

7/6/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1706445

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 6/23/2017 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 #: 1706445

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. #	3ESP171128
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	06/23/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	07/06/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172342)	Modified TO-15	6.7 "Hg	5.2 psi
02A	U1 (172343)	Modified TO-15	7.6 "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: 07/06/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1706445

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on June 23, 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	$\leq 30\%$ RSD with 2 compounds allowed out to <math>< 40\%</math> RSD	$\leq 30\%$ RSD with 4 compounds allowed out to <math>< 40\%</math> 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 (172342)

Lab ID#: 1706445-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.42	0.86	2.0
Freon 11	0.17	0.20	0.98	1.1
Ethanol	0.87	5.6	1.6	10
Acetone	0.87	6.8	2.1	16
2-Propanol	0.87	3.4	2.1	8.3
Hexane	0.17	0.43	0.61	1.5
2-Butanone (Methyl Ethyl Ketone)	0.87	1.2	2.6	3.4
Heptane	0.17	0.47	0.71	1.9
Toluene	0.17	0.23	0.66	0.87

Client Sample ID: U1 (172343)

Lab ID#: 1706445-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.38	0.88	1.8
Freon 11	0.18	0.18	0.99	1.0
Ethanol	0.88	3.5	1.7	6.6
Acetone	0.88	5.0	2.1	12
2-Propanol	0.88	3.3	2.2	8.1
Carbon Disulfide	0.88	1.5	2.8	4.6
Hexane	0.18	0.34	0.62	1.2
Heptane	0.18	0.36	0.72	1.5



Air Toxics

Client Sample ID: D1 (172342)

Lab ID#: 1706445-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062618	Date of Collection:	6/19/17 1:55:00 PM
Dil. Factor:	1.74	Date of Analysis:	6/26/17 10:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.42	0.86	2.0
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.87	Not Detected UJ	1.8	Not Detected UJ
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.87	Not Detected	3.4	Not Detected
Chloroethane	0.87	Not Detected	2.3	Not Detected
Freon 11	0.17	0.20	0.98	1.1
Ethanol	0.87	5.6	1.6	10
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Acetone	0.87	6.8	2.1	16
2-Propanol	0.87	3.4	2.1	8.3
Carbon Disulfide	0.87	Not Detected	2.7	Not Detected
3-Chloropropene	0.87	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Hexane	0.17	0.43	0.61	1.5
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.87	1.2	2.6	3.4
cis-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Tetrahydrofuran	0.87	Not Detected	2.6	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.95	Not Detected
Cyclohexane	0.17	Not Detected	0.60	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.87	Not Detected	4.1	Not Detected
Benzene	0.17	Not Detected	0.56	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	0.47	0.71	1.9
Trichloroethene	0.17	Not Detected	0.94	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.80	Not Detected
1,4-Dioxane	0.17	Not Detected	0.63	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.71	Not Detected
Toluene	0.17	0.23	0.66	0.87
trans-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.95	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.87	Not Detected	3.6	Not Detected



Client Sample ID: D1 (172342)

Lab ID#: 1706445-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062618	Date of Collection:	6/19/17 1:55:00 PM
Dil. Factor:	1.74	Date of Analysis:	6/26/17 10:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.80	Not Detected
Ethyl Benzene	0.17	Not Detected	0.76	Not Detected
m,p-Xylene	0.17	Not Detected	0.76	Not Detected
o-Xylene	0.17	Not Detected	0.76	Not Detected
Styrene	0.17	Not Detected	0.74	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.86	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	0.90	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.87	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.87	Not Detected	9.3	Not Detected

UJ = Analyte associated with low bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	112	70-130



Air Toxics

Client Sample ID: U1 (172343)

Lab ID#: 1706445-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062619	Date of Collection:	6/19/17 1:25:00 PM
Dil. Factor:	1.77	Date of Analysis:	6/27/17 07:47 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.38	0.88	1.8
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.88	Not Detected UJ	1.8	Not Detected UJ
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	0.18	0.99	1.0
Ethanol	0.88	3.5	1.7	6.6
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Acetone	0.88	5.0	2.1	12
2-Propanol	0.88	3.3	2.2	8.1
Carbon Disulfide	0.88	1.5	2.8	4.6
3-Chloropropene	0.88	Not Detected	2.8	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.64	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Hexane	0.18	0.34	0.62	1.2
1,1-Dichloroethane	0.18	Not Detected	0.72	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.96	Not Detected
Cyclohexane	0.18	Not Detected	0.61	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
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	0.72	Not Detected
Heptane	0.18	0.36	0.72	1.5
Trichloroethene	0.18	Not Detected	0.95	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.82	Not Detected
1,4-Dioxane	0.18	Not Detected	0.64	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.80	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
Toluene	0.18	Not Detected	0.67	Not Detected
trans-1,3-Dichloropropene	0.18	Not Detected	0.80	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.96	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.88	Not Detected	3.6	Not Detected



Client Sample ID: U1 (172343)

Lab ID#: 1706445-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062619	Date of Collection: 6/19/17 1:25:00 PM
Dil. Factor:	1.77	Date of Analysis: 6/27/17 07:47 AM

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	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.81	Not Detected
Ethyl Benzene	0.18	Not Detected	0.77	Not Detected
m,p-Xylene	0.18	Not Detected	0.77	Not Detected
o-Xylene	0.18	Not Detected	0.77	Not Detected
Styrene	0.18	Not Detected	0.75	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.87	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.87	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.87	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.87	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.87	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.92	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.88	Not Detected	6.6	Not Detected
Hexachlorobutadiene	0.88	Not Detected	9.4	Not Detected

UJ = Analyte associated with low bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	114	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1706445-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062605	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/26/17 11:56 AM

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 UJ	1.0	Not Detected UJ
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#: 1706445-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062605	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/26/17 11:56 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	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	114	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	113	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1706445-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/26/17 09:23 AM

Compound	%Recovery
Freon 12	84
Freon 114	77
Chloromethane	65 Q
Vinyl Chloride	80
1,3-Butadiene	83
Bromomethane	123
Chloroethane	80
Freon 11	83
Ethanol	91
Freon 113	76
1,1-Dichloroethene	74
Acetone	77
2-Propanol	90
Carbon Disulfide	75
3-Chloropropene	75
Methylene Chloride	76
Methyl tert-butyl ether	81
trans-1,2-Dichloroethene	74
Hexane	83
1,1-Dichloroethane	79
2-Butanone (Methyl Ethyl Ketone)	79
cis-1,2-Dichloroethene	77
Tetrahydrofuran	89
Chloroform	80
1,1,1-Trichloroethane	80
Cyclohexane	77
Carbon Tetrachloride	71
2,2,4-Trimethylpentane	83
Benzene	72
1,2-Dichloroethane	83
Heptane	84
Trichloroethene	73
1,2-Dichloropropane	76
1,4-Dioxane	77
Bromodichloromethane	77
cis-1,3-Dichloropropene	81
4-Methyl-2-pentanone	88
Toluene	78
trans-1,3-Dichloropropene	78
1,1,2-Trichloroethane	72
Tetrachloroethene	72
2-Hexanone	85

Client Sample ID: CCV

Lab ID#: 1706445-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/26/17 09:23 AM

Compound	%Recovery
Dibromochloromethane	74
1,2-Dibromoethane (EDB)	73
Chlorobenzene	79
Ethyl Benzene	84
m,p-Xylene	97
o-Xylene	100
Styrene	97
Bromoform	77
Cumene	103
1,1,2,2-Tetrachloroethane	73
Propylbenzene	115
4-Ethyltoluene	116
1,3,5-Trimethylbenzene	104
1,2,4-Trimethylbenzene	115
1,3-Dichlorobenzene	97
1,4-Dichlorobenzene	94
alpha-Chlorotoluene	92
1,2-Dichlorobenzene	93
1,2,4-Trichlorobenzene	98
Hexachlorobutadiene	108

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	111	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1706445-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/26/17 10:13 AM

Compound	%Recovery	Method Limits
Freon 12	92	70-130
Freon 114	85	70-130
Chloromethane	72	70-130
Vinyl Chloride	91	70-130
1,3-Butadiene	89	70-130
Bromomethane	135 Q	70-130
Chloroethane	88	70-130
Freon 11	90	70-130
Ethanol	85	70-130
Freon 113	84	70-130
1,1-Dichloroethene	82	70-130
Acetone	86	70-130
2-Propanol	102	70-130
Carbon Disulfide	83	70-130
3-Chloropropene	80	70-130
Methylene Chloride	81	70-130
Methyl tert-butyl ether	88	70-130
trans-1,2-Dichloroethene	88	70-130
Hexane	92	70-130
1,1-Dichloroethane	86	70-130
2-Butanone (Methyl Ethyl Ketone)	89	70-130
cis-1,2-Dichloroethene	76	70-130
Tetrahydrofuran	99	70-130
Chloroform	87	70-130
1,1,1-Trichloroethane	87	70-130
Cyclohexane	84	70-130
Carbon Tetrachloride	65 Q	70-130
2,2,4-Trimethylpentane	87	70-130
Benzene	74	70-130
1,2-Dichloroethane	85	70-130
Heptane	85	70-130
Trichloroethene	77	70-130
1,2-Dichloropropane	79	70-130
1,4-Dioxane	86	70-130
Bromodichloromethane	81	70-130
cis-1,3-Dichloropropene	89	70-130
4-Methyl-2-pentanone	98	70-130
Toluene	83	70-130
trans-1,3-Dichloropropene	81	70-130
1,1,2-Trichloroethane	77	70-130
Tetrachloroethene	77	70-130
2-Hexanone	102	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1706445-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/26/17 10:13 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	79	70-130
1,2-Dibromoethane (EDB)	78	70-130
Chlorobenzene	84	70-130
Ethyl Benzene	91	70-130
m,p-Xylene	104	70-130
o-Xylene	109	70-130
Styrene	108	70-130
Bromoform	82	70-130
Cumene	110	70-130
1,1,2,2-Tetrachloroethane	80	70-130
Propylbenzene	127	70-130
4-Ethyltoluene	132 Q	70-130
1,3,5-Trimethylbenzene	114	70-130
1,2,4-Trimethylbenzene	129	70-130
1,3-Dichlorobenzene	107	70-130
1,4-Dichlorobenzene	108	70-130
alpha-Chlorotoluene	104	70-130
1,2-Dichlorobenzene	104	70-130
1,2,4-Trichlorobenzene	111	70-130
Hexachlorobutadiene	114	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	115	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1706445-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/26/17 11:05 AM

Compound	%Recovery	Method Limits
Freon 12	90	70-130
Freon 114	84	70-130
Chloromethane	72	70-130
Vinyl Chloride	88	70-130
1,3-Butadiene	88	70-130
Bromomethane	134 Q	70-130
Chloroethane	90	70-130
Freon 11	88	70-130
Ethanol	83	70-130
Freon 113	81	70-130
1,1-Dichloroethene	80	70-130
Acetone	83	70-130
2-Propanol	100	70-130
Carbon Disulfide	81	70-130
3-Chloropropene	79	70-130
Methylene Chloride	81	70-130
Methyl tert-butyl ether	88	70-130
trans-1,2-Dichloroethene	87	70-130
Hexane	88	70-130
1,1-Dichloroethane	84	70-130
2-Butanone (Methyl Ethyl Ketone)	91	70-130
cis-1,2-Dichloroethene	75	70-130
Tetrahydrofuran	98	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	86	70-130
Cyclohexane	83	70-130
Carbon Tetrachloride	66 Q	70-130
2,2,4-Trimethylpentane	86	70-130
Benzene	73	70-130
1,2-Dichloroethane	83	70-130
Heptane	87	70-130
Trichloroethene	76	70-130
1,2-Dichloropropane	80	70-130
1,4-Dioxane	85	70-130
Bromodichloromethane	81	70-130
cis-1,3-Dichloropropene	89	70-130
4-Methyl-2-pentanone	97	70-130
Toluene	82	70-130
trans-1,3-Dichloropropene	80	70-130
1,1,2-Trichloroethane	76	70-130
Tetrachloroethene	74	70-130
2-Hexanone	99	70-130

Client Sample ID: LCSD

Lab ID#: 1706445-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/26/17 11:05 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	78	70-130
1,2-Dibromoethane (EDB)	79	70-130
Chlorobenzene	82	70-130
Ethyl Benzene	88	70-130
m,p-Xylene	101	70-130
o-Xylene	103	70-130
Styrene	106	70-130
Bromoform	81	70-130
Cumene	106	70-130
1,1,2,2-Tetrachloroethane	76	70-130
Propylbenzene	122	70-130
4-Ethyltoluene	126	70-130
1,3,5-Trimethylbenzene	109	70-130
1,2,4-Trimethylbenzene	123	70-130
1,3-Dichlorobenzene	104	70-130
1,4-Dichlorobenzene	102	70-130
alpha-Chlorotoluene	99	70-130
1,2-Dichlorobenzene	98	70-130
1,2,4-Trichlorobenzene	110	70-130
Hexachlorobutadiene	111	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	113	70-130