

2/2/2018

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1801365

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 1/24/2018 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

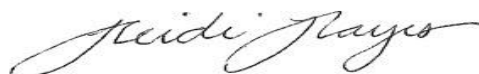
WORK ORDER #: 1801365

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. #	3ESP180496
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	01/24/2018	CONTACT:	Brian Whittaker
DATE COMPLETED:	02/02/2018		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (180975)	Modified TO-15	4.5 "Hg	5 psi
02A	U1 (180976)	Modified TO-15	5.0 "Hg	5 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: 02/02/18

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

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1801365

Two 6 Liter Summa Canister (100% Certified) samples were received on January 24, 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

There were no analytical discrepancies.

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 (180975)

Lab ID#: 1801365-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.50	0.78	2.5
Freon 11	0.16	0.21	0.89	1.2
Ethanol	0.79	1.0	1.5	2.0
Acetone	0.79	1.6	1.9	3.9
Benzene	0.16	0.20	0.50	0.63

Client Sample ID: U1 (180976)

Lab ID#: 1801365-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.47	0.80	2.3
Freon 11	0.16	0.23	0.90	1.3
Ethanol	0.80	2.7	1.5	5.1
Acetone	0.80	4.1	1.9	9.7
Hexane	0.16	0.85	0.57	3.0
2-Butanone (Methyl Ethyl Ketone)	0.80	0.95	2.4	2.8
Benzene	0.16	0.20	0.51	0.63
Heptane	0.16	0.76	0.66	3.1
Toluene	0.16	0.31	0.61	1.2



Air Toxics

Client Sample ID: D1 (180975)

Lab ID#: 1801365-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 20012517

Date of Collection: 1/18/18 1:30:00 PM

Dil. Factor: 1.58

Date of Analysis: 1/25/18 08:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.50	0.78	2.5
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.79	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.40	Not Detected
1,3-Butadiene	0.16	Not Detected	0.35	Not Detected
Bromomethane	0.79	Not Detected	3.1	Not Detected
Chloroethane	0.79	Not Detected	2.1	Not Detected
Freon 11	0.16	0.21	0.89	1.2
Ethanol	0.79	1.0	1.5	2.0
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.79	1.6	1.9	3.9
2-Propanol	0.79	Not Detected	1.9	Not Detected
Carbon Disulfide	0.79	Not Detected	2.5	Not Detected
3-Chloropropene	0.79	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.57	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Hexane	0.16	Not Detected	0.56	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.64	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.79	Not Detected	2.3	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Tetrahydrofuran	0.79	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.86	Not Detected
Cyclohexane	0.16	Not Detected	0.54	Not Detected
Carbon Tetrachloride	0.16	Not Detected	0.99	Not Detected
2,2,4-Trimethylpentane	0.79	Not Detected	3.7	Not Detected
Benzene	0.16	0.20	0.50	0.63
1,2-Dichloroethane	0.16	Not Detected	0.64	Not Detected
Heptane	0.16	Not Detected	0.65	Not Detected
Trichloroethene	0.16	Not Detected	0.85	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.73	Not Detected
1,4-Dioxane	0.16	Not Detected	0.57	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.72	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.65	Not Detected
Toluene	0.16	Not Detected	0.60	Not Detected
trans-1,3-Dichloropropene	0.16	Not Detected	0.72	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.86	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.79	Not Detected	3.2	Not Detected



Air Toxics

Client Sample ID: D1 (180975)

Lab ID#: 1801365-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012517	Date of Collection:	1/18/18 1:30:00 PM
Dil. Factor:	1.58	Date of Analysis:	1/25/18 08:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.73	Not Detected
Ethyl Benzene	0.16	Not Detected	0.69	Not Detected
m,p-Xylene	0.16	Not Detected	0.69	Not Detected
o-Xylene	0.16	Not Detected	0.69	Not Detected
Styrene	0.16	Not Detected	0.67	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.78	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.78	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.78	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.78	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.78	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
1,2,4-Trichlorobenzene	0.79	Not Detected	5.9	Not Detected
Hexachlorobutadiene	0.79	Not Detected	8.4	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: U1 (180976)

Lab ID#: 1801365-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012518	Date of Collection:	1/18/18 1:00:00 PM
Dil. Factor:	1.61	Date of Analysis:	1/25/18 08:46 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.47	0.80	2.3
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.80	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.16	0.23	0.90	1.3
Ethanol	0.80	2.7	1.5	5.1
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.80	4.1	1.9	9.7
2-Propanol	0.80	Not Detected	2.0	Not Detected
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
3-Chloropropene	0.80	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.58	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Hexane	0.16	0.85	0.57	3.0
1,1-Dichloroethane	0.16	Not Detected	0.65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	0.95	2.4	2.8
cis-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Cyclohexane	0.16	Not Detected	0.55	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.80	Not Detected	3.8	Not Detected
Benzene	0.16	0.20	0.51	0.63
1,2-Dichloroethane	0.16	Not Detected	0.65	Not Detected
Heptane	0.16	0.76	0.66	3.1
Trichloroethene	0.16	Not Detected	0.86	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.74	Not Detected
1,4-Dioxane	0.16	Not Detected	0.58	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.66	Not Detected
Toluene	0.16	0.31	0.61	1.2
trans-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.80	Not Detected	3.3	Not Detected



Air Toxics

Client Sample ID: U1 (180976)

Lab ID#: 1801365-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012518	Date of Collection:	1/18/18 1:00:00 PM
Dil. Factor:	1.61	Date of Analysis:	1/25/18 08:46 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	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	Not Detected	0.70	Not Detected
m,p-Xylene	0.16	Not Detected	0.70	Not Detected
o-Xylene	0.16	Not Detected	0.70	Not Detected
Styrene	0.16	Not Detected	0.68	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.79	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.79	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.79	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	6.0	Not Detected
Hexachlorobutadiene	0.80	Not Detected	8.6	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1801365-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: 20012506

Date of Collection: NA

Dil. Factor: 1.00

Date of Analysis: 1/25/18 12:29 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#: 1801365-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012506	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/25/18 12:29 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	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: CCV

Lab ID#: 1801365-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/25/18 09:34 AM

Compound	%Recovery
Freon 12	108
Freon 114	109
Chloromethane	116
Vinyl Chloride	106
1,3-Butadiene	100
Bromomethane	112
Chloroethane	112
Freon 11	113
Ethanol	96
Freon 113	105
1,1-Dichloroethene	108
Acetone	96
2-Propanol	97
Carbon Disulfide	107
3-Chloropropene	127
Methylene Chloride	103
Methyl tert-butyl ether	106
trans-1,2-Dichloroethene	106
Hexane	99
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	105
Tetrahydrofuran	96
Chloroform	89
1,1,1-Trichloroethane	106
Cyclohexane	101
Carbon Tetrachloride	101
2,2,4-Trimethylpentane	98
Benzene	97
1,2-Dichloroethane	101
Heptane	93
Trichloroethene	100
1,2-Dichloropropane	95
1,4-Dioxane	98
Bromodichloromethane	103
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	93
Toluene	98
trans-1,3-Dichloropropene	99
1,1,2-Trichloroethane	102
Tetrachloroethene	101
2-Hexanone	95

Client Sample ID: CCV

Lab ID#: 1801365-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/25/18 09:34 AM

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	100
Chlorobenzene	104
Ethyl Benzene	102
m,p-Xylene	101
o-Xylene	101
Styrene	103
Bromoform	103
Cumene	102
1,1,2,2-Tetrachloroethane	100
Propylbenzene	103
4-Ethyltoluene	106
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	105
1,3-Dichlorobenzene	105
1,4-Dichlorobenzene	105
alpha-Chlorotoluene	110
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	96
Hexachlorobutadiene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: LCS

Lab ID#: 1801365-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/25/18 10:13 AM

Compound	%Recovery	Method Limits
Freon 12	100	70-130
Freon 114	105	70-130
Chloromethane	104	70-130
Vinyl Chloride	99	70-130
1,3-Butadiene	90	70-130
Bromomethane	107	70-130
Chloroethane	107	70-130
Freon 11	108	70-130
Ethanol	97	70-130
Freon 113	95	70-130
1,1-Dichloroethene	98	70-130
Acetone	91	70-130
2-Propanol	94	70-130
Carbon Disulfide	87	70-130
3-Chloropropene	103	70-130
Methylene Chloride	93	70-130
Methyl tert-butyl ether	98	70-130
trans-1,2-Dichloroethene	84	70-130
Hexane	89	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	94	70-130
cis-1,2-Dichloroethene	106	70-130
Tetrahydrofuran	97	70-130
Chloroform	86	70-130
1,1,1-Trichloroethane	99	70-130
Cyclohexane	94	70-130
Carbon Tetrachloride	76	70-130
2,2,4-Trimethylpentane	94	70-130
Benzene	91	70-130
1,2-Dichloroethane	97	70-130
Heptane	88	70-130
Trichloroethene	98	70-130
1,2-Dichloropropane	96	70-130
1,4-Dioxane	92	70-130
Bromodichloromethane	104	70-130
cis-1,3-Dichloropropene	93	70-130
4-Methyl-2-pentanone	88	70-130
Toluene	96	70-130
trans-1,3-Dichloropropene	96	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	102	70-130
2-Hexanone	80	70-130

Client Sample ID: LCS

Lab ID#: 1801365-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/25/18 10:13 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	104	70-130
1,2-Dibromoethane (EDB)	100	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	100	70-130
m,p-Xylene	100	70-130
o-Xylene	101	70-130
Styrene	101	70-130
Bromoform	106	70-130
Cumene	102	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	106	70-130
1,3,5-Trimethylbenzene	101	70-130
1,2,4-Trimethylbenzene	100	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	101	70-130
alpha-Chlorotoluene	109	70-130
1,2-Dichlorobenzene	102	70-130
1,2,4-Trichlorobenzene	89	70-130
Hexachlorobutadiene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130

Client Sample ID: LCSD

Lab ID#: 1801365-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/25/18 10:53 AM

Compound	%Recovery	Method Limits
Freon 12	100	70-130
Freon 114	104	70-130
Chloromethane	100	70-130
Vinyl Chloride	98	70-130
1,3-Butadiene	89	70-130
Bromomethane	107	70-130
Chloroethane	106	70-130
Freon 11	106	70-130
Ethanol	94	70-130
Freon 113	95	70-130
1,1-Dichloroethene	100	70-130
Acetone	88	70-130
2-Propanol	94	70-130
Carbon Disulfide	87	70-130
3-Chloropropene	95	70-130
Methylene Chloride	94	70-130
Methyl tert-butyl ether	98	70-130
trans-1,2-Dichloroethene	86	70-130
Hexane	89	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	93	70-130
cis-1,2-Dichloroethene	104	70-130
Tetrahydrofuran	89	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	97	70-130
Cyclohexane	92	70-130
Carbon Tetrachloride	76	70-130
2,2,4-Trimethylpentane	92	70-130
Benzene	93	70-130
1,2-Dichloroethane	98	70-130
Heptane	86	70-130
Trichloroethene	99	70-130
1,2-Dichloropropane	95	70-130
1,4-Dioxane	93	70-130
Bromodichloromethane	105	70-130
cis-1,3-Dichloropropene	93	70-130
4-Methyl-2-pentanone	89	70-130
Toluene	96	70-130
trans-1,3-Dichloropropene	97	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	104	70-130
2-Hexanone	81	70-130

Client Sample ID: LCSD

Lab ID#: 1801365-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20012504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/25/18 10:53 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	105	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	101	70-130
m,p-Xylene	98	70-130
o-Xylene	101	70-130
Styrene	100	70-130
Bromoform	106	70-130
Cumene	101	70-130
1,1,2,2-Tetrachloroethane	102	70-130
Propylbenzene	103	70-130
4-Ethyltoluene	103	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	98	70-130
1,3-Dichlorobenzene	100	70-130
1,4-Dichlorobenzene	100	70-130
alpha-Chlorotoluene	107	70-130
1,2-Dichlorobenzene	99	70-130
1,2,4-Trichlorobenzene	86	70-130
Hexachlorobutadiene	96	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130