

9/12/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1708546

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 8/29/2017 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 #: 1708546

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. #	3ESP180084, 3ESP180051
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	08/29/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	09/12/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172364)	Modified TO-15	6.5 "Hg	4.9 psi
02A	U1 (172365)	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: 09/12/17

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# 1708546

Two 6 Liter Summa Canister (100% Certified) samples were received on August 29, 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 (172364)

Lab ID#: 1708546-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.59	0.84	2.9
Freon 11	0.17	0.19	0.96	1.1
Ethanol	0.85	3.2	1.6	6.0
Acetone	0.85	5.0	2.0	12
2-Propanol	0.85	3.7	2.1	9.0

Client Sample ID: U1 (172365)

Lab ID#: 1708546-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.58	0.82	2.9
Freon 11	0.16	0.19	0.93	1.1
Ethanol	0.82	3.2	1.6	6.0
Acetone	0.82	11	2.0	26
2-Propanol	0.82	2.3	2.0	5.7
Methylene Chloride	0.33	1.5	1.1	5.4
Hexane	0.16	0.23	0.58	0.82
2-Butanone (Methyl Ethyl Ketone)	0.82	1.8	2.4	5.3
Heptane	0.16	0.17	0.68	0.70
Toluene	0.16	0.70	0.62	2.6



Air Toxics

Client Sample ID: D1 (172364)

Lab ID#: 1708546-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083015	Date of Collection:	8/23/17 1:30:00 PM
Dil. Factor:	1.70	Date of Analysis:	8/30/17 07:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.59	0.84	2.9
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	3.2	1.6	6.0
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.85	5.0	2.0	12
2-Propanol	0.85	3.7	2.1	9.0
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	Not Detected	2.5	Not Detected
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	Not Detected	0.70	Not Detected
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 (172364)

Lab ID#: 1708546-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083015	Date of Collection: 8/23/17 1:30:00 PM
Dil. Factor:	1.70	Date of Analysis: 8/30/17 07:00 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% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	91	70-130



Air Toxics

Client Sample ID: U1 (172365)

Lab ID#: 1708546-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083016	Date of Collection:	8/23/17 1:50:00 PM
Dil. Factor:	1.65	Date of Analysis:	8/30/17 07:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.58	0.82	2.9
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	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	0.19	0.93	1.1
Ethanol	0.82	3.2	1.6	6.0
Freon 113	0.16	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	11	2.0	26
2-Propanol	0.82	2.3	2.0	5.7
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	1.5	1.1	5.4
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	0.23	0.58	0.82
1,1-Dichloroethane	0.16	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	1.8	2.4	5.3
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Tetrahydrofuran	0.82	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Cyclohexane	0.16	Not Detected	0.57	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	0.53	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.67	Not Detected
Heptane	0.16	0.17	0.68	0.70
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	0.70	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 (172365)

Lab ID#: 1708546-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083016	Date of Collection: 8/23/17 1:50:00 PM
Dil. Factor:	1.65	Date of Analysis: 8/30/17 07:34 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

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1708546-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083009	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/30/17 02:13 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#: 1708546-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083009	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/30/17 02:13 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	110	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1708546-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/30/17 08:57 AM

Compound	%Recovery
Freon 12	122
Freon 114	96
Chloromethane	95
Vinyl Chloride	97
1,3-Butadiene	103
Bromomethane	120
Chloroethane	104
Freon 11	92
Ethanol	114
Freon 113	94
1,1-Dichloroethene	110
Acetone	109
2-Propanol	109
Carbon Disulfide	108
3-Chloropropene	133 Q
Methylene Chloride	91
Methyl tert-butyl ether	113
trans-1,2-Dichloroethene	102
Hexane	114
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	116
cis-1,2-Dichloroethene	107
Tetrahydrofuran	113
Chloroform	98
1,1,1-Trichloroethane	95
Cyclohexane	112
Carbon Tetrachloride	80
2,2,4-Trimethylpentane	121
Benzene	100
1,2-Dichloroethane	88
Heptane	108
Trichloroethene	124
1,2-Dichloropropane	101
1,4-Dioxane	110
Bromodichloromethane	101
cis-1,3-Dichloropropene	110
4-Methyl-2-pentanone	117
Toluene	102
trans-1,3-Dichloropropene	107
1,1,2-Trichloroethane	102
Tetrachloroethene	95
2-Hexanone	119



Client Sample ID: CCV

Lab ID#: 1708546-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/30/17 08:57 AM

Compound	%Recovery
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	108
Chlorobenzene	99
Ethyl Benzene	107
m,p-Xylene	109
o-Xylene	114
Styrene	121
Bromoform	111
Cumene	114
1,1,2,2-Tetrachloroethane	78
Propylbenzene	110
4-Ethyltoluene	114
1,3,5-Trimethylbenzene	116
1,2,4-Trimethylbenzene	120
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	112
1,2-Dichlorobenzene	96
1,2,4-Trichlorobenzene	118
Hexachlorobutadiene	91

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1708546-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/30/17 10:27 AM

Compound	%Recovery	Method Limits
Freon 12	110	70-130
Freon 114	90	70-130
Chloromethane	85	70-130
Vinyl Chloride	89	70-130
1,3-Butadiene	90	70-130
Bromomethane	110	70-130
Chloroethane	95	70-130
Freon 11	85	70-130
Ethanol	104	70-130
Freon 113	82	70-130
1,1-Dichloroethene	96	70-130
Acetone	94	70-130
2-Propanol	102	70-130
Carbon Disulfide	82	70-130
3-Chloropropene	97	70-130
Methylene Chloride	81	70-130
Methyl tert-butyl ether	97	70-130
trans-1,2-Dichloroethene	78	70-130
Hexane	99	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	99	70-130
cis-1,2-Dichloroethene	103	70-130
Tetrahydrofuran	96	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	86	70-130
Cyclohexane	99	70-130
Carbon Tetrachloride	81	70-130
2,2,4-Trimethylpentane	104	70-130
Benzene	89	70-130
1,2-Dichloroethane	81	70-130
Heptane	94	70-130
Trichloroethene	87	70-130
1,2-Dichloropropane	92	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	99	70-130
cis-1,3-Dichloropropene	93	70-130
4-Methyl-2-pentanone	102	70-130
Toluene	87	70-130
trans-1,3-Dichloropropene	99	70-130
1,1,2-Trichloroethane	95	70-130
Tetrachloroethene	85	70-130
2-Hexanone	106	70-130

Client Sample ID: LCS

Lab ID#: 1708546-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/30/17 10:27 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	100	70-130
1,2-Dibromoethane (EDB)	100	70-130
Chlorobenzene	86	70-130
Ethyl Benzene	92	70-130
m,p-Xylene	94	70-130
o-Xylene	99	70-130
Styrene	106	70-130
Bromoform	116	70-130
Cumene	101	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	97	70-130
4-Ethyltoluene	97	70-130
1,3,5-Trimethylbenzene	96	70-130
1,2,4-Trimethylbenzene	95	70-130
1,3-Dichlorobenzene	86	70-130
1,4-Dichlorobenzene	85	70-130
alpha-Chlorotoluene	104	70-130
1,2-Dichlorobenzene	86	70-130
1,2,4-Trichlorobenzene	120	70-130
Hexachlorobutadiene	101	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1708546-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083008	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/30/17 01:40 PM

Compound	%Recovery	Method Limits
Freon 12	110	70-130
Freon 114	89	70-130
Chloromethane	88	70-130
Vinyl Chloride	90	70-130
1,3-Butadiene	91	70-130
Bromomethane	110	70-130
Chloroethane	94	70-130
Freon 11	86	70-130
Ethanol	106	70-130
Freon 113	82	70-130
1,1-Dichloroethene	95	70-130
Acetone	94	70-130
2-Propanol	104	70-130
Carbon Disulfide	82	70-130
3-Chloropropene	91	70-130
Methylene Chloride	82	70-130
Methyl tert-butyl ether	98	70-130
trans-1,2-Dichloroethene	79	70-130
Hexane	102	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	100	70-130
cis-1,2-Dichloroethene	103	70-130
Tetrahydrofuran	97	70-130
Chloroform	89	70-130
1,1,1-Trichloroethane	88	70-130
Cyclohexane	100	70-130
Carbon Tetrachloride	83	70-130
2,2,4-Trimethylpentane	110	70-130
Benzene	89	70-130
1,2-Dichloroethane	82	70-130
Heptane	97	70-130
Trichloroethene	86	70-130
1,2-Dichloropropane	92	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	97	70-130
cis-1,3-Dichloropropene	94	70-130
4-Methyl-2-pentanone	105	70-130
Toluene	90	70-130
trans-1,3-Dichloropropene	99	70-130
1,1,2-Trichloroethane	93	70-130
Tetrachloroethene	86	70-130
2-Hexanone	108	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1708546-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21083008	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/30/17 01:40 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	101	70-130
1,2-Dibromoethane (EDB)	100	70-130
Chlorobenzene	88	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	95	70-130
o-Xylene	100	70-130
Styrene	107	70-130
Bromoform	115	70-130
Cumene	100	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	96	70-130
4-Ethyltoluene	96	70-130
1,3,5-Trimethylbenzene	96	70-130
1,2,4-Trimethylbenzene	95	70-130
1,3-Dichlorobenzene	88	70-130
1,4-Dichlorobenzene	87	70-130
alpha-Chlorotoluene	110	70-130
1,2-Dichlorobenzene	87	70-130
1,2,4-Trichlorobenzene	120	70-130
Hexachlorobutadiene	105	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130