

8/17/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1708157R1

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 8/9/2017 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 #: 1708157R1

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. #	3ESP180013; 3ESP171236
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	08/09/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	08/16/2017		
DATE REISSUED:	08/17/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172356)	Modified TO-15	6.3 "Hg	5 psi
02A	U1 (172357)	Modified TO-15	6.5 "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: 08/16/17

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# 1708157R1

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on August 09, 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

Due to the linear calibration range of the instrument, the reporting limit for Acetone was raised from 0.5ppbv to 1.0ppbv.

Due to laboratory error, the work order was reissued on August 17, 2017 to report results in units of ppbv and ug/m3.

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 (172356)

Lab ID#: 1708157R1-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.34	0.84	1.7
Freon 11	0.17	0.19	0.96	1.1
Ethanol	0.85	2.9	1.6	5.4
Acetone	0.85	6.5	2.0	16
2-Propanol	0.85	11	2.1	26
2-Butanone (Methyl Ethyl Ketone)	0.85	1.2	2.5	3.7
Heptane	0.17	0.28	0.70	1.2

Client Sample ID: U1 (172357)

Lab ID#: 1708157R1-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.38	0.85	1.9
Freon 11	0.17	0.18	0.97	1.0
Ethanol	0.86	4.0	1.6	7.6
Acetone	0.86	7.4	2.0	18
2-Propanol	0.86	17	2.1	41
2-Butanone (Methyl Ethyl Ketone)	0.86	1.0	2.5	3.0
Heptane	0.17	0.22	0.70	0.88
Toluene	0.17	0.18	0.65	0.68



Air Toxics

Client Sample ID: D1 (172356)

Lab ID#: 1708157R1-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081114	Date of Collection:	8/3/17 1:05:00 PM
Dil. Factor:	1.70	Date of Analysis:	8/11/17 06:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.34	0.84	1.7
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.85	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.85	Not Detected	3.3	Not Detected
Chloroethane	0.85	Not Detected	2.2	Not Detected
Freon 11	0.17	0.19	0.96	1.1
Ethanol	0.85	2.9	1.6	5.4
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.85	6.5	2.0	16
2-Propanol	0.85	11	2.1	26
Carbon Disulfide	0.85	Not Detected	2.6	Not Detected
3-Chloropropene	0.85	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.61	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Hexane	0.17	Not Detected	0.60	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.85	1.2	2.5	3.7
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Tetrahydrofuran	0.85	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Cyclohexane	0.17	Not Detected	0.58	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.85	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.54	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	0.28	0.70	1.2
Trichloroethene	0.17	Not Detected	0.91	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
1,4-Dioxane	0.17	Not Detected	0.61	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	Not Detected	0.64	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.85	Not Detected	3.5	Not Detected

Client Sample ID: D1 (172356)

Lab ID#: 1708157R1-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081114	Date of Collection: 8/3/17 1:05:00 PM
Dil. Factor:	1.70	Date of Analysis: 8/11/17 06:13 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	0.78	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.72	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	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	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.85	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.85	Not Detected	9.1	Not Detected

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

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



Air Toxics

Client Sample ID: U1 (172357)

Lab ID#: 1708157R1-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081115	Date of Collection:	8/3/17 1:15:00 PM
Dil. Factor:	1.72	Date of Analysis:	8/11/17 07:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.38	0.85	1.9
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.3	Not Detected
Freon 11	0.17	0.18	0.97	1.0
Ethanol	0.86	4.0	1.6	7.6
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	7.4	2.0	18
2-Propanol	0.86	17	2.1	41
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	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)	0.86	1.0	2.5	3.0
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Cyclohexane	0.17	Not Detected	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	0.22	0.70	0.88
Trichloroethene	0.17	Not Detected	0.92	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	0.18	0.65	0.68
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected



Client Sample ID: U1 (172357)

Lab ID#: 1708157R1-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081115	Date of Collection: 8/3/17 1:15:00 PM
Dil. Factor:	1.72	Date of Analysis: 8/11/17 07:07 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	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.75	Not Detected
m,p-Xylene	0.17	Not Detected	0.75	Not Detected
o-Xylene	0.17	Not Detected	0.75	Not Detected
Styrene	0.17	Not Detected	0.73	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	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	0.89	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.2	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1708157R1-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081107	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/11/17 01:00 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	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#: 1708157R1-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081107	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/11/17 01:00 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

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1708157R1-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/11/17 09:17 AM

Compound	%Recovery
Freon 12	100
Freon 114	100
Chloromethane	104
Vinyl Chloride	93
1,3-Butadiene	104
Bromomethane	103
Chloroethane	97
Freon 11	100
Ethanol	104
Freon 113	101
1,1-Dichloroethene	101
Acetone	86
2-Propanol	108
Carbon Disulfide	100
3-Chloropropene	96
Methylene Chloride	96
Methyl tert-butyl ether	102
trans-1,2-Dichloroethene	102
Hexane	105
1,1-Dichloroethane	102
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	104
Tetrahydrofuran	104
Chloroform	103
1,1,1-Trichloroethane	103
Cyclohexane	106
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	103
Benzene	104
1,2-Dichloroethane	99
Heptane	105
Trichloroethene	107
1,2-Dichloropropane	105
1,4-Dioxane	112
Bromodichloromethane	105
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	112
Toluene	109
trans-1,3-Dichloropropene	110
1,1,2-Trichloroethane	103
Tetrachloroethene	106
2-Hexanone	119



Air Toxics

Client Sample ID: CCV

Lab ID#: 1708157R1-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/11/17 09:17 AM

Compound	%Recovery
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	108
Chlorobenzene	105
Ethyl Benzene	108
m,p-Xylene	113
o-Xylene	110
Styrene	112
Bromoform	106
Cumene	112
1,1,2,2-Tetrachloroethane	103
Propylbenzene	110
4-Ethyltoluene	113
1,3,5-Trimethylbenzene	103
1,2,4-Trimethylbenzene	114
1,3-Dichlorobenzene	104
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	113
1,2-Dichlorobenzene	107
1,2,4-Trichlorobenzene	93
Hexachlorobutadiene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1708157R1-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081104	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/11/17 10:48 AM

Compound	%Recovery	Method Limits
Freon 12	98	70-130
Freon 114	100	70-130
Chloromethane	99	70-130
Vinyl Chloride	93	70-130
1,3-Butadiene	96	70-130
Bromomethane	100	70-130
Chloroethane	92	70-130
Freon 11	102	70-130
Ethanol	100	70-130
Freon 113	94	70-130
1,1-Dichloroethene	93	70-130
Acetone	78	70-130
2-Propanol	104	70-130
Carbon Disulfide	81	70-130
3-Chloropropene	85	70-130
Methylene Chloride	89	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	82	70-130
Hexane	95	70-130
1,1-Dichloroethane	95	70-130
2-Butanone (Methyl Ethyl Ketone)	90	70-130
cis-1,2-Dichloroethene	108	70-130
Tetrahydrofuran	101	70-130
Chloroform	97	70-130
1,1,1-Trichloroethane	97	70-130
Cyclohexane	100	70-130
Carbon Tetrachloride	86	70-130
2,2,4-Trimethylpentane	97	70-130
Benzene	91	70-130
1,2-Dichloroethane	88	70-130
Heptane	93	70-130
Trichloroethene	92	70-130
1,2-Dichloropropane	93	70-130
1,4-Dioxane	101	70-130
Bromodichloromethane	96	70-130
cis-1,3-Dichloropropene	91	70-130
4-Methyl-2-pentanone	102	70-130
Toluene	94	70-130
trans-1,3-Dichloropropene	97	70-130
1,1,2-Trichloroethane	91	70-130
Tetrachloroethene	97	70-130
2-Hexanone	113	70-130

Client Sample ID: LCS

Lab ID#: 1708157R1-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/11/17 10:48 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	96	70-130
1,2-Dibromoethane (EDB)	94	70-130
Chlorobenzene	94	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	102	70-130
o-Xylene	100	70-130
Styrene	102	70-130
Bromoform	97	70-130
Cumene	100	70-130
1,1,2,2-Tetrachloroethane	95	70-130
Propylbenzene	102	70-130
4-Ethyltoluene	100	70-130
1,3,5-Trimethylbenzene	94	70-130
1,2,4-Trimethylbenzene	101	70-130
1,3-Dichlorobenzene	94	70-130
1,4-Dichlorobenzene	93	70-130
alpha-Chlorotoluene	103	70-130
1,2-Dichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	86	70-130
Hexachlorobutadiene	93	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1708157R1-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081105	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/11/17 11:32 AM

Compound	%Recovery	Method Limits
Freon 12	96	70-130
Freon 114	100	70-130
Chloromethane	96	70-130
Vinyl Chloride	90	70-130
1,3-Butadiene	97	70-130
Bromomethane	101	70-130
Chloroethane	98	70-130
Freon 11	101	70-130
Ethanol	100	70-130
Freon 113	93	70-130
1,1-Dichloroethene	90	70-130
Acetone	80	70-130
2-Propanol	106	70-130
Carbon Disulfide	82	70-130
3-Chloropropene	89	70-130
Methylene Chloride	89	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	83	70-130
Hexane	95	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	96	70-130
cis-1,2-Dichloroethene	108	70-130
Tetrahydrofuran	99	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	97	70-130
Cyclohexane	98	70-130
Carbon Tetrachloride	87	70-130
2,2,4-Trimethylpentane	97	70-130
Benzene	88	70-130
1,2-Dichloroethane	85	70-130
Heptane	92	70-130
Trichloroethene	95	70-130
1,2-Dichloropropane	92	70-130
1,4-Dioxane	98	70-130
Bromodichloromethane	96	70-130
cis-1,3-Dichloropropene	90	70-130
4-Methyl-2-pentanone	102	70-130
Toluene	94	70-130
trans-1,3-Dichloropropene	97	70-130
1,1,2-Trichloroethane	92	70-130
Tetrachloroethene	96	70-130
2-Hexanone	108	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1708157R1-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e081105	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/11/17 11:32 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	93	70-130
1,2-Dibromoethane (EDB)	93	70-130
Chlorobenzene	90	70-130
Ethyl Benzene	95	70-130
m,p-Xylene	99	70-130
o-Xylene	98	70-130
Styrene	98	70-130
Bromoform	94	70-130
Cumene	97	70-130
1,1,2,2-Tetrachloroethane	92	70-130
Propylbenzene	98	70-130
4-Ethyltoluene	97	70-130
1,3,5-Trimethylbenzene	89	70-130
1,2,4-Trimethylbenzene	96	70-130
1,3-Dichlorobenzene	90	70-130
1,4-Dichlorobenzene	87	70-130
alpha-Chlorotoluene	101	70-130
1,2-Dichlorobenzene	91	70-130
1,2,4-Trichlorobenzene	80	70-130
Hexachlorobutadiene	88	70-130

Container Type: NA - Not Applicable

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