

5/26/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1705305

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 5/15/2017 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 #: 1705305

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; 3ESP170978
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	05/15/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	05/26/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172330)	Modified TO-15	5.9 "Hg	5.1 psi
02A	U1 (172331)	Modified TO-15	6.3 "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: 05/26/17

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# 1705305**

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on May 15, 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

Due to the linear calibration range of the instrument, the reporting limit for 1,3-Butadiene was raised from 0.1ppbv to 0.5ppbv.

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 (172330)

Lab ID#: 1705305-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.54	0.83	2.6
Freon 11	0.17	0.21	0.94	1.2
Ethanol	0.84	4.1	1.6	7.7
Acetone	0.84	10	2.0	24
2-Propanol	0.84	1.8	2.1	4.5
Hexane	0.17	0.31	0.59	1.1
2-Butanone (Methyl Ethyl Ketone)	0.84	2.3	2.5	6.8
Benzene	0.17	0.21	0.54	0.66
Heptane	0.17	0.30	0.69	1.2

Client Sample ID: U1 (172331)

Lab ID#: 1705305-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.50	0.84	2.5
Freon 11	0.17	0.22	0.95	1.2
Ethanol	0.84	4.8	1.6	9.1
Acetone	0.84	14	2.0	33
2-Propanol	0.84	2.3	2.1	5.7
Hexane	0.17	0.23	0.60	0.80
2-Butanone (Methyl Ethyl Ketone)	0.84	4.0	2.5	12
Heptane	0.17	0.36	0.69	1.5



Air Toxics

Client Sample ID: D1 (172330)

Lab ID#: 1705305-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051719	Date of Collection:	5/9/17 1:45:00 PM
Dil. Factor:	1.68	Date of Analysis:	5/18/17 07:48 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.54	0.83	2.6
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.84	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.84	Not Detected	1.8	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.21	0.94	1.2
Ethanol	0.84	4.1	1.6	7.7
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	10	2.0	24
2-Propanol	0.84	1.8	2.1	4.5
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	Not Detected	0.67	Not Detected
Hexane	0.17	0.31	0.59	1.1
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	2.3	2.5	6.8
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	0.21	0.54	0.66
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	0.30	0.69	1.2
Trichloroethene	0.17	Not Detected	0.90	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
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	Not Detected	0.63	Not Detected
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 (172330)

Lab ID#: 1705305-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051719	Date of Collection:	5/9/17 1:45:00 PM
Dil. Factor:	1.68	Date of Analysis:	5/18/17 07:48 AM

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

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: U1 (172331)

Lab ID#: 1705305-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051720	Date of Collection:	5/9/17 1:55:00 PM
Dil. Factor:	1.69	Date of Analysis:	5/18/17 08:36 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.50	0.84	2.5
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.84	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.84	Not Detected	1.9	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.22	0.95	1.2
Ethanol	0.84	4.8	1.6	9.1
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	14	2.0	33
2-Propanol	0.84	2.3	2.1	5.7
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	0.61	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Hexane	0.17	0.23	0.60	0.80
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	4.0	2.5	12
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	1.1	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	0.36	0.69	1.5
Trichloroethene	0.17	Not Detected	0.91	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
1,4-Dioxane	0.17	Not Detected	0.61	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.69	Not Detected
Toluene	0.17	Not Detected	0.64	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.77	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	3.5	Not Detected



Client Sample ID: U1 (172331)

Lab ID#: 1705305-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051720	Date of Collection:	5/9/17 1:55:00 PM
Dil. Factor:	1.69	Date of Analysis:	5/18/17 08:36 AM

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	0.78	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	0.83	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.83	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.83	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.83	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.83	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	6.3	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1705305-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051718	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/17/17 10:31 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	0.50	Not Detected	1.1	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#: 1705305-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051718	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/17/17 10:31 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	107	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1705305-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051710a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/17/17 04:05 PM

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

Client Sample ID: CCV

Lab ID#: 1705305-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051710a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/17/17 04:05 PM

Compound	%Recovery
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	100
Chlorobenzene	98
Ethyl Benzene	101
m,p-Xylene	99
o-Xylene	102
Styrene	96
Bromoform	106
Cumene	101
1,1,2,2-Tetrachloroethane	99
Propylbenzene	93
4-Ethyltoluene	92
1,3,5-Trimethylbenzene	84
1,2,4-Trimethylbenzene	80
1,3-Dichlorobenzene	89
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	111
1,2-Dichlorobenzene	90
1,2,4-Trichlorobenzene	105
Hexachlorobutadiene	88

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1705305-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051715d	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/17/17 08:14 PM

Compound	%Recovery	Method Limits
Freon 12	101	70-130
Freon 114	102	70-130
Chloromethane	102	70-130
Vinyl Chloride	105	70-130
1,3-Butadiene	102	70-130
Bromomethane	116	70-130
Chloroethane	106	70-130
Freon 11	105	70-130
Ethanol	88	70-130
Freon 113	98	70-130
1,1-Dichloroethene	96	70-130
Acetone	91	70-130
2-Propanol	104	70-130
Carbon Disulfide	114	70-130
3-Chloropropene	105	70-130
Methylene Chloride	91	70-130
Methyl tert-butyl ether	105	70-130
trans-1,2-Dichloroethene	110	70-130
Hexane	103	70-130
1,1-Dichloroethane	105	70-130
2-Butanone (Methyl Ethyl Ketone)	113	70-130
cis-1,2-Dichloroethene	98	70-130
Tetrahydrofuran	105	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	101	70-130
Cyclohexane	104	70-130
Carbon Tetrachloride	117	70-130
2,2,4-Trimethylpentane	94	70-130
Benzene	100	70-130
1,2-Dichloroethane	101	70-130
Heptane	101	70-130
Trichloroethene	101	70-130
1,2-Dichloropropane	103	70-130
1,4-Dioxane	103	70-130
Bromodichloromethane	102	70-130
cis-1,3-Dichloropropene	114	70-130
4-Methyl-2-pentanone	101	70-130
Toluene	103	70-130
trans-1,3-Dichloropropene	109	70-130
1,1,2-Trichloroethane	102	70-130
Tetrachloroethene	105	70-130
2-Hexanone	107	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1705305-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051715d	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/17/17 08:14 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	104	70-130
Chlorobenzene	103	70-130
Ethyl Benzene	106	70-130
m,p-Xylene	103	70-130
o-Xylene	109	70-130
Styrene	106	70-130
Bromoform	112	70-130
Cumene	104	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	97	70-130
4-Ethyltoluene	95	70-130
1,3,5-Trimethylbenzene	92	70-130
1,2,4-Trimethylbenzene	87	70-130
1,3-Dichlorobenzene	95	70-130
1,4-Dichlorobenzene	101	70-130
alpha-Chlorotoluene	130	70-130
1,2-Dichlorobenzene	98	70-130
1,2,4-Trichlorobenzene	118	70-130
Hexachlorobutadiene	95	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1705305-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051716	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/17/17 08:53 PM

Compound	%Recovery	Method Limits
Freon 12	100	70-130
Freon 114	101	70-130
Chloromethane	102	70-130
Vinyl Chloride	102	70-130
1,3-Butadiene	105	70-130
Bromomethane	115	70-130
Chloroethane	106	70-130
Freon 11	104	70-130
Ethanol	86	70-130
Freon 113	96	70-130
1,1-Dichloroethene	95	70-130
Acetone	92	70-130
2-Propanol	103	70-130
Carbon Disulfide	113	70-130
3-Chloropropene	113	70-130
Methylene Chloride	93	70-130
Methyl tert-butyl ether	102	70-130
trans-1,2-Dichloroethene	107	70-130
Hexane	101	70-130
1,1-Dichloroethane	102	70-130
2-Butanone (Methyl Ethyl Ketone)	110	70-130
cis-1,2-Dichloroethene	96	70-130
Tetrahydrofuran	101	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	100	70-130
Cyclohexane	100	70-130
Carbon Tetrachloride	114	70-130
2,2,4-Trimethylpentane	100	70-130
Benzene	98	70-130
1,2-Dichloroethane	98	70-130
Heptane	100	70-130
Trichloroethene	99	70-130
1,2-Dichloropropane	103	70-130
1,4-Dioxane	102	70-130
Bromodichloromethane	101	70-130
cis-1,3-Dichloropropene	112	70-130
4-Methyl-2-pentanone	100	70-130
Toluene	101	70-130
trans-1,3-Dichloropropene	109	70-130
1,1,2-Trichloroethane	102	70-130
Tetrachloroethene	102	70-130
2-Hexanone	105	70-130

Client Sample ID: LCSD

Lab ID#: 1705305-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051716	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/17/17 08:53 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	102	70-130
Chlorobenzene	99	70-130
Ethyl Benzene	103	70-130
m,p-Xylene	102	70-130
o-Xylene	106	70-130
Styrene	100	70-130
Bromoform	111	70-130
Cumene	102	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	95	70-130
4-Ethyltoluene	95	70-130
1,3,5-Trimethylbenzene	87	70-130
1,2,4-Trimethylbenzene	82	70-130
1,3-Dichlorobenzene	93	70-130
1,4-Dichlorobenzene	98	70-130
alpha-Chlorotoluene	127	70-130
1,2-Dichlorobenzene	93	70-130
1,2,4-Trichlorobenzene	116	70-130
Hexachlorobutadiene	94	70-130

Container Type: NA - Not Applicable

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