

10/30/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1710336

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 10/17/2017 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 #: 1710336

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. #	3ESP180214
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	10/17/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	10/27/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172979)	Modified TO-15	5.1 "Hg	5 psi
02A	U1 (172980)	Modified TO-15	4.9 "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: 10/30/17

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# 1710336

Two 6 Liter Summa Canister (100% Certified) samples were received on October 17, 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. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

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 (172979)

Lab ID#: 1710336-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.52	0.80	2.6
Freon 11	0.16	0.22	0.90	1.2
Ethanol	0.80	12	1.5	22
Acetone	0.80	8.6	1.9	20
2-Propanol	0.80	3.1	2.0	7.7
Methylene Chloride	0.32	0.33	1.1	1.1
Hexane	0.16	0.66	0.57	2.3
Heptane	0.16	0.68	0.66	2.8
Toluene	0.16	0.46	0.61	1.8

Client Sample ID: U1 (172980)

Lab ID#: 1710336-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.52	0.78	2.5
Freon 11	0.16	0.22	0.89	1.2
Ethanol	0.79	2.0	1.5	3.7
Acetone	0.79	2.2	1.9	5.1
2-Propanol	0.79	1.4	1.9	3.4
Hexane	0.16	0.28	0.56	0.98
Toluene	0.16	1.2	0.60	4.5



Air Toxics

Client Sample ID: D1 (172979)

Lab ID#: 1710336-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101920	Date of Collection:	10/11/17 1:20:00 PM
Dil. Factor:	1.61	Date of Analysis:	10/19/17 10:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.52	0.80	2.6
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	0.22	0.90	1.2
Ethanol	0.80	12	1.5	22
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.80	8.6	1.9	20
2-Propanol	0.80	3.1	2.0	7.7
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
3-Chloropropene	0.80	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	0.33	1.1	1.1
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	0.66	0.57	2.3
1,1-Dichloroethane	0.16	Not Detected	0.65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	Not Detected	2.4	Not Detected
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	Not Detected	0.51	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.65	Not Detected
Heptane	0.16	0.68	0.66	2.8
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	0.46	0.61	1.8
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

Client Sample ID: D1 (172979)

Lab ID#: 1710336-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101920	Date of Collection:	10/11/17 1:20:00 PM
Dil. Factor:	1.61	Date of Analysis:	10/19/17 10:50 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	118	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	85	70-130



Air Toxics

Client Sample ID: U1 (172980)

Lab ID#: 1710336-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101921	Date of Collection:	10/11/17 1:10:00 PM
Dil. Factor:	1.58	Date of Analysis:	10/20/17 07:29 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.52	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	0.22	0.89	1.2
Ethanol	0.79	2.0	1.5	3.7
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.79	2.2	1.9	5.1
2-Propanol	0.79	1.4	1.9	3.4
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	0.28	0.56	0.98
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	Not Detected	0.50	Not Detected
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	1.2	0.60	4.5
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



Client Sample ID: U1 (172980)

Lab ID#: 1710336-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101921	Date of Collection:	10/11/17 1:10:00 PM
Dil. Factor:	1.58	Date of Analysis:	10/20/17 07:29 AM

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	121	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	88	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1710336-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101906	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	10/19/17 12:47 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#: 1710336-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101906	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/19/17 12:47 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	115	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	88	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1710336-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/19/17 10:09 AM

Compound	%Recovery
Freon 12	108
Freon 114	100
Chloromethane	113
Vinyl Chloride	118
1,3-Butadiene	109
Bromomethane	128
Chloroethane	113
Freon 11	107
Ethanol	122
Freon 113	98
1,1-Dichloroethene	104
Acetone	97
2-Propanol	109
Carbon Disulfide	113
3-Chloropropene	104
Methylene Chloride	105
Methyl tert-butyl ether	104
trans-1,2-Dichloroethene	102
Hexane	106
1,1-Dichloroethane	114
2-Butanone (Methyl Ethyl Ketone)	107
cis-1,2-Dichloroethene	105
Tetrahydrofuran	128
Chloroform	82
1,1,1-Trichloroethane	99
Cyclohexane	104
Carbon Tetrachloride	101
2,2,4-Trimethylpentane	170 Q
Benzene	107
1,2-Dichloroethane	104
Heptane	107
Trichloroethene	94
1,2-Dichloropropane	110
1,4-Dioxane	99
Bromodichloromethane	100
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	108
Toluene	105
trans-1,3-Dichloropropene	101
1,1,2-Trichloroethane	103
Tetrachloroethene	91
2-Hexanone	104



Air Toxics

Client Sample ID: CCV

Lab ID#: 1710336-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/19/17 10:09 AM

Compound	%Recovery
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	98
Chlorobenzene	100
Ethyl Benzene	99
m,p-Xylene	100
o-Xylene	101
Styrene	98
Bromoform	96
Cumene	101
1,1,2,2-Tetrachloroethane	106
Propylbenzene	105
4-Ethyltoluene	101
1,3,5-Trimethylbenzene	108
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	103
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	96
Hexachlorobutadiene	92

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1710336-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101903	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	10/19/17 10:49 AM

Compound	%Recovery	Method Limits
Freon 12	113	70-130
Freon 114	108	70-130
Chloromethane	118	70-130
Vinyl Chloride	126	70-130
1,3-Butadiene	112	70-130
Bromomethane	129	70-130
Chloroethane	120	70-130
Freon 11	114	70-130
Ethanol	138 Q	70-130
Freon 113	99	70-130
1,1-Dichloroethene	108	70-130
Acetone	101	70-130
2-Propanol	119	70-130
Carbon Disulfide	103	70-130
3-Chloropropene	91	70-130
Methylene Chloride	109	70-130
Methyl tert-butyl ether	107	70-130
trans-1,2-Dichloroethene	94	70-130
Hexane	109	70-130
1,1-Dichloroethane	117	70-130
2-Butanone (Methyl Ethyl Ketone)	110	70-130
cis-1,2-Dichloroethene	120	70-130
Tetrahydrofuran	133 Q	70-130
Chloroform	87	70-130
1,1,1-Trichloroethane	102	70-130
Cyclohexane	109	70-130
Carbon Tetrachloride	94	70-130
2,2,4-Trimethylpentane	171 Q	70-130
Benzene	111	70-130
1,2-Dichloroethane	108	70-130
Heptane	110	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	117	70-130
1,4-Dioxane	104	70-130
Bromodichloromethane	110	70-130
cis-1,3-Dichloropropene	102	70-130
4-Methyl-2-pentanone	112	70-130
Toluene	109	70-130
trans-1,3-Dichloropropene	107	70-130
1,1,2-Trichloroethane	109	70-130
Tetrachloroethene	95	70-130
2-Hexanone	114	70-130

Client Sample ID: LCS

Lab ID#: 1710336-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/19/17 10:49 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	104	70-130
1,2-Dibromoethane (EDB)	105	70-130
Chlorobenzene	105	70-130
Ethyl Benzene	104	70-130
m,p-Xylene	103	70-130
o-Xylene	107	70-130
Styrene	107	70-130
Bromoform	104	70-130
Cumene	107	70-130
1,1,2,2-Tetrachloroethane	112	70-130
Propylbenzene	113	70-130
4-Ethyltoluene	108	70-130
1,3,5-Trimethylbenzene	113	70-130
1,2,4-Trimethylbenzene	110	70-130
1,3-Dichlorobenzene	104	70-130
1,4-Dichlorobenzene	104	70-130
alpha-Chlorotoluene	113	70-130
1,2-Dichlorobenzene	101	70-130
1,2,4-Trichlorobenzene	101	70-130
Hexachlorobutadiene	90	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	100	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1710336-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101904	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	10/19/17 11:28 AM

Compound	%Recovery	Method Limits
Freon 12	117	70-130
Freon 114	110	70-130
Chloromethane	120	70-130
Vinyl Chloride	129	70-130
1,3-Butadiene	114	70-130
Bromomethane	134 Q	70-130
Chloroethane	122	70-130
Freon 11	116	70-130
Ethanol	139 Q	70-130
Freon 113	102	70-130
1,1-Dichloroethene	111	70-130
Acetone	104	70-130
2-Propanol	122	70-130
Carbon Disulfide	106	70-130
3-Chloropropene	95	70-130
Methylene Chloride	112	70-130
Methyl tert-butyl ether	108	70-130
trans-1,2-Dichloroethene	94	70-130
Hexane	110	70-130
1,1-Dichloroethane	120	70-130
2-Butanone (Methyl Ethyl Ketone)	112	70-130
cis-1,2-Dichloroethene	122	70-130
Tetrahydrofuran	124	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	106	70-130
Cyclohexane	110	70-130
Carbon Tetrachloride	98	70-130
2,2,4-Trimethylpentane	172 Q	70-130
Benzene	115	70-130
1,2-Dichloroethane	114	70-130
Heptane	114	70-130
Trichloroethene	102	70-130
1,2-Dichloropropane	119	70-130
1,4-Dioxane	106	70-130
Bromodichloromethane	111	70-130
cis-1,3-Dichloropropene	104	70-130
4-Methyl-2-pentanone	116	70-130
Toluene	111	70-130
trans-1,3-Dichloropropene	108	70-130
1,1,2-Trichloroethane	110	70-130
Tetrachloroethene	97	70-130
2-Hexanone	114	70-130

Client Sample ID: LCSD

Lab ID#: 1710336-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/19/17 11:28 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	105	70-130
1,2-Dibromoethane (EDB)	107	70-130
Chlorobenzene	105	70-130
Ethyl Benzene	103	70-130
m,p-Xylene	103	70-130
o-Xylene	107	70-130
Styrene	106	70-130
Bromoform	105	70-130
Cumene	105	70-130
1,1,2,2-Tetrachloroethane	114	70-130
Propylbenzene	110	70-130
4-Ethyltoluene	104	70-130
1,3,5-Trimethylbenzene	111	70-130
1,2,4-Trimethylbenzene	106	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	102	70-130
alpha-Chlorotoluene	112	70-130
1,2-Dichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	98	70-130
Hexachlorobutadiene	90	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	92	70-130