

9/25/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1709204

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 9/12/2017 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 #: 1709204

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. #	3ESP180137, 3ESP180084
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	09/12/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	09/25/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172368)	Modified TO-15	6.7 "Hg	4.8 psi
02A	U1 (172369)	Modified TO-15	5.7 "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: 09/25/17

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# 1709204

Two 6 Liter Summa Canister (100% Certified) samples were received on September 12, 2017. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Initial Calibration	</=30% RSD with 2 compounds allowed out to < 40% RSD	</=30% RSD with 4 compounds allowed out to < 40% RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. Target compound non-detects in the samples that are associated with high bias in CCV analyses have not been flagged.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector
r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: D1 (172368)

Lab ID#: 1709204-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.47	0.84	2.3
Freon 11	0.17	0.20	0.96	1.2
Ethanol	0.86	2.3	1.6	4.3
Acetone	0.86	4.0	2.0	9.6
2-Propanol	0.86	1.3	2.1	3.1
Hexane	0.17	0.28	0.60	1.0
Heptane	0.17	0.23	0.70	0.96

Client Sample ID: U1 (172369)

Lab ID#: 1709204-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.48	0.82	2.4
Freon 11	0.17	0.21	0.93	1.2
Ethanol	0.83	1.2	1.6	2.4
Acetone	0.83	3.6	2.0	8.6
Heptane	0.17	0.24	0.68	1.0
Toluene	0.17	0.24	0.62	0.90



Air Toxics

Client Sample ID: D1 (172368)

Lab ID#: 1709204-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091314	Date of Collection:	9/6/17 1:15:00 PM
Dil. Factor:	1.71	Date of Analysis:	9/13/17 07:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.47	0.84	2.3
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	2.2	Not Detected
Freon 11	0.17	0.20	0.96	1.2
Ethanol	0.86	2.3	1.6	4.3
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	4.0	2.0	9.6
2-Propanol	0.86	1.3	2.1	3.1
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	0.28	0.60	1.0
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	Not Detected	2.5	Not Detected
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	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	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	0.69	Not Detected
Heptane	0.17	0.23	0.70	0.96
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	1.1	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	Not Detected	0.64	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	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 (172368)

Lab ID#: 1709204-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091314	Date of Collection:	9/6/17 1:15:00 PM
Dil. Factor:	1.71	Date of Analysis:	9/13/17 07:04 PM

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	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	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	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.1	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	105	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: U1 (172369)

Lab ID#: 1709204-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091315	Date of Collection:	9/6/17 1:25:00 PM
Dil. Factor:	1.66	Date of Analysis:	9/13/17 07:43 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.48	0.82	2.4
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.83	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.42	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.83	Not Detected	3.2	Not Detected
Chloroethane	0.83	Not Detected	2.2	Not Detected
Freon 11	0.17	0.21	0.93	1.2
Ethanol	0.83	1.2	1.6	2.4
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.83	3.6	2.0	8.6
2-Propanol	0.83	Not Detected	2.0	Not Detected
Carbon Disulfide	0.83	Not Detected	2.6	Not Detected
3-Chloropropene	0.83	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	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	0.66	Not Detected
Hexane	0.17	Not Detected	0.58	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.83	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Tetrahydrofuran	0.83	Not Detected	2.4	Not Detected
Chloroform	0.17	Not Detected	0.81	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.90	Not Detected
Cyclohexane	0.17	Not Detected	0.57	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.83	Not Detected	3.9	Not Detected
Benzene	0.17	Not Detected	0.53	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.67	Not Detected
Heptane	0.17	0.24	0.68	1.0
Trichloroethene	0.17	Not Detected	0.89	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.77	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	0.75	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.68	Not Detected
Toluene	0.17	0.24	0.62	0.90
trans-1,3-Dichloropropene	0.17	Not Detected	0.75	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.90	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.83	Not Detected	3.4	Not Detected



Client Sample ID: U1 (172369)

Lab ID#: 1709204-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091315	Date of Collection: 9/6/17 1:25:00 PM
Dil. Factor:	1.66	Date of Analysis: 9/13/17 07:43 PM

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	0.76	Not Detected
Ethyl Benzene	0.17	Not Detected	0.72	Not Detected
m,p-Xylene	0.17	Not Detected	0.72	Not Detected
o-Xylene	0.17	Not Detected	0.72	Not Detected
Styrene	0.17	Not Detected	0.71	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	1.1	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	0.86	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.83	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.83	Not Detected	8.8	Not Detected

Container Type: 6 Liter Summa Canister (100% Certified)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1709204-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091308	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/13/17 02:03 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#: 1709204-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091308	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/13/17 02:03 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	106	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1709204-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/13/17 09:07 AM

Compound	%Recovery
Freon 12	102
Freon 114	99
Chloromethane	97
Vinyl Chloride	107
1,3-Butadiene	100
Bromomethane	117
Chloroethane	106
Freon 11	105
Ethanol	114
Freon 113	99
1,1-Dichloroethene	102
Acetone	88
2-Propanol	105
Carbon Disulfide	104
3-Chloropropene	122
Methylene Chloride	99
Methyl tert-butyl ether	103
trans-1,2-Dichloroethene	99
Hexane	97
1,1-Dichloroethane	104
2-Butanone (Methyl Ethyl Ketone)	103
cis-1,2-Dichloroethene	102
Tetrahydrofuran	106
Chloroform	89
1,1,1-Trichloroethane	97
Cyclohexane	101
Carbon Tetrachloride	135 Q
2,2,4-Trimethylpentane	94
Benzene	103
1,2-Dichloroethane	100
Heptane	93
Trichloroethene	103
1,2-Dichloropropane	106
1,4-Dioxane	103
Bromodichloromethane	103
cis-1,3-Dichloropropene	106
4-Methyl-2-pentanone	94
Toluene	99
trans-1,3-Dichloropropene	105
1,1,2-Trichloroethane	102
Tetrachloroethene	93
2-Hexanone	95

Client Sample ID: CCV

Lab ID#: 1709204-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/13/17 09:07 AM

Compound	%Recovery
Dibromochloromethane	103
1,2-Dibromoethane (EDB)	101
Chlorobenzene	95
Ethyl Benzene	91
m,p-Xylene	88
o-Xylene	87
Styrene	86
Bromoform	103
Cumene	88
1,1,2,2-Tetrachloroethane	93
Propylbenzene	84
4-Ethyltoluene	84
1,3,5-Trimethylbenzene	84
1,2,4-Trimethylbenzene	83
1,3-Dichlorobenzene	82
1,4-Dichlorobenzene	80
alpha-Chlorotoluene	90
1,2-Dichlorobenzene	78
1,2,4-Trichlorobenzene	81
Hexachlorobutadiene	70

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1709204-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091303	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/13/17 09:57 AM

Compound	%Recovery	Method Limits
Freon 12	102	70-130
Freon 114	100	70-130
Chloromethane	96	70-130
Vinyl Chloride	108	70-130
1,3-Butadiene	97	70-130
Bromomethane	112	70-130
Chloroethane	106	70-130
Freon 11	106	70-130
Ethanol	119	70-130
Freon 113	97	70-130
1,1-Dichloroethene	100	70-130
Acetone	93	70-130
2-Propanol	102	70-130
Carbon Disulfide	91	70-130
3-Chloropropene	108	70-130
Methylene Chloride	97	70-130
Methyl tert-butyl ether	100	70-130
trans-1,2-Dichloroethene	84	70-130
Hexane	95	70-130
1,1-Dichloroethane	102	70-130
2-Butanone (Methyl Ethyl Ketone)	100	70-130
cis-1,2-Dichloroethene	110	70-130
Tetrahydrofuran	111	70-130
Chloroform	87	70-130
1,1,1-Trichloroethane	94	70-130
Cyclohexane	100	70-130
Carbon Tetrachloride	137 Q	70-130
2,2,4-Trimethylpentane	98	70-130
Benzene	98	70-130
1,2-Dichloroethane	99	70-130
Heptane	92	70-130
Trichloroethene	98	70-130
1,2-Dichloropropane	104	70-130
1,4-Dioxane	96	70-130
Bromodichloromethane	103	70-130
cis-1,3-Dichloropropene	96	70-130
4-Methyl-2-pentanone	91	70-130
Toluene	98	70-130
trans-1,3-Dichloropropene	102	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	92	70-130
2-Hexanone	87	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1709204-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091303	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/13/17 09:57 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	102	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	95	70-130
Ethyl Benzene	92	70-130
m,p-Xylene	88	70-130
o-Xylene	89	70-130
Styrene	86	70-130
Bromoform	105	70-130
Cumene	89	70-130
1,1,2,2-Tetrachloroethane	95	70-130
Propylbenzene	86	70-130
4-Ethyltoluene	84	70-130
1,3,5-Trimethylbenzene	82	70-130
1,2,4-Trimethylbenzene	82	70-130
1,3-Dichlorobenzene	83	70-130
1,4-Dichlorobenzene	82	70-130
alpha-Chlorotoluene	94	70-130
1,2-Dichlorobenzene	82	70-130
1,2,4-Trichlorobenzene	97	70-130
Hexachlorobutadiene	84	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1709204-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091304	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	9/13/17 10:53 AM

Compound	%Recovery	Method Limits
Freon 12	101	70-130
Freon 114	100	70-130
Chloromethane	96	70-130
Vinyl Chloride	107	70-130
1,3-Butadiene	95	70-130
Bromomethane	107	70-130
Chloroethane	104	70-130
Freon 11	105	70-130
Ethanol	115	70-130
Freon 113	96	70-130
1,1-Dichloroethene	101	70-130
Acetone	92	70-130
2-Propanol	101	70-130
Carbon Disulfide	90	70-130
3-Chloropropene	108	70-130
Methylene Chloride	97	70-130
Methyl tert-butyl ether	99	70-130
trans-1,2-Dichloroethene	85	70-130
Hexane	95	70-130
1,1-Dichloroethane	100	70-130
2-Butanone (Methyl Ethyl Ketone)	99	70-130
cis-1,2-Dichloroethene	110	70-130
Tetrahydrofuran	102	70-130
Chloroform	83	70-130
1,1,1-Trichloroethane	93	70-130
Cyclohexane	100	70-130
Carbon Tetrachloride	133 Q	70-130
2,2,4-Trimethylpentane	97	70-130
Benzene	100	70-130
1,2-Dichloroethane	99	70-130
Heptane	93	70-130
Trichloroethene	99	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	105	70-130
cis-1,3-Dichloropropene	96	70-130
4-Methyl-2-pentanone	90	70-130
Toluene	98	70-130
trans-1,3-Dichloropropene	103	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	93	70-130
2-Hexanone	88	70-130

Client Sample ID: LCSD

Lab ID#: 1709204-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20091304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 9/13/17 10:53 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	104	70-130
1,2-Dibromoethane (EDB)	100	70-130
Chlorobenzene	95	70-130
Ethyl Benzene	93	70-130
m,p-Xylene	89	70-130
o-Xylene	92	70-130
Styrene	87	70-130
Bromoform	107	70-130
Cumene	90	70-130
1,1,2,2-Tetrachloroethane	97	70-130
Propylbenzene	89	70-130
4-Ethyltoluene	85	70-130
1,3,5-Trimethylbenzene	83	70-130
1,2,4-Trimethylbenzene	86	70-130
1,3-Dichlorobenzene	85	70-130
1,4-Dichlorobenzene	84	70-130
alpha-Chlorotoluene	96	70-130
1,2-Dichlorobenzene	82	70-130
1,2,4-Trichlorobenzene	101	70-130
Hexachlorobutadiene	88	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	100	70-130
4-Bromofluorobenzene	99	70-130