17	0.24	0.68	0.97
Trichloroethene	0.17	Not Detected	0.89	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.77	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	0.75	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.68	Not Detected
Toluene	0.17	Not Detected	0.62	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.75	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.90	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.83	Not Detected	3.4	Not Detected

Client Sample ID: D1 (170813)

Lab ID#: 1704191-01A

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

File Name:	e041212	Date of Collection:	4/6/17 1:20:00 PM
Dil. Factor:	1.66	Date of Analysis:	4/12/17 05:52 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	0.76	Not Detected
Ethyl Benzene	0.17	Not Detected	0.72	Not Detected
m,p-Xylene	0.17	Not Detected	0.72	Not Detected
o-Xylene	0.17	Not Detected	0.72	Not Detected
Styrene	0.17	Not Detected	0.71	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	1.1	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	0.86	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.83	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.83	Not Detected	8.8	Not Detected

UJ = Analyte associated with low bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: U1 (170814)

Lab ID#: 1704191-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041213	Date of Collection:	4/6/17 1:30:00 PM
Dil. Factor:	1.63	Date of Analysis:	4/12/17 06:38 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.40	0.81	2.0
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 UJ	2.2	Not Detected UJ
Freon 11	0.16	0.21	0.92	1.2
Ethanol	0.82	1.8	1.5	3.3
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	4.6	1.9	11
2-Propanol	0.82	Not Detected	2.0	Not Detected
Carbon Disulfide	0.82	Not Detected	2.5	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	Not Detected	0.57	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	1.1	2.4	3.3
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	Not Detected	0.52	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	0.24	0.67	0.97
Trichloroethene	0.16	Not Detected	0.88	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.75	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	Not Detected	0.61	Not Detected
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	3.3	Not Detected



Client Sample ID: U1 (170814)

Lab ID#: 1704191-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041213	Date of Collection:	4/6/17 1:30:00 PM
Dil. Factor:	1.63	Date of Analysis:	4/12/17 06:38 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	0.75	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	0.69	Not Detected
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	Not Detected	0.80	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.80	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.80	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.0	Not Detected
Hexachlorobutadiene	0.82	Not Detected	8.7	Not Detected

UJ = Analyte associated with low bias in the CCV.

Container Type: 6 Liter Summa Canister (100% Cert Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	108	70-130





Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1704191-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041206	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/12/17 11:34 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 UJ	1.3	Not Detected UJ
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#: 1704191-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041206	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	4/12/17 11:34 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

UJ = Analyte associated with low bias in the CCV.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	108	70-130



Client Sample ID: CCV

Lab ID#: 1704191-04A

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

File Name:	e041202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/12/17 08:32 AM

Compound	%Recovery
Freon 12	82
Freon 114	86
Chloromethane	82
Vinyl Chloride	73
1,3-Butadiene	72
Bromomethane	80
Chloroethane	67 Q
Freon 11	81
Ethanol	102
Freon 113	87
1,1-Dichloroethene	76
Acetone	72
2-Propanol	70
Carbon Disulfide	77
3-Chloropropene	77
Methylene Chloride	78
Methyl tert-butyl ether	77
trans-1,2-Dichloroethene	81
Hexane	76
1,1-Dichloroethane	75
2-Butanone (Methyl Ethyl Ketone)	73
cis-1,2-Dichloroethene	74
Tetrahydrofuran	70
Chloroform	81
1,1,1-Trichloroethane	84
Cyclohexane	78
Carbon Tetrachloride	88
2,2,4-Trimethylpentane	78
Benzene	78
1,2-Dichloroethane	83
Heptane	78
Trichloroethene	92
1,2-Dichloropropane	78
1,4-Dioxane	82
Bromodichloromethane	86
cis-1,3-Dichloropropene	83
4-Methyl-2-pentanone	76
Toluene	84
trans-1,3-Dichloropropene	84
1,1,2-Trichloroethane	84
Tetrachloroethene	94
2-Hexanone	81



Air Toxics

Client Sample ID: CCV

Lab ID#: 1704191-04A

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

File Name:	e041202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/12/17 08:32 AM

Compound	%Recovery
Dibromochloromethane	91
1,2-Dibromoethane (EDB)	88
Chlorobenzene	88
Ethyl Benzene	86
m,p-Xylene	84
o-Xylene	86
Styrene	86
Bromoform	95
Cumene	87
1,1,2,2-Tetrachloroethane	81
Propylbenzene	85
4-Ethyltoluene	88
1,3,5-Trimethylbenzene	88
1,2,4-Trimethylbenzene	85
1,3-Dichlorobenzene	93
1,4-Dichlorobenzene	91
alpha-Chlorotoluene	88
1,2-Dichlorobenzene	86
1,2,4-Trichlorobenzene	82
Hexachlorobutadiene	87

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	107	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1704191-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/12/17 09:18 AM

Compound	%Recovery	Method Limits
Freon 12	91	70-130
Freon 114	93	70-130
Chloromethane	82	70-130
Vinyl Chloride	83	70-130
1,3-Butadiene	78	70-130
Bromomethane	90	70-130
Chloroethane	76	70-130
Freon 11	91	70-130
Ethanol	79	70-130
Freon 113	97	70-130
1,1-Dichloroethene	84	70-130
Acetone	84	70-130
2-Propanol	81	70-130
Carbon Disulfide	85	70-130
3-Chloropropene	87	70-130
Methylene Chloride	84	70-130
Methyl tert-butyl ether	85	70-130
trans-1,2-Dichloroethene	97	70-130
Hexane	84	70-130
1,1-Dichloroethane	82	70-130
2-Butanone (Methyl Ethyl Ketone)	85	70-130
cis-1,2-Dichloroethene	75	70-130
Tetrahydrofuran	81	70-130
Chloroform	90	70-130
1,1,1-Trichloroethane	92	70-130
Cyclohexane	86	70-130
Carbon Tetrachloride	56 Q	70-130
2,2,4-Trimethylpentane	83	70-130
Benzene	83	70-130
1,2-Dichloroethane	89	70-130
Heptane	87	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	83	70-130
1,4-Dioxane	94	70-130
Bromodichloromethane	93	70-130
cis-1,3-Dichloropropene	94	70-130
4-Methyl-2-pentanone	86	70-130
Toluene	91	70-130
trans-1,3-Dichloropropene	89	70-130
1,1,2-Trichloroethane	92	70-130
Tetrachloroethene	103	70-130
2-Hexanone	96	70-130

Client Sample ID: LCS

Lab ID#: 1704191-05A

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

File Name:	e041203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/12/17 09:18 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	95	70-130
1,2-Dibromoethane (EDB)	95	70-130
Chlorobenzene	96	70-130
Ethyl Benzene	96	70-130
m,p-Xylene	94	70-130
o-Xylene	97	70-130
Styrene	96	70-130
Bromoform	98	70-130
Cumene	97	70-130
1,1,2,2-Tetrachloroethane	89	70-130
Propylbenzene	95	70-130
4-Ethyltoluene	101	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	95	70-130
1,3-Dichlorobenzene	103	70-130
1,4-Dichlorobenzene	104	70-130
alpha-Chlorotoluene	94	70-130
1,2-Dichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	107	70-130
Hexachlorobutadiene	116	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	108	70-130

Client Sample ID: LCSD

Lab ID#: 1704191-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e041204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/12/17 10:01 AM

Compound	%Recovery	Method Limits
Freon 12	89	70-130
Freon 114	90	70-130
Chloromethane	85	70-130
Vinyl Chloride	80	70-130
1,3-Butadiene	76	70-130
Bromomethane	87	70-130
Chloroethane	75	70-130
Freon 11	106	70-130
Ethanol	77	70-130
Freon 113	94	70-130
1,1-Dichloroethene	82	70-130
Acetone	83	70-130
2-Propanol	81	70-130
Carbon Disulfide	84	70-130
3-Chloropropene	84	70-130
Methylene Chloride	84	70-130
Methyl tert-butyl ether	83	70-130
trans-1,2-Dichloroethene	96	70-130
Hexane	83	70-130
1,1-Dichloroethane	80	70-130
2-Butanone (Methyl Ethyl Ketone)	83	70-130
cis-1,2-Dichloroethene	74	70-130
Tetrahydrofuran	78	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	90	70-130
Cyclohexane	84	70-130
Carbon Tetrachloride	55 Q	70-130
2,2,4-Trimethylpentane	82	70-130
Benzene	83	70-130
1,2-Dichloroethane	90	70-130
Heptane	86	70-130
Trichloroethene	101	70-130
1,2-Dichloropropane	85	70-130
1,4-Dioxane	93	70-130
Bromodichloromethane	93	70-130
cis-1,3-Dichloropropene	94	70-130
4-Methyl-2-pentanone	86	70-130
Toluene	92	70-130
trans-1,3-Dichloropropene	88	70-130
1,1,2-Trichloroethane	90	70-130
Tetrachloroethene	102	70-130
2-Hexanone	93	70-130

Client Sample ID: LCSD

Lab ID#: 1704191-05AA

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

File Name:	e041204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/12/17 10:01 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	94	70-130
1,2-Dibromoethane (EDB)	94	70-130
Chlorobenzene	95	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	92	70-130
o-Xylene	95	70-130
Styrene	96	70-130
Bromoform	98	70-130
Cumene	96	70-130
1,1,2,2-Tetrachloroethane	88	70-130
Propylbenzene	95	70-130
4-Ethyltoluene	99	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	96	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	100	70-130
alpha-Chlorotoluene	92	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	100	70-130
Hexachlorobutadiene	110	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	111	70-130