

7/18/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1707134

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 7/11/2017 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 #: 1707134

Work Order Summary

CLIENT:	Mr. Curt Lueckenhoff Missouri Dept. of Natural Resources 2710 West Main Jefferson City, MO 65109	BILL TO:	Accounts Payable Missouri Dept. of Natural Resources P.O Box 176 Jefferson City, MO 65102
PHONE:	573-526-3363	P.O. #	3ESP171181
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	07/11/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	07/18/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172346)	Modified TO-15	6.9 "Hg	5 psi
02A	U1 (172347)	Modified TO-15	5.9 "Hg	4.8 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: 07/18/17

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

LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1707134

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on July 11, 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 (172346)

Lab ID#: 1707134-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.39	0.86	1.9
Freon 11	0.17	0.20	0.98	1.1
Ethanol	0.87	2.4	1.6	4.5
Acetone	0.87	5.0	2.1	12
2-Propanol	0.87	2.0	2.1	4.9

Client Sample ID: U1 (172347)

Lab ID#: 1707134-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.39	0.82	1.9
Freon 11	0.16	0.17	0.93	0.94
Ethanol	0.82	4.2	1.6	7.9
Acetone	0.82	13	2.0	31
2-Propanol	0.82	2.8	2.0	6.9
Methylene Chloride	0.33	0.60	1.1	2.1
Hexane	0.16	0.18	0.58	0.62
2-Butanone (Methyl Ethyl Ketone)	0.82	2.8	2.4	8.4
Cyclohexane	0.16	0.16 J	0.57	0.56 J
Toluene	0.16	0.68	0.62	2.6



Air Toxics

Client Sample ID: D1 (172346)

Lab ID#: 1707134-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071717	Date of Collection:	7/6/17 1:45:00 PM
Dil. Factor:	1.74	Date of Analysis:	7/17/17 07:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.39	0.86	1.9
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.87	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected UJ	0.38	Not Detected UJ
Bromomethane	0.87	Not Detected UJ	3.4	Not Detected UJ
Chloroethane	0.87	Not Detected	2.3	Not Detected
Freon 11	0.17	0.20	0.98	1.1
Ethanol	0.87	2.4	1.6	4.5
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Acetone	0.87	5.0	2.1	12
2-Propanol	0.87	2.0	2.1	4.9
Carbon Disulfide	0.87	Not Detected	2.7	Not Detected
3-Chloropropene	0.87	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Hexane	0.17	Not Detected	0.61	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.87	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Tetrahydrofuran	0.87	Not Detected	2.6	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.95	Not Detected
Cyclohexane	0.17	Not Detected	0.60	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.87	Not Detected	4.1	Not Detected
Benzene	0.17	Not Detected	0.56	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	Not Detected	0.71	Not Detected
Trichloroethene	0.17	Not Detected	0.94	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.80	Not Detected
1,4-Dioxane	0.17	Not Detected	0.63	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.71	Not Detected
Toluene	0.17	Not Detected	0.66	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.95	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.87	Not Detected	3.6	Not Detected

Client Sample ID: D1 (172346)

Lab ID#: 1707134-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071717	Date of Collection:	7/6/17 1:45:00 PM
Dil. Factor:	1.74	Date of Analysis:	7/17/17 07:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.80	Not Detected
Ethyl Benzene	0.17	Not Detected	0.76	Not Detected
m,p-Xylene	0.17	Not Detected	0.76	Not Detected
o-Xylene	0.17	Not Detected	0.76	Not Detected
Styrene	0.17	Not Detected	0.74	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.86	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	0.90	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.87	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.87	Not Detected	9.3	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	117	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: U1 (172347)

Lab ID#: 1707134-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071718	Date of Collection:	7/6/17 1:35:00 PM
Dil. Factor:	1.65	Date of Analysis:	7/17/17 07:51 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.39	0.82	1.9
Freon 114	0.16	Not Detected	1.2	Not Detected
Chloromethane	0.82	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.42	Not Detected
1,3-Butadiene	0.16	Not Detected UJ	0.36	Not Detected UJ
Bromomethane	0.82	Not Detected UJ	3.2	Not Detected UJ
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.16	0.17	0.93	0.94
Ethanol	0.82	4.2	1.6	7.9
Freon 113	0.16	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	13	2.0	31
2-Propanol	0.82	2.8	2.0	6.9
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	0.60	1.1	2.1
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	0.18	0.58	0.62
1,1-Dichloroethane	0.16	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	2.8	2.4	8.4
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	0.90	Not Detected
Cyclohexane	0.16	0.16 J	0.57	0.56 J
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	0.53	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.67	Not Detected
Heptane	0.16	Not Detected	0.68	Not Detected
Trichloroethene	0.16	Not Detected	0.89	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.76	Not Detected
1,4-Dioxane	0.16	Not Detected	0.59	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.75	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.68	Not Detected
Toluene	0.16	0.68	0.62	2.6
trans-1,3-Dichloropropene	0.16	Not Detected	0.75	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected



Client Sample ID: U1 (172347)

Lab ID#: 1707134-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071718	Date of Collection: 7/6/17 1:35:00 PM
Dil. Factor:	1.65	Date of Analysis: 7/17/17 07:51 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	0.72	Not Detected
m,p-Xylene	0.16	Not Detected	0.72	Not Detected
o-Xylene	0.16	Not Detected	0.72	Not Detected
Styrene	0.16	Not Detected	0.70	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.81	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.81	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.81	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.1	Not Detected
Hexachlorobutadiene	0.82	Not Detected	8.8	Not Detected

UJ = Analyte associated with low bias in the CCV.

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1707134-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071709	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/17/17 01:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected UJ	0.22	Not Detected UJ
Bromomethane	0.50	Not Detected UJ	1.9	Not Detected UJ
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#: 1707134-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071709	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/17/17 01:05 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
1,1,2,2-Tetrachloroethane	0.10	Not Detected	0.69	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

UJ = Analyte associated with low bias in the CCV.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1707134-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/17/17 09:27 AM

Compound	%Recovery
Freon 12	86
Freon 114	83
Chloromethane	85
Vinyl Chloride	76
1,3-Butadiene	68 Q
Bromomethane	66 Q
Chloroethane	78
Freon 11	90
Ethanol	92
Freon 113	82
1,1-Dichloroethene	79
Acetone	80
2-Propanol	85
Carbon Disulfide	78
3-Chloropropene	79
Methylene Chloride	80
Methyl tert-butyl ether	82
trans-1,2-Dichloroethene	79
Hexane	84
1,1-Dichloroethane	82
2-Butanone (Methyl Ethyl Ketone)	86
cis-1,2-Dichloroethene	82
Tetrahydrofuran	90
Chloroform	85
1,1,1-Trichloroethane	88
Cyclohexane	82
Carbon Tetrachloride	98
2,2,4-Trimethylpentane	83
Benzene	79
1,2-Dichloroethane	90
Heptane	83
Trichloroethene	81
1,2-Dichloropropane	77
1,4-Dioxane	86
Bromodichloromethane	87
cis-1,3-Dichloropropene	83
4-Methyl-2-pentanone	92
Toluene	81
trans-1,3-Dichloropropene	85
1,1,2-Trichloroethane	84
Tetrachloroethene	82
2-Hexanone	90

Client Sample ID: CCV

Lab ID#: 1707134-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/17/17 09:27 AM

Compound	%Recovery
Dibromochloromethane	88
1,2-Dibromoethane (EDB)	85
Chlorobenzene	81
Ethyl Benzene	85
m,p-Xylene	87
o-Xylene	87
Styrene	89
Bromoform	89
Cumene	89
1,1,2,2-Tetrachloroethane	82
Propylbenzene	89
4-Ethyltoluene	94
1,3,5-Trimethylbenzene	91
1,2,4-Trimethylbenzene	85
1,3-Dichlorobenzene	84
1,4-Dichlorobenzene	83
alpha-Chlorotoluene	83
1,2-Dichlorobenzene	84
1,2,4-Trichlorobenzene	85
Hexachlorobutadiene	87

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1707134-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071706	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/17/17 10:58 AM

Compound	%Recovery	Method Limits
Freon 12	110	70-130
Freon 114	106	70-130
Chloromethane	105	70-130
Vinyl Chloride	99	70-130
1,3-Butadiene	90	70-130
Bromomethane	79	70-130
Chloroethane	80	70-130
Freon 11	96	70-130
Ethanol	118	70-130
Freon 113	99	70-130
1,1-Dichloroethene	99	70-130
Acetone	95	70-130
2-Propanol	111	70-130
Carbon Disulfide	83	70-130
3-Chloropropene	102	70-130
Methylene Chloride	98	70-130
Methyl tert-butyl ether	98	70-130
trans-1,2-Dichloroethene	85	70-130
Hexane	104	70-130
1,1-Dichloroethane	99	70-130
2-Butanone (Methyl Ethyl Ketone)	101	70-130
cis-1,2-Dichloroethene	110	70-130
Tetrahydrofuran	105	70-130
Chloroform	103	70-130
1,1,1-Trichloroethane	104	70-130
Cyclohexane	101	70-130
Carbon Tetrachloride	112	70-130
2,2,4-Trimethylpentane	99	70-130
Benzene	97	70-130
1,2-Dichloroethane	110	70-130
Heptane	103	70-130
Trichloroethene	102	70-130
1,2-Dichloropropane	96	70-130
1,4-Dioxane	102	70-130
Bromodichloromethane	109	70-130
cis-1,3-Dichloropropene	98	70-130
4-Methyl-2-pentanone	115	70-130
Toluene	100	70-130
trans-1,3-Dichloropropene	107	70-130
1,1,2-Trichloroethane	106	70-130
Tetrachloroethene	104	70-130
2-Hexanone	117	70-130

Client Sample ID: LCS

Lab ID#: 1707134-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071706	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/17/17 10:58 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	110	70-130
1,2-Dibromoethane (EDB)	106	70-130
Chlorobenzene	100	70-130
Ethyl Benzene	104	70-130
m,p-Xylene	109	70-130
o-Xylene	109	70-130
Styrene	111	70-130
Bromoform	109	70-130
Cumene	110	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	112	70-130
4-Ethyltoluene	117	70-130
1,3,5-Trimethylbenzene	112	70-130
1,2,4-Trimethylbenzene	110	70-130
1,3-Dichlorobenzene	105	70-130
1,4-Dichlorobenzene	104	70-130
alpha-Chlorotoluene	113	70-130
1,2-Dichlorobenzene	105	70-130
1,2,4-Trichlorobenzene	116	70-130
Hexachlorobutadiene	106	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1707134-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071707	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/17/17 11:42 AM

Compound	%Recovery	Method Limits
Freon 12	109	70-130
Freon 114	109	70-130
Chloromethane	107	70-130
Vinyl Chloride	97	70-130
1,3-Butadiene	100	70-130
Bromomethane	88	70-130
Chloroethane	91	70-130
Freon 11	114	70-130
Ethanol	118	70-130
Freon 113	100	70-130
1,1-Dichloroethene	99	70-130
Acetone	99	70-130
2-Propanol	112	70-130
Carbon Disulfide	85	70-130
3-Chloropropene	97	70-130
Methylene Chloride	97	70-130
Methyl tert-butyl ether	99	70-130
trans-1,2-Dichloroethene	86	70-130
Hexane	103	70-130
1,1-Dichloroethane	101	70-130
2-Butanone (Methyl Ethyl Ketone)	104	70-130
cis-1,2-Dichloroethene	110	70-130
Tetrahydrofuran	108	70-130
Chloroform	103	70-130
1,1,1-Trichloroethane	106	70-130
Cyclohexane	102	70-130
Carbon Tetrachloride	113	70-130
2,2,4-Trimethylpentane	100	70-130
Benzene	99	70-130
1,2-Dichloroethane	107	70-130
Heptane	103	70-130
Trichloroethene	99	70-130
1,2-Dichloropropane	96	70-130
1,4-Dioxane	103	70-130
Bromodichloromethane	105	70-130
cis-1,3-Dichloropropene	96	70-130
4-Methyl-2-pentanone	113	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	105	70-130
1,1,2-Trichloroethane	102	70-130
Tetrachloroethene	102	70-130
2-Hexanone	112	70-130

Client Sample ID: LCSD

Lab ID#: 1707134-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e071707	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/17/17 11:42 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	104	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	103	70-130
m,p-Xylene	106	70-130
o-Xylene	105	70-130
Styrene	107	70-130
Bromoform	105	70-130
Cumene	107	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	109	70-130
4-Ethyltoluene	114	70-130
1,3,5-Trimethylbenzene	106	70-130
1,2,4-Trimethylbenzene	104	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	101	70-130
alpha-Chlorotoluene	110	70-130
1,2-Dichlorobenzene	102	70-130
1,2,4-Trichlorobenzene	111	70-130
Hexachlorobutadiene	104	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130