

8/11/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1707465

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 7/31/2017 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 #: 1707465

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. #	3ESP180013
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	07/31/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	08/11/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172354)	Modified TO-15	6.0 "Hg	5 psi
02A	U1 (172355)	Modified TO-15	6.5 "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: 08/11/17

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

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

LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1707465

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on July 31, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

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

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

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

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

Definition of Data Qualifying Flags

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

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

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

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

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

Client Sample ID: D1 (172354)

Lab ID#: 1707465-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.46	0.83	2.3
Freon 11	0.17	0.24	0.94	1.3
Ethanol	0.84	3.6	1.6	6.8
Acetone	0.84	8.2	2.0	20
2-Propanol	0.84	1.2	2.1	3.0
trans-1,2-Dichloroethene	0.17	0.32	0.67	1.2
Hexane	0.17	0.55	0.59	1.9
2-Butanone (Methyl Ethyl Ketone)	0.84	1.5	2.5	4.5
Heptane	0.17	0.33	0.69	1.3
Toluene	0.17	0.42	0.63	1.6

Client Sample ID: U1 (172355)

Lab ID#: 1707465-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.40	0.84	2.0
Freon 11	0.17	0.23	0.96	1.3
Ethanol	0.86	3.7	1.6	6.9
Acetone	0.86	7.5	2.0	18
2-Propanol	0.86	2.6	2.1	6.5
Hexane	0.17	0.22	0.60	0.79
2-Butanone (Methyl Ethyl Ketone)	0.86	1.7	2.5	4.9
Toluene	0.17	0.44	0.64	1.6



Air Toxics

Client Sample ID: D1 (172354)

Lab ID#: 1707465-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080111	Date of Collection:	7/25/17 1:55:00 PM
Dil. Factor:	1.68	Date of Analysis:	8/1/17 01:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.46	0.83	2.3
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.84	Not Detected UJ	1.7	Not Detected UJ
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.24	0.94	1.3
Ethanol	0.84	3.6	1.6	6.8
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	8.2	2.0	20
2-Propanol	0.84	1.2	2.1	3.0
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.60	Not Detected
trans-1,2-Dichloroethene	0.17	0.32	0.67	1.2
Hexane	0.17	0.55	0.59	1.9
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.5	2.5	4.5
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Cyclohexane	0.17	Not Detected	0.58	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.84	Not Detected	3.9	Not Detected
Benzene	0.17	Not Detected	0.54	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	0.33	0.69	1.3
Trichloroethene	0.17	Not Detected	0.90	Not Detected
1,2-Dichloropropane	0.17	Not Detected UJ	0.78	Not Detected UJ
1,4-Dioxane	0.17	Not Detected	0.60	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.69	Not Detected
Toluene	0.17	0.42	0.63	1.6
trans-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.84	Not Detected	3.4	Not Detected



Client Sample ID: D1 (172354)

Lab ID#: 1707465-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080111	Date of Collection:	7/25/17 1:55:00 PM
Dil. Factor:	1.68	Date of Analysis:	8/1/17 01:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	Not Detected	0.73	Not Detected
o-Xylene	0.17	Not Detected	0.73	Not Detected
Styrene	0.17	Not Detected	0.72	Not Detected
Bromoform	0.17	Not Detected	1.7	Not Detected
Cumene	0.17	Not Detected	0.82	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.82	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.82	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.82	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.82	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	0.87	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	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	106	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: U1 (172355)

Lab ID#: 1707465-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080112	Date of Collection:	7/25/17 1:40:00 PM
Dil. Factor:	1.71	Date of Analysis:	8/1/17 02:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.40	0.84	2.0
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	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	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.2	Not Detected
Freon 11	0.17	0.23	0.96	1.3
Ethanol	0.86	3.7	1.6	6.9
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	7.5	2.0	18
2-Propanol	0.86	2.6	2.1	6.5
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	0.22	0.60	0.79
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	1.7	2.5	4.9
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	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Cyclohexane	0.17	Not Detected	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
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	0.69	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 UJ	0.79	Not Detected UJ
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	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	0.44	0.64	1.6
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected



Client Sample ID: U1 (172355)

Lab ID#: 1707465-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080112	Date of Collection:	7/25/17 1:40:00 PM
Dil. Factor:	1.71	Date of Analysis:	8/1/17 02:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.73	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	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.1	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	106	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1707465-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080110	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/1/17 12:26 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 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 UJ	0.46	Not Detected UJ
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#: 1707465-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080110	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/1/17 12:26 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	107	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1707465-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/1/17 06:41 AM

Compound	%Recovery
Freon 12	98
Freon 114	100
Chloromethane	69 Q
Vinyl Chloride	76
1,3-Butadiene	72
Bromomethane	90
Chloroethane	84
Freon 11	105
Ethanol	71
Freon 113	103
1,1-Dichloroethene	93
Acetone	74
2-Propanol	72
Carbon Disulfide	86
3-Chloropropene	91
Methylene Chloride	88
Methyl tert-butyl ether	95
trans-1,2-Dichloroethene	91
Hexane	78
1,1-Dichloroethane	87
2-Butanone (Methyl Ethyl Ketone)	90
cis-1,2-Dichloroethene	95
Tetrahydrofuran	70
Chloroform	96
1,1,1-Trichloroethane	104
Cyclohexane	91
Carbon Tetrachloride	116
2,2,4-Trimethylpentane	75
Benzene	81
1,2-Dichloroethane	92
Heptane	72
Trichloroethene	90
1,2-Dichloropropane	69 Q
1,4-Dioxane	89
Bromodichloromethane	92
cis-1,3-Dichloropropene	87
4-Methyl-2-pentanone	70
Toluene	86
trans-1,3-Dichloropropene	94
1,1,2-Trichloroethane	90
Tetrachloroethene	100
2-Hexanone	81



Air Toxics

Client Sample ID: CCV

Lab ID#: 1707465-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/1/17 06:41 AM

Compound	%Recovery
Dibromochloromethane	100
1,2-Dibromoethane (EDB)	94
Chlorobenzene	91
Ethyl Benzene	94
m,p-Xylene	97
o-Xylene	98
Styrene	98
Bromoform	106
Cumene	101
1,1,2,2-Tetrachloroethane	82
Propylbenzene	99
4-Ethyltoluene	109
1,3,5-Trimethylbenzene	103
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	101
1,4-Dichlorobenzene	101
alpha-Chlorotoluene	88
1,2-Dichlorobenzene	100
1,2,4-Trichlorobenzene	111
Hexachlorobutadiene	114

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	110	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1707465-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080105	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/1/17 08:36 AM

Compound	%Recovery	Method Limits
Freon 12	102	70-130
Freon 114	108	70-130
Chloromethane	79	70-130
Vinyl Chloride	80	70-130
1,3-Butadiene	72	70-130
Bromomethane	90	70-130
Chloroethane	93	70-130
Freon 11	111	70-130
Ethanol	76	70-130
Freon 113	103	70-130
1,1-Dichloroethene	93	70-130
Acetone	74	70-130
2-Propanol	77	70-130
Carbon Disulfide	76	70-130
3-Chloropropene	84	70-130
Methylene Chloride	88	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	82	70-130
Hexane	80	70-130
1,1-Dichloroethane	85	70-130
2-Butanone (Methyl Ethyl Ketone)	87	70-130
cis-1,2-Dichloroethene	102	70-130
Tetrahydrofuran	67 Q	70-130
Chloroform	98	70-130
1,1,1-Trichloroethane	105	70-130
Cyclohexane	94	70-130
Carbon Tetrachloride	91	70-130
2,2,4-Trimethylpentane	72	70-130
Benzene	89	70-130
1,2-Dichloroethane	100	70-130
Heptane	79	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	77	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	104	70-130
cis-1,3-Dichloropropene	90	70-130
4-Methyl-2-pentanone	76	70-130
Toluene	97	70-130
trans-1,3-Dichloropropene	101	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	108	70-130
2-Hexanone	86	70-130



Client Sample ID: LCS

Lab ID#: 1707465-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080105	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/1/17 08:36 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	100	70-130
Chlorobenzene	95	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	103	70-130
o-Xylene	103	70-130
Styrene	104	70-130
Bromoform	109	70-130
Cumene	105	70-130
1,1,2,2-Tetrachloroethane	86	70-130
Propylbenzene	104	70-130
4-Ethyltoluene	112	70-130
1,3,5-Trimethylbenzene	108	70-130
1,2,4-Trimethylbenzene	107	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	103	70-130
alpha-Chlorotoluene	98	70-130
1,2-Dichlorobenzene	101	70-130
1,2,4-Trichlorobenzene	101	70-130
Hexachlorobutadiene	105	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1707465-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080106	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	8/1/17 09:19 AM

Compound	%Recovery	Method Limits
Freon 12	101	70-130
Freon 114	105	70-130
Chloromethane	69 Q	70-130
Vinyl Chloride	76	70-130
1,3-Butadiene	72	70-130
Bromomethane	90	70-130
Chloroethane	86	70-130
Freon 11	108	70-130
Ethanol	74	70-130
Freon 113	101	70-130
1,1-Dichloroethene	93	70-130
Acetone	70	70-130
2-Propanol	76	70-130
Carbon Disulfide	74	70-130
3-Chloropropene	83	70-130
Methylene Chloride	87	70-130
Methyl tert-butyl ether	94	70-130
trans-1,2-Dichloroethene	76	70-130
Hexane	76	70-130
1,1-Dichloroethane	84	70-130
2-Butanone (Methyl Ethyl Ketone)	90	70-130
cis-1,2-Dichloroethene	100	70-130
Tetrahydrofuran	66 Q	70-130
Chloroform	95	70-130
1,1,1-Trichloroethane	103	70-130
Cyclohexane	91	70-130
Carbon Tetrachloride	88	70-130
2,2,4-Trimethylpentane	70	70-130
Benzene	87	70-130
1,2-Dichloroethane	98	70-130
Heptane	76	70-130
Trichloroethene	98	70-130
1,2-Dichloropropane	75	70-130
1,4-Dioxane	89	70-130
Bromodichloromethane	100	70-130
cis-1,3-Dichloropropene	89	70-130
4-Methyl-2-pentanone	74	70-130
Toluene	94	70-130
trans-1,3-Dichloropropene	100	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	109	70-130
2-Hexanone	85	70-130

Client Sample ID: LCSD

Lab ID#: 1707465-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e080106	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 8/1/17 09:19 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	95	70-130
Ethyl Benzene	99	70-130
m,p-Xylene	104	70-130
o-Xylene	104	70-130
Styrene	105	70-130
Bromoform	112	70-130
Cumene	107	70-130
1,1,2,2-Tetrachloroethane	87	70-130
Propylbenzene	106	70-130
4-Ethyltoluene	110	70-130
1,3,5-Trimethylbenzene	106	70-130
1,2,4-Trimethylbenzene	106	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	104	70-130
alpha-Chlorotoluene	101	70-130
1,2-Dichlorobenzene	101	70-130
1,2,4-Trichlorobenzene	104	70-130
Hexachlorobutadiene	108	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	105	70-130