

3/29/2018

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1803366

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 3/20/2018 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 #: 1803366**

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>	3ESP180688
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton Landfill
<b>DATE RECEIVED:</b>	03/20/2018	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	03/28/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (180995)	Modified TO-15	3.9 "Hg	5.2 psi
02A	U1 (180996)	Modified TO-15	5.1 "Hg	5.3 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: 03/29/18

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,  
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935  
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

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

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**LABORATORY NARRATIVE  
Modified TO-15  
Missouri Dept. of Natural Resources  
Workorder# 1803366**

Two 6 Liter Summa Canister (100% Certified) samples were received on March 20, 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	</=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 (180995)**

**Lab ID#: 1803366-01A**

<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	0.42	0.77	2.1
Freon 11	0.16	0.22	0.87	1.2
Ethanol	0.78	1.7	1.5	3.2
Acetone	0.78	2.5	1.8	6.0
Benzene	0.16	0.18	0.50	0.58

**Client Sample ID: U1 (180996)**

**Lab ID#: 1803366-02A**

<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	0.39	0.81	1.9
Freon 11	0.16	0.21	0.92	1.2
Ethanol	0.82	1.3	1.5	2.4
Acetone	0.82	1.6	1.9	3.7



Air Toxics

Client Sample ID: D1 (180995)

Lab ID#: 1803366-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21032108	Date of Collection:	3/14/18 1:10:00 PM
Dil. Factor:	1.55	Date of Analysis:	3/21/18 11:36 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.77	2.1
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.78	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.40	Not Detected
1,3-Butadiene	0.16	Not Detected	0.34	Not Detected
Bromomethane	0.78	Not Detected	3.0	Not Detected
Chloroethane	0.78	Not Detected	2.0	Not Detected
Freon 11	0.16	0.22	0.87	1.2
Ethanol	0.78	1.7	1.5	3.2
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Acetone	0.78	2.5	1.8	6.0
2-Propanol	0.78	Not Detected	1.9	Not Detected
Carbon Disulfide	0.78	Not Detected	2.4	Not Detected
3-Chloropropene	0.78	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.56	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Hexane	0.16	Not Detected	0.55	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.63	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.78	Not Detected	2.3	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Tetrahydrofuran	0.78	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.76	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.84	Not Detected
Cyclohexane	0.16	Not Detected	0.53	Not Detected
Carbon Tetrachloride	0.16	Not Detected	0.98	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.6	Not Detected
Benzene	0.16	0.18	0.50	0.58
1,2-Dichloroethane	0.16	Not Detected	0.63	Not Detected
Heptane	0.16	Not Detected	0.64	Not Detected
Trichloroethene	0.16	Not Detected	0.83	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected	0.56	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.63	Not Detected
Toluene	0.16	Not Detected	0.58	Not Detected
trans-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.84	Not Detected
Tetrachloroethene	0.16	Not Detected	1.0	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected



Client Sample ID: D1 (180995)

Lab ID#: 1803366-01A

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

File Name:	21032108	Date of Collection:	3/14/18 1:10:00 PM
Dil. Factor:	1.55	Date of Analysis:	3/21/18 11:36 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.71	Not Detected
Ethyl Benzene	0.16	Not Detected	0.67	Not Detected
m,p-Xylene	0.16	Not Detected	0.67	Not Detected
o-Xylene	0.16	Not Detected	0.67	Not Detected
Styrene	0.16	Not Detected	0.66	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.76	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.76	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.76	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.76	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.76	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected UJ	5.8	Not Detected UJ
Hexachlorobutadiene	0.78	Not Detected	8.3	Not Detected

UJ = Analyte associated with low bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: U1 (180996)

Lab ID#: 1803366-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21032109	Date of Collection:	3/14/18 1:20:00 PM
Dil. Factor:	1.64	Date of Analysis:	3/21/18 12:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.39	0.81	1.9
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	0.21	0.92	1.2
Ethanol	0.82	1.3	1.5	2.4
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	1.6	1.9	3.7
2-Propanol	0.82	Not Detected	2.0	Not Detected
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Hexane	0.16	Not Detected	0.58	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	Not Detected	2.4	Not Detected
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	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	Not Detected	0.62	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	3.4	Not Detected



Client Sample ID: U1 (180996)

Lab ID#: 1803366-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21032109	Date of Collection:	3/14/18 1:20:00 PM
Dil. Factor:	1.64	Date of Analysis:	3/21/18 12:20 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	Not Detected	0.71	Not Detected
o-Xylene	0.16	Not Detected	0.71	Not Detected
Styrene	0.16	Not Detected	0.70	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.81	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.81	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.81	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected UJ	6.1	Not Detected UJ
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% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	90	70-130





Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1803366-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21032106	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/21/18 10:06 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#: 1803366-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21032106	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/21/18 10:06 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 UJ	3.7	Not Detected UJ
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	118	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1803366-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21032102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/21/18 07:21 AM

Compound	%Recovery
Freon 12	94
Freon 114	87
Chloromethane	84
Vinyl Chloride	92
1,3-Butadiene	95
Bromomethane	97
Chloroethane	92
Freon 11	87
Ethanol	85
Freon 113	85
1,1-Dichloroethene	92
Acetone	98
2-Propanol	91
Carbon Disulfide	92
3-Chloropropene	93
Methylene Chloride	89
Methyl tert-butyl ether	93
trans-1,2-Dichloroethene	88
Hexane	93
1,1-Dichloroethane	89
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	91
Tetrahydrofuran	98
Chloroform	89
1,1,1-Trichloroethane	88
Cyclohexane	94
Carbon Tetrachloride	70
2,2,4-Trimethylpentane	101
Benzene	92
1,2-Dichloroethane	89
Heptane	97
Trichloroethene	107
1,2-Dichloropropane	93
1,4-Dioxane	97
Bromodichloromethane	95
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	105
Toluene	92
trans-1,3-Dichloropropene	95
1,1,2-Trichloroethane	94
Tetrachloroethene	90
2-Hexanone	105

Client Sample ID: CCV

Lab ID#: 1803366-04A

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

File Name:	21032102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/21/18 07:21 AM

Compound	%Recovery
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	96
Chlorobenzene	93
Ethyl Benzene	98
m,p-Xylene	100
o-Xylene	105
Styrene	107
Bromoform	96
Cumene	94
1,1,2,2-Tetrachloroethane	76
Propylbenzene	97
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	105
1,2,4-Trimethylbenzene	102
1,3-Dichlorobenzene	87
1,4-Dichlorobenzene	85
alpha-Chlorotoluene	78
1,2-Dichlorobenzene	85
1,2,4-Trichlorobenzene	65 Q
Hexachlorobutadiene	76

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1803366-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21032103	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/21/18 07:59 AM

Compound	%Recovery	Method Limits
Freon 12	95	70-130
Freon 114	90	70-130
Chloromethane	84	70-130
Vinyl Chloride	93	70-130
1,3-Butadiene	89	70-130
Bromomethane	99	70-130
Chloroethane	94	70-130
Freon 11	89	70-130
Ethanol	89	70-130
Freon 113	84	70-130
1,1-Dichloroethene	90	70-130
Acetone	90	70-130
2-Propanol	94	70-130
Carbon Disulfide	79	70-130
3-Chloropropene	90	70-130
Methylene Chloride	88	70-130
Methyl tert-butyl ether	92	70-130
trans-1,2-Dichloroethene	76	70-130
Hexane	92	70-130
1,1-Dichloroethane	89	70-130
2-Butanone (Methyl Ethyl Ketone)	94	70-130
cis-1,2-Dichloroethene	97	70-130
Tetrahydrofuran	94	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	87	70-130
Cyclohexane	93	70-130
Carbon Tetrachloride	90	70-130
2,2,4-Trimethylpentane	100	70-130
Benzene	89	70-130
1,2-Dichloroethane	87	70-130
Heptane	95	70-130
Trichloroethene	88	70-130
1,2-Dichloropropane	93	70-130
1,4-Dioxane	91	70-130
Bromodichloromethane	100	70-130
cis-1,3-Dichloropropene	92	70-130
4-Methyl-2-pentanone	102	70-130
Toluene	91	70-130
trans-1,3-Dichloropropene	95	70-130
1,1,2-Trichloroethane	96	70-130
Tetrachloroethene	93	70-130
2-Hexanone	100	70-130



Client Sample ID: LCS

Lab ID#: 1803366-05A

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

<b>File Name:</b>	<b>21032103</b>	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis:</b> 3/21/18 07:59 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	101	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	93	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	99	70-130
o-Xylene	106	70-130
Styrene	102	70-130
Bromoform	112	70-130
Cumene	96	70-130
1,1,2,2-Tetrachloroethane	106	70-130
Propylbenzene	98	70-130
4-Ethyltoluene	107	70-130
1,3,5-Trimethylbenzene	108	70-130
1,2,4-Trimethylbenzene	105	70-130
1,3-Dichlorobenzene	90	70-130
1,4-Dichlorobenzene	88	70-130
alpha-Chlorotoluene	98	70-130
1,2-Dichlorobenzene	88	70-130
1,2,4-Trichlorobenzene	63 Q	70-130
Hexachlorobutadiene	72	70-130

Q = Exceeds Quality Control limits.

**Container Type: NA - Not Applicable**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1803366-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21032104	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/21/18 08:31 AM

Compound	%Recovery	Method Limits
Freon 12	92	70-130
Freon 114	88	70-130
Chloromethane	81	70-130
Vinyl Chloride	91	70-130
1,3-Butadiene	86	70-130
Bromomethane	96	70-130
Chloroethane	92	70-130
Freon 11	86	70-130
Ethanol	87	70-130
Freon 113	82	70-130
1,1-Dichloroethene	87	70-130
Acetone	87	70-130
2-Propanol	92	70-130
Carbon Disulfide	77	70-130
3-Chloropropene	87	70-130
Methylene Chloride	85	70-130
Methyl tert-butyl ether	89	70-130
trans-1,2-Dichloroethene	74	70-130
Hexane	88	70-130
1,1-Dichloroethane	86	70-130
2-Butanone (Methyl Ethyl Ketone)	91	70-130
cis-1,2-Dichloroethene	95	70-130
Tetrahydrofuran	90	70-130
Chloroform	86	70-130
1,1,1-Trichloroethane	84	70-130
Cyclohexane	90	70-130
Carbon Tetrachloride	87	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	89	70-130
1,2-Dichloroethane	88	70-130
Heptane	94	70-130
Trichloroethene	89	70-130
1,2-Dichloropropane	91	70-130
1,4-Dioxane	90	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	91	70-130
4-Methyl-2-pentanone	101	70-130
Toluene	89	70-130
trans-1,3-Dichloropropene	96	70-130
1,1,2-Trichloroethane	94	70-130
Tetrachloroethene	91	70-130
2-Hexanone	100	70-130

Client Sample ID: LCSD

Lab ID#: 1803366-05AA

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

File Name:	21032104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/21/18 08:31 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	103	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	92	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	99	70-130
o-Xylene	103	70-130
Styrene	102	70-130
Bromoform	112	70-130
Cumene	95	70-130
1,1,2,2-Tetrachloroethane	105	70-130
Propylbenzene	95	70-130
4-Ethyltoluene	104	70-130
1,3,5-Trimethylbenzene	108	70-130
1,2,4-Trimethylbenzene	105	70-130
1,3-Dichlorobenzene	88	70-130
1,4-Dichlorobenzene	85	70-130
alpha-Chlorotoluene	96	70-130
1,2-Dichlorobenzene	87	70-130
1,2,4-Trichlorobenzene	61 Q	70-130
Hexachlorobutadiene	69 Q	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	97	70-130