

6/15/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1706116

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 6/6/2017 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 #: 1706116

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. #	3ESP170978
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	06/06/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/15/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172373)	Modified TO-15	7.3 "Hg	4.9 psi
02A	U1 (172374)	Modified TO-15	6.1 "Hg	4.5 psi
03A	Lab Blank	Modified TO-15	NA	NA
04A	CCV	Modified TO-15	NA	NA
05A	LCS	Modified TO-15	NA	NA
05AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 
 Technical Director

DATE: 06/15/17

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# 1706116

Two 6 Liter Summa Canister (100% Cert Ambient) samples were received on June 06, 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 (172373)

Lab ID#: 1706116-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.53	0.87	2.6
Freon 11	0.18	0.30	0.99	1.7
Ethanol	0.88	7.1	1.6	13
Acetone	0.88	14	2.1	34
2-Propanol	0.88	46	2.2	110
Hexane	0.18	0.28	0.62	1.0
2-Butanone (Methyl Ethyl Ketone)	0.88	2.6	2.6	7.5
Heptane	0.18	1.0	0.72	4.1
Toluene	0.18	0.20	0.66	0.75
m,p-Xylene	0.18	0.23	0.76	0.98

Client Sample ID: U1 (172374)

Lab ID#: 1706116-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.47	0.81	2.3
Freon 11	0.16	0.29	0.92	1.6
Ethanol	0.82	9.4	1.5	18
Acetone	0.82	20	1.9	49
2-Propanol	0.82	40	2.0	99
Hexane	0.16	0.84	0.58	3.0
2-Butanone (Methyl Ethyl Ketone)	0.82	3.6	2.4	11
Heptane	0.16	1.4	0.67	5.6
Toluene	0.16	0.28	0.62	1.0
2-Hexanone	0.82	0.84	3.4	3.4
m,p-Xylene	0.16	0.20	0.71	0.87



Air Toxics

Client Sample ID: D1 (172373)

Lab ID#: 1706116-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060915	Date of Collection:	5/28/17 1:35:00 PM
Dil. Factor:	1.76	Date of Analysis:	6/9/17 06:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.53	0.87	2.6
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.88	Not Detected	1.8	Not Detected
Vinyl Chloride	0.18	Not Detected	0.45	Not Detected
1,3-Butadiene	0.18	Not Detected	0.39	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.18	0.30	0.99	1.7
Ethanol	0.88	7.1	1.6	13
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Acetone	0.88	14	2.1	34
2-Propanol	0.88	46	2.2	110
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	0.88	Not Detected	2.8	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Hexane	0.18	0.28	0.62	1.0
1,1-Dichloroethane	0.18	Not Detected	0.71	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	2.6	2.6	7.5
cis-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.86	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.96	Not Detected
Cyclohexane	0.18	Not Detected	0.60	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.88	Not Detected	4.1	Not Detected
Benzene	0.18	Not Detected	0.56	Not Detected
1,2-Dichloroethane	0.18	Not Detected	0.71	Not Detected
Heptane	0.18	1.0	0.72	4.1
Trichloroethene	0.18	Not Detected	0.94	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.81	Not Detected
1,4-Dioxane	0.18	Not Detected	0.63	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.80	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
Toluene	0.18	0.20	0.66	0.75
trans-1,3-Dichloropropene	0.18	Not Detected	0.80	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.96	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.88	Not Detected	3.6	Not Detected



Client Sample ID: D1 (172373)

Lab ID#: 1706116-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060915	Date of Collection:	5/28/17 1:35:00 PM
Dil. Factor:	1.76	Date of Analysis:	6/9/17 06:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.18	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.81	Not Detected
Ethyl Benzene	0.18	Not Detected	0.76	Not Detected
m,p-Xylene	0.18	0.23	0.76	0.98
o-Xylene	0.18	Not Detected	0.76	Not Detected
Styrene	0.18	Not Detected	0.75	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.91	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.88	Not Detected	6.5	Not Detected
Hexachlorobutadiene	0.88	Not Detected	9.4	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	83	70-130



Air Toxics

Client Sample ID: U1 (172374)

Lab ID#: 1706116-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060916	Date of Collection:	5/28/17 1:55:00 PM
Dil. Factor:	1.64	Date of Analysis:	6/9/17 06:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.47	0.81	2.3
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.82	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.42	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.82	Not Detected	3.2	Not Detected
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.16	0.29	0.92	1.6
Ethanol	0.82	9.4	1.5	18
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	20	1.9	49
2-Propanol	0.82	40	2.0	99
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Hexane	0.16	0.84	0.58	3.0
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	3.6	2.4	11
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Tetrahydrofuran	0.82	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Cyclohexane	0.16	Not Detected	0.56	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.82	Not Detected	3.8	Not Detected
Benzene	0.16	Not Detected	0.52	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	1.4	0.67	5.6
Trichloroethene	0.16	Not Detected	0.88	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.76	Not Detected
1,4-Dioxane	0.16	Not Detected	0.59	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.67	Not Detected
Toluene	0.16	0.28	0.62	1.0
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	0.84	3.4	3.4

Client Sample ID: U1 (172374)

Lab ID#: 1706116-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060916	Date of Collection:	5/28/17 1:55:00 PM
Dil. Factor:	1.64	Date of Analysis:	6/9/17 06:50 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	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	0.20	0.71	0.87
o-Xylene	0.16	Not Detected	0.71	Not Detected
Styrene	0.16	Not Detected	0.70	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.81	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.81	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.81	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.1	Not Detected
Hexachlorobutadiene	0.82	Not Detected	8.7	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	85	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1706116-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060907	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/9/17 12:03 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#: 1706116-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060907	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/9/17 12:03 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	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130



Client Sample ID: CCV

Lab ID#: 1706116-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/9/17 07:46 AM

Compound	%Recovery
Freon 12	115
Freon 114	100
Chloromethane	93
Vinyl Chloride	92
1,3-Butadiene	96
Bromomethane	101
Chloroethane	88
Freon 11	114
Ethanol	106
Freon 113	94
1,1-Dichloroethene	97
Acetone	80
2-Propanol	94
Carbon Disulfide	91
3-Chloropropene	88
Methylene Chloride	88
Methyl tert-butyl ether	99
trans-1,2-Dichloroethene	94
Hexane	94
1,1-Dichloroethane	87
2-Butanone (Methyl Ethyl Ketone)	90
cis-1,2-Dichloroethene	98
Tetrahydrofuran	103
Chloroform	101
1,1,1-Trichloroethane	105
Cyclohexane	95
Carbon Tetrachloride	93
2,2,4-Trimethylpentane	89
Benzene	98
1,2-Dichloroethane	104
Heptane	106
Trichloroethene	91
1,2-Dichloropropane	88
1,4-Dioxane	104
Bromodichloromethane	106
cis-1,3-Dichloropropene	104
4-Methyl-2-pentanone	118
Toluene	103
trans-1,3-Dichloropropene	102
1,1,2-Trichloroethane	96
Tetrachloroethene	94
2-Hexanone	105

Client Sample ID: CCV

Lab ID#: 1706116-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/9/17 07:46 AM

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	100
Chlorobenzene	100
Ethyl Benzene	111
m,p-Xylene	116
o-Xylene	116
Styrene	117
Bromoform	108
Cumene	111
1,1,2,2-Tetrachloroethane	93
Propylbenzene	104
4-Ethyltoluene	112
1,3,5-Trimethylbenzene	114
1,2,4-Trimethylbenzene	111
1,3-Dichlorobenzene	95
1,4-Dichlorobenzene	98
alpha-Chlorotoluene	94
1,2-Dichlorobenzene	97
1,2,4-Trichlorobenzene	97
Hexachlorobutadiene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	107	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1706116-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/9/17 09:31 AM

Compound	%Recovery	Method Limits
Freon 12	125	70-130
Freon 114	107	70-130
Chloromethane	103	70-130
Vinyl Chloride	103	70-130
1,3-Butadiene	104	70-130
Bromomethane	118	70-130
Chloroethane	103	70-130
Freon 11	124	70-130
Ethanol	106	70-130
Freon 113	102	70-130
1,1-Dichloroethene	113	70-130
Acetone	83	70-130
2-Propanol	109	70-130
Carbon Disulfide	103	70-130
3-Chloropropene	106	70-130
Methylene Chloride	98	70-130
Methyl tert-butyl ether	106	70-130
trans-1,2-Dichloroethene	120	70-130
Hexane	111	70-130
1,1-Dichloroethane	95	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	97	70-130
Tetrahydrofuran	114	70-130
Chloroform	108	70-130
1,1,1-Trichloroethane	114	70-130
Cyclohexane	108	70-130
Carbon Tetrachloride	113	70-130
2,2,4-Trimethylpentane	102	70-130
Benzene	98	70-130
1,2-Dichloroethane	102	70-130
Heptane	107	70-130
Trichloroethene	95	70-130
1,2-Dichloropropane	91	70-130
1,4-Dioxane	109	70-130
Bromodichloromethane	116	70-130
cis-1,3-Dichloropropene	115	70-130
4-Methyl-2-pentanone	123	70-130
Toluene	105	70-130
trans-1,3-Dichloropropene	110	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	96	70-130
2-Hexanone	116	70-130

Client Sample ID: LCS

Lab ID#: 1706116-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/9/17 09:31 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	116	70-130
1,2-Dibromoethane (EDB)	111	70-130
Chlorobenzene	111	70-130
Ethyl Benzene	119	70-130
m,p-Xylene	121	70-130
o-Xylene	130	70-130
Styrene	129	70-130
Bromoform	122	70-130
Cumene	116	70-130
1,1,2,2-Tetrachloroethane	101	70-130
Propylbenzene	111	70-130
4-Ethyltoluene	127	70-130
1,3,5-Trimethylbenzene	121	70-130
1,2,4-Trimethylbenzene	120	70-130
1,3-Dichlorobenzene	102	70-130
1,4-Dichlorobenzene	108	70-130
alpha-Chlorotoluene	115	70-130
1,2-Dichlorobenzene	106	70-130
1,2,4-Trichlorobenzene	109	70-130
Hexachlorobutadiene	113	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1706116-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060905	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/9/17 10:19 AM

Compound	%Recovery	Method Limits
Freon 12	122	70-130
Freon 114	108	70-130
Chloromethane	104	70-130
Vinyl Chloride	104	70-130
1,3-Butadiene	100	70-130
Bromomethane	118	70-130
Chloroethane	100	70-130
Freon 11	122	70-130
Ethanol	98	70-130
Freon 113	104	70-130
1,1-Dichloroethene	118	70-130
Acetone	85	70-130
2-Propanol	106	70-130
Carbon Disulfide	101	70-130
3-Chloropropene	111	70-130
Methylene Chloride	96	70-130
Methyl tert-butyl ether	107	70-130
trans-1,2-Dichloroethene	117	70-130
Hexane	111	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	108	70-130
cis-1,2-Dichloroethene	99	70-130
Tetrahydrofuran	114	70-130
Chloroform	108	70-130
1,1,1-Trichloroethane	114	70-130
Cyclohexane	109	70-130
Carbon Tetrachloride	114	70-130
2,2,4-Trimethylpentane	100	70-130
Benzene	103	70-130
1,2-Dichloroethane	102	70-130
Heptane	113	70-130
Trichloroethene	96	70-130
1,2-Dichloropropane	94	70-130
1,4-Dioxane	113	70-130
Bromodichloromethane	111	70-130
cis-1,3-Dichloropropene	121	70-130
4-Methyl-2-pentanone	126	70-130
Toluene	107	70-130
trans-1,3-Dichloropropene	107	70-130
1,1,2-Trichloroethane	98	70-130
Tetrachloroethene	93	70-130
2-Hexanone	113	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1706116-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v060905	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/9/17 10:19 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	113	70-130
1,2-Dibromoethane (EDB)	106	70-130
Chlorobenzene	106	70-130
Ethyl Benzene	122	70-130
m,p-Xylene	124	70-130
o-Xylene	122	70-130
Styrene	126	70-130
Bromoform	117	70-130
Cumene	115	70-130
1,1,2,2-Tetrachloroethane	97	70-130
Propylbenzene	110	70-130
4-Ethyltoluene	118	70-130
1,3,5-Trimethylbenzene	118	70-130
1,2,4-Trimethylbenzene	116	70-130
1,3-Dichlorobenzene	101	70-130
1,4-Dichlorobenzene	107	70-130
alpha-Chlorotoluene	114	70-130
1,2-Dichlorobenzene	102	70-130
1,2,4-Trichlorobenzene	107	70-130
Hexachlorobutadiene	110	70-130

Container Type: NA - Not Applicable

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