

2/27/2018

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1802276

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 2/14/2018 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 #: 1802276

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. #	3ESP180589
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	02/14/2018	CONTACT:	Brian Whittaker
DATE COMPLETED:	02/27/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (180983)	Modified TO-15	3.9 "Hg	5 psi
02A	U1 (180984)	Modified TO-15	3.5 "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: 02/27/18

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# 1802276

Two 6 Liter Summa Canister (100% Certified) samples were received on February 14, 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	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	$\leq 30\%$ 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 (180983)

Lab ID#: 1802276-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.42	0.76	2.1
Freon 11	0.15	0.20	0.86	1.2
Ethanol	0.77	10	1.4	19
Acetone	0.77	1.3 J0	1.8	3.1 J0
Benzene	0.15	0.18	0.49	0.56
Toluene	0.15	0.19	0.58	0.71

Client Sample ID: U1 (180984)

Lab ID#: 1802276-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.45	0.75	2.2
Freon 11	0.15	0.19	0.85	1.1
Ethanol	0.76	9.9	1.4	19
Acetone	0.76	1.3 J0	1.8	3.2 J0
Hexane	0.15	0.21	0.54	0.73
Benzene	0.15	0.17	0.48	0.54
Toluene	0.15	0.21	0.57	0.79



Air Toxics

Client Sample ID: D1 (180983)

Lab ID#: 1802276-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021418	Date of Collection:	2/8/18 11:55:00 AM
Dil. Factor:	1.54	Date of Analysis:	2/14/18 08:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.42	0.76	2.1
Freon 114	0.15	Not Detected	1.1	Not Detected
Chloromethane	0.77	Not Detected	1.6	Not Detected
Vinyl Chloride	0.15	Not Detected	0.39	Not Detected
1,3-Butadiene	0.15	Not Detected	0.34	Not Detected
Bromomethane	0.77	Not Detected	3.0	Not Detected
Chloroethane	0.77	Not Detected	2.0	Not Detected
Freon 11	0.15	0.20	0.86	1.2
Ethanol	0.77	10	1.4	19
Freon 113	0.15	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.61	Not Detected
Acetone	0.77	1.3 J0	1.8	3.1 J0
2-Propanol	0.77	Not Detected	1.9	Not Detected
Carbon Disulfide	0.77	Not Detected	2.4	Not Detected
3-Chloropropene	0.77	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.56	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.61	Not Detected
Hexane	0.15	Not Detected	0.54	Not Detected
1,1-Dichloroethane	0.15	Not Detected	0.62	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.77	Not Detected	2.3	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.61	Not Detected
Tetrahydrofuran	0.77	Not Detected	2.3	Not Detected
Chloroform	0.15	Not Detected	0.75	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.84	Not Detected
Cyclohexane	0.15	Not Detected	0.53	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.97	Not Detected
2,2,4-Trimethylpentane	0.77	Not Detected	3.6	Not Detected
Benzene	0.15	0.18	0.49	0.56
1,2-Dichloroethane	0.15	Not Detected	0.62	Not Detected
Heptane	0.15	Not Detected	0.63	Not Detected
Trichloroethene	0.15	Not Detected	0.83	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.71	Not Detected
1,4-Dioxane	0.15	Not Detected	0.55	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.70	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.63	Not Detected
Toluene	0.15	0.19	0.58	0.71
trans-1,3-Dichloropropene	0.15	Not Detected	0.70	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.84	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.77	Not Detected	3.2	Not Detected



Client Sample ID: D1 (180983)

Lab ID#: 1802276-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021418	Date of Collection:	2/8/18 11:55:00 AM
Dil. Factor:	1.54	Date of Analysis:	2/14/18 08:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.2	Not Detected
Chlorobenzene	0.15	Not Detected	0.71	Not Detected
Ethyl Benzene	0.15	Not Detected	0.67	Not Detected
m,p-Xylene	0.15	Not Detected	0.67	Not Detected
o-Xylene	0.15	Not Detected	0.67	Not Detected
Styrene	0.15	Not Detected	0.66	Not Detected
Bromoform	0.15	Not Detected	1.6	Not Detected
Cumene	0.15	Not Detected	0.76	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.76	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.76	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.76	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.76	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.92	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.92	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.92	Not Detected
1,2,4-Trichlorobenzene	0.77	Not Detected	5.7	Not Detected
Hexachlorobutadiene	0.77	Not Detected	8.2	Not Detected

J0 = Estimated value due to bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	122	70-130



Air Toxics

Client Sample ID: U1 (180984)

Lab ID#: 1802276-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021419	Date of Collection:	2/8/18 12:30:00 PM
Dil. Factor:	1.52	Date of Analysis:	2/14/18 09:21 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.45	0.75	2.2
Freon 114	0.15	Not Detected	1.1	Not Detected
Chloromethane	0.76	Not Detected	1.6	Not Detected
Vinyl Chloride	0.15	Not Detected	0.39	Not Detected
1,3-Butadiene	0.15	Not Detected	0.34	Not Detected
Bromomethane	0.76	Not Detected	3.0	Not Detected
Chloroethane	0.76	Not Detected	2.0	Not Detected
Freon 11	0.15	0.19	0.85	1.1
Ethanol	0.76	9.9	1.4	19
Freon 113	0.15	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Acetone	0.76	1.3 J0	1.8	3.2 J0
2-Propanol	0.76	Not Detected	1.9	Not Detected
Carbon Disulfide	0.76	Not Detected	2.4	Not Detected
3-Chloropropene	0.76	Not Detected	2.4	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.55	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Hexane	0.15	0.21	0.54	0.73
1,1-Dichloroethane	0.15	Not Detected	0.62	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.76	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Tetrahydrofuran	0.76	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.74	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Cyclohexane	0.15	Not Detected	0.52	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.96	Not Detected
2,2,4-Trimethylpentane	0.76	Not Detected	3.6	Not Detected
Benzene	0.15	0.17	0.48	0.54
1,2-Dichloroethane	0.15	Not Detected	0.62	Not Detected
Heptane	0.15	Not Detected	0.62	Not Detected
Trichloroethene	0.15	Not Detected	0.82	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.70	Not Detected
1,4-Dioxane	0.15	Not Detected	0.55	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.62	Not Detected
Toluene	0.15	0.21	0.57	0.79
trans-1,3-Dichloropropene	0.15	Not Detected	0.69	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.83	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.76	Not Detected	3.1	Not Detected



Client Sample ID: U1 (180984)

Lab ID#: 1802276-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021419	Date of Collection:	2/8/18 12:30:00 PM
Dil. Factor:	1.52	Date of Analysis:	2/14/18 09:21 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.2	Not Detected
Chlorobenzene	0.15	Not Detected	0.70	Not Detected
Ethyl Benzene	0.15	Not Detected	0.66	Not Detected
m,p-Xylene	0.15	Not Detected	0.66	Not Detected
o-Xylene	0.15	Not Detected	0.66	Not Detected
Styrene	0.15	Not Detected	0.65	Not Detected
Bromoform	0.15	Not Detected	1.6	Not Detected
Cumene	0.15	Not Detected	0.75	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.75	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.75	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.75	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.75	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.79	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,2,4-Trichlorobenzene	0.76	Not Detected	5.6	Not Detected
Hexachlorobutadiene	0.76	Not Detected	8.1	Not Detected

J0 = Estimated value due to bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	120	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1802276-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021411	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/14/18 03:42 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 UJ	1.2	Not Detected UJ
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#: 1802276-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021411	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/14/18 03:42 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	99	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	119	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1802276-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021405	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/14/18 11:48 AM

Compound	%Recovery
Freon 12	87
Freon 114	85
Chloromethane	78
Vinyl Chloride	75
1,3-Butadiene	81
Bromomethane	92
Chloroethane	92
Freon 11	90
Ethanol	70
Freon 113	85
1,1-Dichloroethene	80
Acetone	69 Q
2-Propanol	79
Carbon Disulfide	72
3-Chloropropene	79
Methylene Chloride	74
Methyl tert-butyl ether	83
trans-1,2-Dichloroethene	80
Hexane	80
1,1-Dichloroethane	78
2-Butanone (Methyl Ethyl Ketone)	78
cis-1,2-Dichloroethene	78
Tetrahydrofuran	76
Chloroform	82
1,1,1-Trichloroethane	89
Cyclohexane	77
Carbon Tetrachloride	95
2,2,4-Trimethylpentane	84
Benzene	82
1,2-Dichloroethane	102
Heptane	92
Trichloroethene	96
1,2-Dichloropropane	85
1,4-Dioxane	84
Bromodichloromethane	94
cis-1,3-Dichloropropene	91
4-Methyl-2-pentanone	90
Toluene	86
trans-1,3-Dichloropropene	93
1,1,2-Trichloroethane	85
Tetrachloroethene	102
2-Hexanone	85



Air Toxics

Client Sample ID: CCV

Lab ID#: 1802276-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021405	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/14/18 11:48 AM

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	94
Chlorobenzene	91
Ethyl Benzene	89
m,p-Xylene	82
o-Xylene	84
Styrene	85
Bromoform	109
Cumene	84
1,1,2,2-Tetrachloroethane	80
Propylbenzene	83
4-Ethyltoluene	89
1,3,5-Trimethylbenzene	87
1,2,4-Trimethylbenzene	95
1,3-Dichlorobenzene	86
1,4-Dichlorobenzene	88
alpha-Chlorotoluene	73
1,2-Dichlorobenzene	84
1,2,4-Trichlorobenzene	74
Hexachlorobutadiene	86

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1802276-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021406	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/14/18 12:24 PM

Compound	%Recovery	Method Limits
Freon 12	90	70-130
Freon 114	91	70-130
Chloromethane	82	70-130
Vinyl Chloride	79	70-130
1,3-Butadiene	78	70-130
Bromomethane	95	70-130
Chloroethane	94	70-130
Freon 11	95	70-130
Ethanol	83	70-130
Freon 113	88	70-130
1,1-Dichloroethene	83	70-130
Acetone	73	70-130
2-Propanol	85	70-130
Carbon Disulfide	65 Q	70-130
3-Chloropropene	76	70-130
Methylene Chloride	76	70-130
Methyl tert-butyl ether	87	70-130
trans-1,2-Dichloroethene	72	70-130
Hexane	82	70-130
1,1-Dichloroethane	81	70-130
2-Butanone (Methyl Ethyl Ketone)	81	70-130
cis-1,2-Dichloroethene	87	70-130
Tetrahydrofuran	80	70-130
Chloroform	83	70-130
1,1,1-Trichloroethane	91	70-130
Cyclohexane	82	70-130
Carbon Tetrachloride	97	70-130
2,2,4-Trimethylpentane	84	70-130
Benzene	87	70-130
1,2-Dichloroethane	106	70-130
Heptane	96	70-130
Trichloroethene	102	70-130
1,2-Dichloropropane	89	70-130
1,4-Dioxane	87	70-130
Bromodichloromethane	98	70-130
cis-1,3-Dichloropropene	90	70-130
4-Methyl-2-pentanone	99	70-130
Toluene	92	70-130
trans-1,3-Dichloropropene	97	70-130
1,1,2-Trichloroethane	85	70-130
Tetrachloroethene	106	70-130
2-Hexanone	93	70-130

Client Sample ID: LCS

Lab ID#: 1802276-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021406	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/14/18 12:24 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	104	70-130
1,2-Dibromoethane (EDB)	96	70-130
Chlorobenzene	91	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	87	70-130
o-Xylene	93	70-130
Styrene	91	70-130
Bromoform	116	70-130
Cumene	89	70-130
1,1,2,2-Tetrachloroethane	85	70-130
Propylbenzene	89	70-130
4-Ethyltoluene	92	70-130
1,3,5-Trimethylbenzene	91	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	95	70-130
1,4-Dichlorobenzene	96	70-130
alpha-Chlorotoluene	95	70-130
1,2-Dichlorobenzene	93	70-130
1,2,4-Trichlorobenzene	78	70-130
Hexachlorobutadiene	88	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1802276-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021407	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/14/18 12:59 PM

Compound	%Recovery	Method Limits
Freon 12	94	70-130
Freon 114	91	70-130
Chloromethane	84	70-130
Vinyl Chloride	81	70-130
1,3-Butadiene	82	70-130
Bromomethane	97	70-130
Chloroethane	95	70-130
Freon 11	97	70-130
Ethanol	85	70-130
Freon 113	88	70-130
1,1-Dichloroethene	85	70-130
Acetone	73	70-130
2-Propanol	87	70-130
Carbon Disulfide	66 Q	70-130
3-Chloropropene	79	70-130
Methylene Chloride	76	70-130
Methyl tert-butyl ether	86	70-130
trans-1,2-Dichloroethene	72	70-130
Hexane	82	70-130
1,1-Dichloroethane	82	70-130
2-Butanone (Methyl Ethyl Ketone)	80	70-130
cis-1,2-Dichloroethene	88	70-130
Tetrahydrofuran	80	70-130
Chloroform	85	70-130
1,1,1-Trichloroethane	94	70-130
Cyclohexane	83	70-130
Carbon Tetrachloride	98	70-130
2,2,4-Trimethylpentane	88	70-130
Benzene	86	70-130
1,2-Dichloroethane	102	70-130
Heptane	98	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	90	70-130
1,4-Dioxane	87	70-130
Bromodichloromethane	96	70-130
cis-1,3-Dichloropropene	87	70-130
4-Methyl-2-pentanone	97	70-130
Toluene	92	70-130
trans-1,3-Dichloropropene	97	70-130
1,1,2-Trichloroethane	86	70-130
Tetrachloroethene	105	70-130
2-Hexanone	93	70-130

Client Sample ID: LCSD

Lab ID#: 1802276-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v021407	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/14/18 12:59 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	101	70-130
1,2-Dibromoethane (EDB)	96	70-130
Chlorobenzene	91	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	87	70-130
o-Xylene	92	70-130
Styrene	91	70-130
Bromoform	115	70-130
Cumene	90	70-130
1,1,2,2-Tetrachloroethane	85	70-130
Propylbenzene	89	70-130
4-Ethyltoluene	92	70-130
1,3,5-Trimethylbenzene	90	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	94	70-130
1,4-Dichlorobenzene	95	70-130
alpha-Chlorotoluene	94	70-130
1,2-Dichlorobenzene	93	70-130
1,2,4-Trichlorobenzene	79	70-130
Hexachlorobutadiene	90	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	107	70-130