

7/30/2016

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1607472

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 7/26/2016 at Air Toxics Ltd.

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

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

Regards,



Brian Whittaker  
Project Manager

**WORK ORDER #: 1607472**

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>	3ESP161083
<b>FAX:</b>	573-526-3350	<b>PROJECT #</b>	Bridgeton Landfill
<b>DATE RECEIVED:</b>	07/26/2016	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	07/30/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	(162942) D1	Modified TO-15	5.9 "Hg	5 psi
02A	(162943) U1	Modified TO-15	7.1 "Hg	5.1 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: 07/30/16

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

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

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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

**LABORATORY NARRATIVE**  
**Modified TO-15**  
**Missouri Dept. of Natural Resources**  
**Workorder# 1607472**

Two 6 Liter Summa Canister (100% Certified) samples were received on July 26, 2016. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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

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

The Chain of Custody (COC) information for samples (162942) D1 and (162943) U1 did not match the entries on the sample tags with regard to sample identification. Therefore the information on the COC 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: (162942) D1**

**Lab ID#: 1607472-01A**

<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	0.40	0.82	2.0
Freon 11	0.17	0.58	0.94	3.3
Ethanol	0.84	8.5	1.6	16
Acetone	0.84	8.5	2.0	20
2-Propanol	0.84	0.84	2.0	2.0
Methylene Chloride	0.33	0.36	1.2	1.3
Hexane	0.17	0.19	0.59	0.68
2-Butanone (Methyl Ethyl Ketone)	0.84	1.7	2.5	5.2
Toluene	0.17	0.46	0.63	1.7

**Client Sample ID: (162943) U1**

**Lab ID#: 1607472-02A**

<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	0.47	0.88	2.3
Freon 11	0.18	0.26	0.99	1.4
Ethanol	0.88	45	1.7	85
Acetone	0.88	7.0	2.1	17
2-Propanol	0.88	5.1	2.2	12
2-Butanone (Methyl Ethyl Ketone)	0.88	1.0	2.6	3.0
Toluene	0.18	0.53	0.67	2.0



Air Toxics

Client Sample ID: (162942) D1

Lab ID#: 1607472-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072912	Date of Collection:	7/20/16 1:30:00 PM
Dil. Factor:	1.67	Date of Analysis:	7/29/16 04:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.40	0.82	2.0
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	3.2	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.58	0.94	3.3
Ethanol	0.84	8.5	1.6	16
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.84	8.5	2.0	20
2-Propanol	0.84	0.84	2.0	2.0
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	0.36	1.2	1.3
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	0.19	0.59	0.68
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.7	2.5	5.2
cis-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Tetrahydrofuran	0.84	Not Detected UJ	2.5	Not Detected UJ
Chloroform	0.17	Not Detected	0.82	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.91	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	0.84	Not Detected	3.9	Not Detected
Benzene	0.17	Not Detected	0.53	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	Not Detected	0.68	Not Detected
Trichloroethene	0.17	Not Detected	0.90	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	0.76	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.68	Not Detected
Toluene	0.17	0.46	0.63	1.7
trans-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.91	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.84	Not Detected	3.4	Not Detected

Client Sample ID: (162942) D1

Lab ID#: 1607472-01A

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

File Name:	e072912	Date of Collection:	7/20/16 1:30:00 PM
Dil. Factor:	1.67	Date of Analysis:	7/29/16 04:07 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	0.72	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 UJ	0.82	Not Detected UJ
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	0.84	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.84	Not Detected	8.9	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	114	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: (162943) U1

Lab ID#: 1607472-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072913	Date of Collection:	7/20/16 12:50:00 PM
Dil. Factor:	1.77	Date of Analysis:	7/29/16 05:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.47	0.88	2.3
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.88	Not Detected	1.8	Not Detected
Vinyl Chloride	0.18	Not Detected	0.45	Not Detected
1,3-Butadiene	0.18	Not Detected	0.39	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.18	0.26	0.99	1.4
Ethanol	0.88	45	1.7	85
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Acetone	0.88	7.0	2.1	17
2-Propanol	0.88	5.1	2.2	12
Carbon Disulfide	0.88	Not Detected	2.8	Not Detected
3-Chloropropene	0.88	Not Detected	2.8	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
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	Not Detected	0.62	Not Detected
1,1-Dichloroethane	0.18	Not Detected	0.72	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	1.0	2.6	3.0
cis-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Tetrahydrofuran	0.88	Not Detected UJ	2.6	Not Detected UJ
Chloroform	0.18	Not Detected	0.86	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.96	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	0.88	Not Detected	4.1	Not Detected
Benzene	0.18	Not Detected	0.56	Not Detected
1,2-Dichloroethane	0.18	Not Detected	0.72	Not Detected
Heptane	0.18	Not Detected	0.72	Not Detected
Trichloroethene	0.18	Not Detected	0.95	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	0.80	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
Toluene	0.18	0.53	0.67	2.0
trans-1,3-Dichloropropene	0.18	Not Detected	0.80	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.96	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.88	Not Detected	3.6	Not Detected





Client Sample ID: (162943) U1

Lab ID#: 1607472-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072913	Date of Collection:	7/20/16 12:50:00 PM
Dil. Factor:	1.77	Date of Analysis:	7/29/16 05:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
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	0.81	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	0.75	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.87	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.87	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.87	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.87	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected UJ	0.87	Not Detected UJ
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	0.88	Not Detected	6.6	Not Detected
Hexachlorobutadiene	0.88	Not Detected	9.4	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	110	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1607472-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072906	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/29/16 11:44 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 UJ	1.5	Not Detected UJ
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#: 1607472-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072906	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/29/16 11:44 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 UJ	0.49	Not Detected UJ
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	115	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1607472-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/29/16 08:37 AM

Compound	%Recovery
Freon 12	95
Freon 114	93
Chloromethane	82
Vinyl Chloride	84
1,3-Butadiene	85
Bromomethane	91
Chloroethane	106
Freon 11	100
Ethanol	101
Freon 113	84
1,1-Dichloroethene	89
Acetone	80
2-Propanol	86
Carbon Disulfide	115
3-Chloropropene	114
Methylene Chloride	83
Methyl tert-butyl ether	85
trans-1,2-Dichloroethene	87
Hexane	82
1,1-Dichloroethane	88
2-Butanone (Methyl Ethyl Ketone)	88
cis-1,2-Dichloroethene	87
Tetrahydrofuran	68 Q
Chloroform	90
1,1,1-Trichloroethane	91
Cyclohexane	84
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	87
Benzene	88
1,2-Dichloroethane	95
Heptane	87
Trichloroethene	94
1,2-Dichloropropane	86
1,4-Dioxane	95
Bromodichloromethane	98
cis-1,3-Dichloropropene	88
4-Methyl-2-pentanone	87
Toluene	92
trans-1,3-Dichloropropene	92
1,1,2-Trichloroethane	90
Tetrachloroethene	99
2-Hexanone	80

Client Sample ID: CCV

Lab ID#: 1607472-04A

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

File Name:	e072902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/29/16 08:37 AM

Compound	%Recovery
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	94
Chlorobenzene	92
Ethyl Benzene	92
m,p-Xylene	98
o-Xylene	92
Styrene	96
Bromoform	102
Cumene	89
1,1,2,2-Tetrachloroethane	76
Propylbenzene	80
4-Ethyltoluene	85
1,3,5-Trimethylbenzene	77
1,2,4-Trimethylbenzene	69 Q
1,3-Dichlorobenzene	76
1,4-Dichlorobenzene	79
alpha-Chlorotoluene	77
1,2-Dichlorobenzene	83
1,2,4-Trichlorobenzene	94
Hexachlorobutadiene	105

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1607472-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/29/16 09:20 AM

Compound	%Recovery	Method Limits
Freon 12	108	70-130
Freon 114	113	70-130
Chloromethane	97	70-130
Vinyl Chloride	100	70-130
1,3-Butadiene	90	70-130
Bromomethane	110	70-130
Chloroethane	124	70-130
Freon 11	119	70-130
Ethanol	121	70-130
Freon 113	100	70-130
1,1-Dichloroethene	97	70-130
Acetone	91	70-130
2-Propanol	97	70-130
Carbon Disulfide	90	70-130
3-Chloropropene	121	70-130
Methylene Chloride	94	70-130
Methyl tert-butyl ether	95	70-130
trans-1,2-Dichloroethene	103	70-130
Hexane	95	70-130
1,1-Dichloroethane	99	70-130
2-Butanone (Methyl Ethyl Ketone)	101	70-130
cis-1,2-Dichloroethene	96	70-130
Tetrahydrofuran	71	70-130
Chloroform	103	70-130
1,1,1-Trichloroethane	104	70-130
Cyclohexane	100	70-130
Carbon Tetrachloride	98	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	98	70-130
1,2-Dichloroethane	110	70-130
Heptane	96	70-130
Trichloroethene	109	70-130
1,2-Dichloropropane	94	70-130
1,4-Dioxane	105	70-130
Bromodichloromethane	111	70-130
cis-1,3-Dichloropropene	89	70-130
4-Methyl-2-pentanone	97	70-130
Toluene	100	70-130
trans-1,3-Dichloropropene	101	70-130
1,1,2-Trichloroethane	96	70-130
Tetrachloroethene	110	70-130
2-Hexanone	99	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1607472-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/29/16 09:20 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	109	70-130
1,2-Dibromoethane (EDB)	104	70-130
Chlorobenzene	104	70-130
Ethyl Benzene	103	70-130
m,p-Xylene	106	70-130
o-Xylene	107	70-130
Styrene	108	70-130
Bromoform	113	70-130
Cumene	99	70-130
1,1,2,2-Tetrachloroethane	82	70-130
Propylbenzene	94	70-130
4-Ethyltoluene	95	70-130
1,3,5-Trimethylbenzene	85	70-130
1,2,4-Trimethylbenzene	76	70-130
1,3-Dichlorobenzene	83	70-130
1,4-Dichlorobenzene	88	70-130
alpha-Chlorotoluene	90	70-130
1,2-Dichlorobenzene	88	70-130
1,2,4-Trichlorobenzene	90	70-130
Hexachlorobutadiene	97	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1607472-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/29/16 10:17 AM

Compound	%Recovery	Method Limits
Freon 12	109	70-130
Freon 114	112	70-130
Chloromethane	93	70-130
Vinyl Chloride	100	70-130
1,3-Butadiene	90	70-130
Bromomethane	111	70-130
Chloroethane	124	70-130
Freon 11	118	70-130
Ethanol	120	70-130
Freon 113	97	70-130
1,1-Dichloroethene	99	70-130
Acetone	92	70-130
2-Propanol	98	70-130
Carbon Disulfide	91	70-130
3-Chloropropene	121	70-130
Methylene Chloride	96	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	109	70-130
Hexane	95	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	91	70-130
cis-1,2-Dichloroethene	94	70-130
Tetrahydrofuran	71	70-130
Chloroform	104	70-130
1,1,1-Trichloroethane	101	70-130
Cyclohexane	98	70-130
Carbon Tetrachloride	102	70-130
2,2,4-Trimethylpentane	98	70-130
Benzene	97	70-130
1,2-Dichloroethane	110	70-130
Heptane	100	70-130
Trichloroethene	107	70-130
1,2-Dichloropropane	95	70-130
1,4-Dioxane	102	70-130
Bromodichloromethane	113	70-130
cis-1,3-Dichloropropene	89	70-130
4-Methyl-2-pentanone	97	70-130
Toluene	102	70-130
trans-1,3-Dichloropropene	101	70-130
1,1,2-Trichloroethane	95	70-130
Tetrachloroethene	109	70-130
2-Hexanone	95	70-130





Air Toxics

Client Sample ID: LCSD

Lab ID#: 1607472-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/29/16 10:17 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	109	70-130
1,2-Dibromoethane (EDB)	105	70-130
Chlorobenzene	101	70-130
Ethyl Benzene	102	70-130
m,p-Xylene	108	70-130
o-Xylene	108	70-130
Styrene	108	70-130
Bromoform	112	70-130
Cumene	95	70-130
1,1,2,2-Tetrachloroethane	82	70-130
Propylbenzene	92	70-130
4-Ethyltoluene	87	70-130
1,3,5-Trimethylbenzene	90	70-130
1,2,4-Trimethylbenzene	77	70-130
1,3-Dichlorobenzene	85	70-130
1,4-Dichlorobenzene	88	70-130
alpha-Chlorotoluene	90	70-130
1,2-Dichlorobenzene	89	70-130
1,2,4-Trichlorobenzene	95	70-130
Hexachlorobutadiene	99	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130