

5/12/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1705025

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 5/1/2017 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 #: 1705025

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. #	3ESP170928, 3ESP170855
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	05/01/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	05/12/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172324)	Modified TO-15	6.5 "Hg	5.2 psi
02A	U1 (172325)	Modified TO-15	6.7 "Hg	4.9 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: 05/12/17

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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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# 1705025

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on May 01, 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

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 (172324)

Lab ID#: 1705025-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.17	0.19	0.97	1.1
Ethanol	0.86	2.9	1.6	5.5
Acetone	0.86	9.1	2.0	22
2-Propanol	0.86	0.94	2.1	2.3
2-Butanone (Methyl Ethyl Ketone)	0.86	1.8	2.6	5.4
Toluene	0.17	0.25	0.65	0.94

Client Sample ID: U1 (172325)

Lab ID#: 1705025-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.17	0.20	0.97	1.1
Ethanol	0.86	3.4	1.6	6.3
Acetone	0.86	10	2.0	25
Hexane	0.17	0.38	0.61	1.3
2-Butanone (Methyl Ethyl Ketone)	0.86	1.6	2.5	4.7
Heptane	0.17	0.34	0.70	1.4
Toluene	0.17	0.20	0.65	0.76



Air Toxics

Client Sample ID: D1 (172324)

Lab ID#: 1705025-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050316	Date of Collection:	4/25/17 1:20:00 PM
Dil. Factor:	1.73	Date of Analysis:	5/3/17 11:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	Not Detected	0.86	Not Detected
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
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	3.4	Not Detected
Chloroethane	0.86	Not Detected	2.3	Not Detected
Freon 11	0.17	0.19	0.97	1.1
Ethanol	0.86	2.9	1.6	5.5
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	9.1	2.0	22
2-Propanol	0.86	0.94	2.1	2.3
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	Not Detected	0.61	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	1.8	2.6	5.4
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.6	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.94	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	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	Not Detected	0.71	Not Detected
Trichloroethene	0.17	Not Detected	0.93	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.80	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.71	Not Detected
Toluene	0.17	0.25	0.65	0.94
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected



Client Sample ID: D1 (172324)

Lab ID#: 1705025-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050316	Date of Collection: 4/25/17 1:20:00 PM
Dil. Factor:	1.73	Date of Analysis: 5/3/17 11:00 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	0.75	Not Detected
m,p-Xylene	0.17	Not Detected	0.75	Not Detected
o-Xylene	0.17	Not Detected	0.75	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	0.85	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.85	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.85	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.85	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.85	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	0.86	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.2	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	78	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	112	70-130



Air Toxics

Client Sample ID: U1 (172325)

Lab ID#: 1705025-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050317	Date of Collection:	4/25/17 1:30:00 PM
Dil. Factor:	1.72	Date of Analysis:	5/4/17 05:55 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	Not Detected	0.85	Not Detected
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
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	2.3	Not Detected
Freon 11	0.17	0.20	0.97	1.1
Ethanol	0.86	3.4	1.6	6.3
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	10	2.0	25
2-Propanol	0.86	Not Detected	2.1	Not Detected
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	0.38	0.61	1.3
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	1.6	2.5	4.7
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	0.84	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.94	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	0.70	Not Detected
Heptane	0.17	0.34	0.70	1.4
Trichloroethene	0.17	Not Detected	0.92	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	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	0.20	0.65	0.76
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.94	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 (172325)

Lab ID#: 1705025-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050317	Date of Collection: 4/25/17 1:30:00 PM
Dil. Factor:	1.72	Date of Analysis: 5/4/17 05:55 AM

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	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.75	Not Detected
m,p-Xylene	0.17	Not Detected	0.75	Not Detected
o-Xylene	0.17	Not Detected	0.75	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	0.89	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.2	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	77	70-130
Toluene-d8	86	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1705025-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050306	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/3/17 01:47 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#: 1705025-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050306	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/3/17 01:47 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	79	70-130
Toluene-d8	88	70-130
4-Bromofluorobenzene	97	70-130



Client Sample ID: CCV

Lab ID#: 1705025-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/3/17 10:34 AM

Compound	%Recovery
Freon 12	79
Freon 114	96
Chloromethane	85
Vinyl Chloride	91
1,3-Butadiene	91
Bromomethane	108
Chloroethane	92
Freon 11	80
Ethanol	89
Freon 113	94
1,1-Dichloroethene	97
Acetone	87
2-Propanol	80
Carbon Disulfide	100
3-Chloropropene	93
Methylene Chloride	91
Methyl tert-butyl ether	89
trans-1,2-Dichloroethene	104
Hexane	98
1,1-Dichloroethane	85
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	100
Tetrahydrofuran	84
Chloroform	81
1,1,1-Trichloroethane	76
Cyclohexane	106
Carbon Tetrachloride	87
2,2,4-Trimethylpentane	98
Benzene	102
1,2-Dichloroethane	71
Heptane	101
Trichloroethene	103
1,2-Dichloropropane	93
1,4-Dioxane	121
Bromodichloromethane	83
cis-1,3-Dichloropropene	92
4-Methyl-2-pentanone	92
Toluene	103
trans-1,3-Dichloropropene	88
1,1,2-Trichloroethane	90
Tetrachloroethene	107
2-Hexanone	98



Air Toxics

Client Sample ID: CCV

Lab ID#: 1705025-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/3/17 10:34 AM

Compound	%Recovery
Dibromochloromethane	94
1,2-Dibromoethane (EDB)	87
Chlorobenzene	99
Ethyl Benzene	108
m,p-Xylene	107
o-Xylene	104
Styrene	110
Bromoform	102
Cumene	105
1,1,2,2-Tetrachloroethane	89
Propylbenzene	90
4-Ethyltoluene	87
1,3,5-Trimethylbenzene	91
1,2,4-Trimethylbenzene	92
1,3-Dichlorobenzene	91
1,4-Dichlorobenzene	89
alpha-Chlorotoluene	87
1,2-Dichlorobenzene	92
1,2,4-Trichlorobenzene	102
Hexachlorobutadiene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	71	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1705025-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/3/17 11:21 AM

Compound	%Recovery	Method Limits
Freon 12	84	70-130
Freon 114	102	70-130
Chloromethane	91	70-130
Vinyl Chloride	98	70-130
1,3-Butadiene	93	70-130
Bromomethane	110	70-130
Chloroethane	99	70-130
Freon 11	84	70-130
Ethanol	83	70-130
Freon 113	98	70-130
1,1-Dichloroethene	101	70-130
Acetone	95	70-130
2-Propanol	89	70-130
Carbon Disulfide	105	70-130
3-Chloropropene	109	70-130
Methylene Chloride	94	70-130
Methyl tert-butyl ether	90	70-130
trans-1,2-Dichloroethene	122	70-130
Hexane	106	70-130
1,1-Dichloroethane	85	70-130
2-Butanone (Methyl Ethyl Ketone)	106	70-130
cis-1,2-Dichloroethene	94	70-130
Tetrahydrofuran	91	70-130
Chloroform	86	70-130
1,1,1-Trichloroethane	82	70-130
Cyclohexane	113	70-130
Carbon Tetrachloride	95	70-130
2,2,4-Trimethylpentane	108	70-130
Benzene	108	70-130
1,2-Dichloroethane	72	70-130
Heptane	111	70-130
Trichloroethene	111	70-130
1,2-Dichloropropane	98	70-130
1,4-Dioxane	127	70-130
Bromodichloromethane	90	70-130
cis-1,3-Dichloropropene	105	70-130
4-Methyl-2-pentanone	106	70-130
Toluene	111	70-130
trans-1,3-Dichloropropene	91	70-130
1,1,2-Trichloroethane	96	70-130
Tetrachloroethene	111	70-130
2-Hexanone	111	70-130

Client Sample ID: LCS

Lab ID#: 1705025-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/3/17 11:21 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	100	70-130
1,2-Dibromoethane (EDB)	95	70-130
Chlorobenzene	106	70-130
Ethyl Benzene	114	70-130
m,p-Xylene	112	70-130
o-Xylene	111	70-130
Styrene	121	70-130
Bromoform	112	70-130
Cumene	110	70-130
1,1,2,2-Tetrachloroethane	92	70-130
Propylbenzene	93	70-130
4-Ethyltoluene	96	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	94	70-130
1,3-Dichlorobenzene	94	70-130
1,4-Dichlorobenzene	94	70-130
alpha-Chlorotoluene	104	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	107	70-130
Hexachlorobutadiene	95	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	76	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	109	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1705025-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050304	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/3/17 12:15 PM

Compound	%Recovery	Method Limits
Freon 12	79	70-130
Freon 114	98	70-130
Chloromethane	86	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	89	70-130
Bromomethane	105	70-130
Chloroethane	93	70-130
Freon 11	80	70-130
Ethanol	83	70-130
Freon 113	95	70-130
1,1-Dichloroethene	98	70-130
Acetone	91	70-130
2-Propanol	86	70-130
Carbon Disulfide	102	70-130
3-Chloropropene	104	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	87	70-130
trans-1,2-Dichloroethene	114	70-130
Hexane	102	70-130
1,1-Dichloroethane	83	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	94	70-130
Tetrahydrofuran	89	70-130
Chloroform	84	70-130
1,1,1-Trichloroethane	80	70-130
Cyclohexane	112	70-130
Carbon Tetrachloride	93	70-130
2,2,4-Trimethylpentane	102	70-130
Benzene	107	70-130
1,2-Dichloroethane	72	70-130
Heptane	108	70-130
Trichloroethene	111	70-130
1,2-Dichloropropane	98	70-130
1,4-Dioxane	129	70-130
Bromodichloromethane	91	70-130
cis-1,3-Dichloropropene	106	70-130
4-Methyl-2-pentanone	106	70-130
Toluene	110	70-130
trans-1,3-Dichloropropene	96	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	113	70-130
2-Hexanone	112	70-130

Client Sample ID: LCSD

Lab ID#: 1705025-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20050304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/3/17 12:15 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	101	70-130
1,2-Dibromoethane (EDB)	95	70-130
Chlorobenzene	106	70-130
Ethyl Benzene	114	70-130
m,p-Xylene	113	70-130
o-Xylene	113	70-130
Styrene	121	70-130
Bromoform	113	70-130
Cumene	109	70-130
1,1,2,2-Tetrachloroethane	93	70-130
Propylbenzene	94	70-130
4-Ethyltoluene	97	70-130
1,3,5-Trimethylbenzene	97	70-130
1,2,4-Trimethylbenzene	94	70-130
1,3-Dichlorobenzene	96	70-130
1,4-Dichlorobenzene	95	70-130
alpha-Chlorotoluene	104	70-130
1,2-Dichlorobenzene	98	70-130
1,2,4-Trichlorobenzene	109	70-130
Hexachlorobutadiene	95	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	72	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	107	70-130