

3/9/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1702470

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 2/28/2017 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 #: 1702470

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. #	3ESP170668
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	02/28/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	03/06/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (170799)	Modified TO-15	6.5 "Hg	5.1 psi
02A	U1 (170800)	Modified TO-15	6.5 "Hg	5.1 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: 03/09/17

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

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

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LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1702470

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on February 28, 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.

The Relative Percent Difference (RPD) of the LCS/LCSD exceeded acceptance limits for Bromomethane.

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 (170799)

Lab ID#: 1702470-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.53	0.85	2.6
Freon 11	0.17	0.28	0.97	1.6
Ethanol	0.86	5.6	1.6	10
Acetone	0.86	10	2.0	25
2-Propanol	0.86	1.8	2.1	4.4
Hexane	0.17	0.17	0.61	0.62
2-Butanone (Methyl Ethyl Ketone)	0.86	2.3	2.5	6.8
Benzene	0.17	0.21	0.55	0.66
Heptane	0.17	0.26	0.70	1.1
Toluene	0.17	0.18	0.65	0.69

Client Sample ID: U1 (170800)

Lab ID#: 1702470-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.57	0.85	2.8
Freon 11	0.17	0.31	0.97	1.7
Ethanol	0.86	3.5	1.6	6.5
Acetone	0.86	6.0	2.0	14
2-Propanol	0.86	0.96	2.1	2.4
2-Butanone (Methyl Ethyl Ketone)	0.86	0.92	2.5	2.7
Heptane	0.17	0.24	0.70	0.97
Toluene	0.17	0.22	0.65	0.82



Air Toxics

Client Sample ID: D1 (170799)

Lab ID#: 1702470-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030222	Date of Collection:	2/22/17 12:40:00 PM
Dil. Factor:	1.72	Date of Analysis:	3/3/17 06:14 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.53	0.85	2.6
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	0.28	0.97	1.6
Ethanol	0.86	5.6	1.6	10
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	1.8	2.1	4.4
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	0.17	0.61	0.62
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	2.3	2.5	6.8
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	0.21	0.55	0.66
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	0.26	0.70	1.1
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	0.18	0.65	0.69
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 (170799)

Lab ID#: 1702470-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030222	Date of Collection:	2/22/17 12:40:00 PM
Dil. Factor:	1.72	Date of Analysis:	3/3/17 06:14 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	114	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: U1 (170800)

Lab ID#: 1702470-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030223	Date of Collection:	2/22/17 12:50:00 PM
Dil. Factor:	1.72	Date of Analysis:	3/3/17 06:53 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.57	0.85	2.8
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	0.31	0.97	1.7
Ethanol	0.86	3.5	1.6	6.5
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	6.0	2.0	14
2-Propanol	0.86	0.96	2.1	2.4
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	Not Detected	0.61	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	0.92	2.5	2.7
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	0.24	0.70	0.97
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	0.22	0.65	0.82
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 (170800)

Lab ID#: 1702470-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030223	Date of Collection:	2/22/17 12:50:00 PM
Dil. Factor:	1.72	Date of Analysis:	3/3/17 06:53 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	112	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1702470-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030207	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/2/17 12:56 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#: 1702470-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030207	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/2/17 12:56 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	111	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	90	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1702470-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/2/17 07:24 AM

Compound	%Recovery
Freon 12	100
Freon 114	92
Chloromethane	92
Vinyl Chloride	101
1,3-Butadiene	100
Bromomethane	108
Chloroethane	129
Freon 11	106
Ethanol	114
Freon 113	94
1,1-Dichloroethene	102
Acetone	105
2-Propanol	104
Carbon Disulfide	107
3-Chloropropene	108
Methylene Chloride	100
Methyl tert-butyl ether	114
trans-1,2-Dichloroethene	105
Hexane	116
1,1-Dichloroethane	105
2-Butanone (Methyl Ethyl Ketone)	109
cis-1,2-Dichloroethene	104
Tetrahydrofuran	112
Chloroform	102
1,1,1-Trichloroethane	104
Cyclohexane	113
Carbon Tetrachloride	109
2,2,4-Trimethylpentane	114
Benzene	110
1,2-Dichloroethane	112
Heptane	125
Trichloroethene	100
1,2-Dichloropropane	107
1,4-Dioxane	112
Bromodichloromethane	108
cis-1,3-Dichloropropene	112
4-Methyl-2-pentanone	126
Toluene	111
trans-1,3-Dichloropropene	113
1,1,2-Trichloroethane	100
Tetrachloroethene	101
2-Hexanone	114

Client Sample ID: CCV

Lab ID#: 1702470-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/2/17 07:24 AM

Compound	%Recovery
Dibromochloromethane	109
1,2-Dibromoethane (EDB)	109
Chlorobenzene	106
Ethyl Benzene	120
m,p-Xylene	126
o-Xylene	126
Styrene	126
Bromoform	111
Cumene	130
1,1,2,2-Tetrachloroethane	106
Propylbenzene	118
4-Ethyltoluene	116
1,3,5-Trimethylbenzene	121
1,2,4-Trimethylbenzene	118
1,3-Dichlorobenzene	104
1,4-Dichlorobenzene	99
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	104
1,2,4-Trichlorobenzene	100
Hexachlorobutadiene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1702470-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030204	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/2/17 09:12 AM

Compound	%Recovery	Method Limits
Freon 12	99	70-130
Freon 114	92	70-130
Chloromethane	96	70-130
Vinyl Chloride	106	70-130
1,3-Butadiene	100	70-130
Bromomethane	135 Q	70-130
Chloroethane	126	70-130
Freon 11	108	70-130
Ethanol	106	70-130
Freon 113	94	70-130
1,1-Dichloroethene	101	70-130
Acetone	101	70-130
2-Propanol	109	70-130
Carbon Disulfide	111	70-130
3-Chloropropene	123	70-130
Methylene Chloride	100	70-130
Methyl tert-butyl ether	109	70-130
trans-1,2-Dichloroethene	114	70-130
Hexane	123	70-130
1,1-Dichloroethane	101	70-130
2-Butanone (Methyl Ethyl Ketone)	110	70-130
cis-1,2-Dichloroethene	95	70-130
Tetrahydrofuran	115	70-130
Chloroform	102	70-130
1,1,1-Trichloroethane	104	70-130
Cyclohexane	115	70-130
Carbon Tetrachloride	113	70-130
2,2,4-Trimethylpentane	119	70-130
Benzene	109	70-130
1,2-Dichloroethane	106	70-130
Heptane	130	70-130
Trichloroethene	102	70-130
1,2-Dichloropropane	108	70-130
1,4-Dioxane	112	70-130
Bromodichloromethane	115	70-130
cis-1,3-Dichloropropene	121	70-130
4-Methyl-2-pentanone	129	70-130
Toluene	112	70-130
trans-1,3-Dichloropropene	121	70-130
1,1,2-Trichloroethane	107	70-130
Tetrachloroethene	107	70-130
2-Hexanone	126	70-130

Client Sample ID: LCS

Lab ID#: 1702470-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/2/17 09:12 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	117	70-130
1,2-Dibromoethane (EDB)	113	70-130
Chlorobenzene	109	70-130
Ethyl Benzene	124	70-130
m,p-Xylene	127	70-130
o-Xylene	127	70-130
Styrene	132 Q	70-130
Bromoform	121	70-130
Cumene	130	70-130
1,1,2,2-Tetrachloroethane	109	70-130
Propylbenzene	118	70-130
4-Ethyltoluene	118	70-130
1,3,5-Trimethylbenzene	124	70-130
1,2,4-Trimethylbenzene	120	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	99	70-130
alpha-Chlorotoluene	127	70-130
1,2-Dichlorobenzene	102	70-130
1,2,4-Trichlorobenzene	99	70-130
Hexachlorobutadiene	87	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1702470-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030205	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	3/2/17 10:10 AM

Compound	%Recovery	Method Limits
Freon 12	99	70-130
Freon 114	93	70-130
Chloromethane	96	70-130
Vinyl Chloride	106	70-130
1,3-Butadiene	99	70-130
Bromomethane	104	70-130
Chloroethane	99	70-130
Freon 11	108	70-130
Ethanol	105	70-130
Freon 113	94	70-130
1,1-Dichloroethene	103	70-130
Acetone	102	70-130
2-Propanol	113	70-130
Carbon Disulfide	110	70-130
3-Chloropropene	124	70-130
Methylene Chloride	100	70-130
Methyl tert-butyl ether	111	70-130
trans-1,2-Dichloroethene	114	70-130
Hexane	125	70-130
1,1-Dichloroethane	102	70-130
2-Butanone (Methyl Ethyl Ketone)	111	70-130
cis-1,2-Dichloroethene	94	70-130
Tetrahydrofuran	113	70-130
Chloroform	103	70-130
1,1,1-Trichloroethane	104	70-130
Cyclohexane	117	70-130
Carbon Tetrachloride	112	70-130
2,2,4-Trimethylpentane	120	70-130
Benzene	108	70-130
1,2-Dichloroethane	108	70-130
Heptane	129	70-130
Trichloroethene	103	70-130
1,2-Dichloropropane	108	70-130
1,4-Dioxane	113	70-130
Bromodichloromethane	112	70-130
cis-1,3-Dichloropropene	122	70-130
4-Methyl-2-pentanone	132 Q	70-130
Toluene	113	70-130
trans-1,3-Dichloropropene	118	70-130
1,1,2-Trichloroethane	103	70-130
Tetrachloroethene	104	70-130
2-Hexanone	127	70-130

Client Sample ID: LCSD

Lab ID#: 1702470-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20030205	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 3/2/17 10:10 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	112	70-130
1,2-Dibromoethane (EDB)	109	70-130
Chlorobenzene	107	70-130
Ethyl Benzene	121	70-130
m,p-Xylene	127	70-130
o-Xylene	126	70-130
Styrene	133 Q	70-130
Bromoform	119	70-130
Cumene	129	70-130
1,1,2,2-Tetrachloroethane	105	70-130
Propylbenzene	118	70-130
4-Ethyltoluene	121	70-130
1,3,5-Trimethylbenzene	124	70-130
1,2,4-Trimethylbenzene	121	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	99	70-130
alpha-Chlorotoluene	127	70-130
1,2-Dichlorobenzene	101	70-130
1,2,4-Trichlorobenzene	93	70-130
Hexachlorobutadiene	84	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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