

7/31/2018
Mr. Curt Lueckenhoff
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill
Project #:
Workorder #: 1807301

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 7/18/2018 at Air Toxics Ltd.

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

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

Regards,



Brian Whittaker
Project Manager

WORK ORDER #: 1807301

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. #	180323-CFL-B
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	07/18/2018	CONTACT:	Brian Whittaker
DATE COMPLETED:	07/31/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (182345)	Modified TO-15	6.7 "Hg	5.3 psi
02A	U1 (182346)	Modified TO-15	7.1 "Hg	4.6 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: 07/31/18

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# 1807301**

Two 6 Liter Summa Canister (100% Certified) samples were received on July 18, 2018. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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

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

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Initial Calibration	</=30% RSD with 2 compounds allowed out to < 40% RSD	</=30% RSD with 4 compounds allowed out to < 40% RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).
- J - Estimated value.
- E - Exceeds instrument calibration range.
- S - Saturated peak.
- Q - Exceeds quality control limits.
- U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.
- UJ- Non-detected compound associated with low bias in the CCV
- N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

- a-File was requantified
- b-File was quantified by a second column and detector
- r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: D1 (182345)

Lab ID#: 1807301-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.18	0.20	0.98	1.1
Ethanol	0.88	4.0	1.6	7.5
Acetone	0.88	7.1	2.1	17
2-Propanol	0.88	4.0	2.2	10
2-Butanone (Methyl Ethyl Ketone)	0.88	1.0	2.6	2.9

Client Sample ID: U1 (182346)

Lab ID#: 1807301-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.17	0.22	0.97	1.2
Ethanol	0.86	3.4	1.6	6.4
Acetone	0.86	6.6	2.0	16
2-Propanol	0.86	5.2	2.1	13
2-Butanone (Methyl Ethyl Ketone)	0.86	1.0	2.5	3.1
Toluene	0.17	0.17 J	0.65	0.63 J



Air Toxics

Client Sample ID: D1 (182345)

Lab ID#: 1807301-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072325	Date of Collection:	7/11/18 2:00:00 PM
Dil. Factor:	1.75	Date of Analysis:	7/23/18 11:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.88	Not Detected	4.3	Not Detected
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	0.20	0.98	1.1
Ethanol	0.88	4.0	1.6	7.5
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	7.1	2.1	17
2-Propanol	0.88	4.0	2.2	10
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	0.88	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Hexane	0.18	Not Detected	0.62	Not Detected
1,1-Dichloroethane	0.18	Not Detected	0.71	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	1.0	2.6	2.9
cis-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Cyclohexane	0.18	Not Detected	0.60	Not Detected
Carbon Tetrachloride	0.18	Not Detected UJ	1.1	Not Detected UJ
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	0.71	Not Detected
Heptane	0.18	Not Detected	0.72	Not Detected
Trichloroethene	0.18	Not Detected	0.94	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.81	Not Detected
1,4-Dioxane	0.18	Not Detected	0.63	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
Toluene	0.18	Not Detected	0.66	Not Detected
trans-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.88	Not Detected	3.6	Not Detected



Client Sample ID: D1 (182345)

Lab ID#: 1807301-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072325	Date of Collection:	7/11/18 2:00:00 PM
Dil. Factor:	1.75	Date of Analysis:	7/23/18 11:03 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	1.3	Not Detected
Chlorobenzene	0.18	Not Detected	0.80	Not Detected
Ethyl Benzene	0.18	Not Detected	0.76	Not Detected
m,p-Xylene	0.18	Not Detected	0.76	Not Detected
o-Xylene	0.18	Not Detected	0.76	Not Detected
Styrene	0.18	Not Detected	0.74	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.88	Not Detected	6.5	Not Detected
Hexachlorobutadiene	0.88	Not Detected UJ	9.3	Not Detected UJ

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	108	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: U1 (182346)

Lab ID#: 1807301-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072326	Date of Collection:	7/11/18 2:10:00 PM
Dil. Factor:	1.72	Date of Analysis:	7/24/18 07:10 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.86	Not Detected	4.2	Not Detected
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	0.22	0.97	1.2
Ethanol	0.86	3.4	1.6	6.4
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	6.6	2.0	16
2-Propanol	0.86	5.2	2.1	13
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	3.1
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 UJ	1.1	Not Detected UJ
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	Not Detected	0.70	Not Detected
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	0.17 J	0.65	0.63 J
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 (182346)

Lab ID#: 1807301-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072326	Date of Collection:	7/11/18 2:10:00 PM
Dil. Factor:	1.72	Date of Analysis:	7/24/18 07:10 AM

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 UJ	9.2	Not Detected UJ

UJ = Analyte associated with low bias in the CCV.

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1807301-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072306	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/23/18 10:41 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	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 UJ	0.63	Not Detected UJ
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#: 1807301-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072306	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/23/18 10:41 AM

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

UJ = Analyte associated with low bias in the CCV.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1807301-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/23/18 08:03 AM

Compound	%Recovery
Freon 12	122
Freon 114	92
Chloromethane	97
Vinyl Chloride	90
1,3-Butadiene	83
Bromomethane	111
Chloroethane	99
Freon 11	84
Ethanol	86
Freon 113	88
1,1-Dichloroethene	94
Acetone	89
2-Propanol	86
Carbon Disulfide	96
3-Chloropropene	102
Methylene Chloride	93
Methyl tert-butyl ether	90
trans-1,2-Dichloroethene	95
Hexane	96
1,1-Dichloroethane	93
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	95
Tetrahydrofuran	91
Chloroform	90
1,1,1-Trichloroethane	85
Cyclohexane	99
Carbon Tetrachloride	66 Q
2,2,4-Trimethylpentane	120
Benzene	95
1,2-Dichloroethane	81
Heptane	96
Trichloroethene	90
1,2-Dichloropropane	97
1,4-Dioxane	97
Bromodichloromethane	89
cis-1,3-Dichloropropene	95
4-Methyl-2-pentanone	96
Toluene	92
trans-1,3-Dichloropropene	88
1,1,2-Trichloroethane	96
Tetrachloroethene	86
2-Hexanone	91



Air Toxics

Client Sample ID: CCV

Lab ID#: 1807301-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/23/18 08:03 AM

Compound	%Recovery
Dibromochloromethane	93
1,2-Dibromoethane (EDB)	99
Chlorobenzene	89
Ethyl Benzene	92
m,p-Xylene	88
o-Xylene	89
Styrene	94
Bromoform	98
Cumene	89
1,1,2,2-Tetrachloroethane	104
Propylbenzene	84
4-Ethyltoluene	86
1,3,5-Trimethylbenzene	96
1,2,4-Trimethylbenzene	100
1,3-Dichlorobenzene	79
1,4-Dichlorobenzene	77
alpha-Chlorotoluene	74
1,2-Dichlorobenzene	76
1,2,4-Trichlorobenzene	84
Hexachlorobutadiene	61 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	88	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1807301-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/23/18 08:48 AM

Compound	%Recovery	Method Limits
Freon 12	129	70-130
Freon 114	97	70-130
Chloromethane	93	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	92	70-130
Bromomethane	115	70-130
Chloroethane	104	70-130
Freon 11	86	70-130
Ethanol	109	70-130
Freon 113	92	70-130
1,1-Dichloroethene	98	70-130
Acetone	98	70-130
2-Propanol	101	70-130
Carbon Disulfide	104	70-130
3-Chloropropene	120	70-130
Methylene Chloride	97	70-130
Methyl tert-butyl ether	95	70-130
trans-1,2-Dichloroethene	109	70-130
Hexane	108	70-130
1,1-Dichloroethane	96	70-130
2-Butanone (Methyl Ethyl Ketone)	109	70-130
cis-1,2-Dichloroethene	93	70-130
Tetrahydrofuran	100	70-130
Chloroform	93	70-130
1,1,1-Trichloroethane	90	70-130
Cyclohexane	108	70-130
Carbon Tetrachloride	96	70-130
2,2,4-Trimethylpentane	138 Q	70-130
Benzene	97	70-130
1,2-Dichloroethane	79	70-130
Heptane	102	70-130
Trichloroethene	91	70-130
1,2-Dichloropropane	99	70-130
1,4-Dioxane	98	70-130
Bromodichloromethane	92	70-130
cis-1,3-Dichloropropene	103	70-130
4-Methyl-2-pentanone	104	70-130
Toluene	98	70-130
trans-1,3-Dichloropropene	93	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	87	70-130
2-Hexanone	102	70-130

Client Sample ID: LCS

Lab ID#: 1807301-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/23/18 08:48 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	101	70-130
1,2-Dibromoethane (EDB)	103	70-130
Chlorobenzene	95	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	101	70-130
o-Xylene	102	70-130
Styrene	106	70-130
Bromoform	110	70-130
Cumene	99	70-130
1,1,2,2-Tetrachloroethane	111	70-130
Propylbenzene	100	70-130
4-Ethyltoluene	104	70-130
1,3,5-Trimethylbenzene	111	70-130
1,2,4-Trimethylbenzene	109	70-130
1,3-Dichlorobenzene	93	70-130
1,4-Dichlorobenzene	91	70-130
alpha-Chlorotoluene	104	70-130
1,2-Dichlorobenzene	91	70-130
1,2,4-Trichlorobenzene	97	70-130
Hexachlorobutadiene	76	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1807301-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/23/18 09:29 AM

Compound	%Recovery	Method Limits
Freon 12	130	70-130
Freon 114	96	70-130
Chloromethane	94	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	86	70-130
Bromomethane	114	70-130
Chloroethane	106	70-130
Freon 11	86	70-130
Ethanol	109	70-130
Freon 113	90	70-130
1,1-Dichloroethene	98	70-130
Acetone	100	70-130
2-Propanol	99	70-130
Carbon Disulfide	104	70-130
3-Chloropropene	123	70-130
Methylene Chloride	98	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	110	70-130
Hexane	102	70-130
1,1-Dichloroethane	97	70-130
2-Butanone (Methyl Ethyl Ketone)	109	70-130
cis-1,2-Dichloroethene	92	70-130
Tetrahydrofuran	102	70-130
Chloroform	94	70-130
1,1,1-Trichloroethane	89	70-130
Cyclohexane	105	70-130
Carbon Tetrachloride	95	70-130
2,2,4-Trimethylpentane	126	70-130
Benzene	97	70-130
1,2-Dichloroethane	83	70-130
Heptane	99	70-130
Trichloroethene	94	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	108	70-130
Bromodichloromethane	102	70-130
cis-1,3-Dichloropropene	109	70-130
4-Methyl-2-pentanone	104	70-130
Toluene	94	70-130
trans-1,3-Dichloropropene	101	70-130
1,1,2-Trichloroethane	108	70-130
Tetrachloroethene	89	70-130
2-Hexanone	108	70-130

Client Sample ID: LCSD

Lab ID#: 1807301-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	21072304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/23/18 09:29 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	110	70-130
1,2-Dibromoethane (EDB)	111	70-130
Chlorobenzene	94	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	92	70-130
o-Xylene	95	70-130
Styrene	100	70-130
Bromoform	120	70-130
Cumene	92	70-130
1,1,2,2-Tetrachloroethane	114	70-130
Propylbenzene	88	70-130
4-Ethyltoluene	91	70-130
1,3,5-Trimethylbenzene	101	70-130
1,2,4-Trimethylbenzene	103	70-130
1,3-Dichlorobenzene	84	70-130
1,4-Dichlorobenzene	82	70-130
alpha-Chlorotoluene	102	70-130
1,2-Dichlorobenzene	81	70-130
1,2,4-Trichlorobenzene	90	70-130
Hexachlorobutadiene	66 Q	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	99	70-130