

5/14/2016

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1605091

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 5/4/2016 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 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 #: 1605091

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. #	3ESP160808
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	05/04/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	05/14/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1(162232)	Modified TO-15	5.5 "Hg	4.9 psi
02A	D2(162233)	Modified TO-15	4.7 "Hg	5.1 psi
03A	U1(162234)	Modified TO-15	5.9 "Hg	5 psi
04A	U2(162235)	Modified TO-15	0.1 psi	5.1 psi
05A	Lab Blank	Modified TO-15	NA	NA
06A	CCV	Modified TO-15	NA	NA
07A	LCS	Modified TO-15	NA	NA
07AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

 Technical Director

DATE: 05/14/16

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

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# 1605091

Four 6 Liter Summa Canister (100% Certified) samples were received on May 04, 2016. 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

Despite the use of flow controllers for sample collection, the final canister vacuums for sample U2(162235) was measured at ambient pressure in the field. These ambient pressure readings were confirmed by the laboratory upon sample receipt.

Analytical Notes

Dilution was performed on sample U2(162235) due to the presence of high level target species.

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(162232)

Lab ID#: 1605091-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.81	2.1
Freon 11	0.16	0.20	0.92	1.1
Ethanol	0.82	3.2	1.5	5.9
Acetone	0.82	2.6	1.9	6.1
Hexane	0.16	0.70	0.57	2.5
Heptane	0.16	0.46	0.67	1.9

Client Sample ID: D2(162233)

Lab ID#: 1605091-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.79	2.1
Freon 11	0.16	0.19	0.90	1.1
Ethanol	0.80	31	1.5	59
Acetone	0.80	3.7	1.9	8.8
2-Propanol	0.80	4.3	2.0	10
Methylene Chloride	0.32	2.8	1.1	9.7
Benzene	0.16	0.21	0.51	0.68
Toluene	0.16	0.68	0.60	2.6

Client Sample ID: U1(162234)

Lab ID#: 1605091-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.36	0.82	1.8
Freon 11	0.17	0.19	0.94	1.0
Ethanol	0.84	2.2	1.6	4.1
Acetone	0.84	2.3	2.0	5.5
Methylene Chloride	0.33	0.62	1.2	2.2

Client Sample ID: U2(162235)

Lab ID#: 1605091-04A

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

Client Sample ID: U2(162235)

Lab ID#: 1605091-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.27	0.37	1.3	1.8
Ethanol	1.3	52	2.5	99
Acetone	1.3	30	3.2	72
2-Propanol	1.3	9.6	3.3	24
Carbon Disulfide	1.3	2.0	4.2	6.3
Methylene Chloride	0.54	4.5	1.9	16
Hexane	0.27	0.76	0.94	2.7
2-Butanone (Methyl Ethyl Ketone)	1.3	3.8	4.0	11
Tetrahydrofuran	1.3	1.5	4.0	4.4
Cyclohexane	0.27	1.2	0.92	4.0
1,2-Dichloroethane	0.27	1.6	1.1	6.6
Heptane	0.27	1.1	1.1	4.6
4-Methyl-2-pentanone	0.27	3.8	1.1	15
Toluene	0.27	22	1.0	85
Ethyl Benzene	0.27	2.1	1.2	9.1
m,p-Xylene	0.27	4.5	1.2	19
o-Xylene	0.27	2.0	1.2	8.6
Styrene	0.27	1.5	1.1	6.3
4-Ethyltoluene	0.27	0.54	1.3	2.7
1,2,4-Trimethylbenzene	0.27	0.48	1.3	2.4



Air Toxics

Client Sample ID: D1(162232)

Lab ID#: 1605091-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050609	Date of Collection:	4/28/16 1:10:00 PM
Dil. Factor:	1.63	Date of Analysis:	5/6/16 02:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.81	2.1
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	0.20	0.92	1.1
Ethanol	0.82	3.2	1.5	5.9
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	2.6	1.9	6.1
2-Propanol	0.82	Not Detected	2.0	Not Detected
Carbon Disulfide	0.82	Not Detected	2.5	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	0.70	0.57	2.5
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	Not Detected	2.4	Not Detected
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	0.46	0.67	1.9
Trichloroethene	0.16	Not Detected	0.88	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.75	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	Not Detected	0.61	Not Detected
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	Not Detected	3.3	Not Detected



Client Sample ID: D1(162232)

Lab ID#: 1605091-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050609	Date of Collection: 4/28/16 1:10:00 PM
Dil. Factor:	1.63	Date of Analysis: 5/6/16 02:23 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	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.75	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
o-Xylene	0.16	Not Detected	0.71	Not Detected
Styrene	0.16	Not Detected	0.69	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.80	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.80	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.80	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.80	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.80	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.0	Not Detected
Hexachlorobutadiene	0.82	Not Detected	8.7	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: D2(162233)

Lab ID#: 1605091-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050610	Date of Collection:	4/28/16 1:05:00 PM
Dil. Factor:	1.60	Date of Analysis:	5/6/16 03:23 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.42	0.79	2.1
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.80	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,3-Butadiene	0.16	Not Detected	0.35	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.16	0.19	0.90	1.1
Ethanol	0.80	31	1.5	59
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.80	3.7	1.9	8.8
2-Propanol	0.80	4.3	2.0	10
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
3-Chloropropene	0.80	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	2.8	1.1	9.7
Methyl tert-butyl ether	0.16	Not Detected	0.58	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Hexane	0.16	Not Detected	0.56	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.78	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.87	Not Detected
Cyclohexane	0.16	Not Detected	0.55	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.80	Not Detected	3.7	Not Detected
Benzene	0.16	0.21	0.51	0.68
1,2-Dichloroethane	0.16	Not Detected	0.65	Not Detected
Heptane	0.16	Not Detected	0.66	Not Detected
Trichloroethene	0.16	Not Detected	0.86	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.74	Not Detected
1,4-Dioxane	0.16	Not Detected	0.58	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.66	Not Detected
Toluene	0.16	0.68	0.60	2.6
trans-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.87	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.80	Not Detected	3.3	Not Detected



Client Sample ID: D2(162233)

Lab ID#: 1605091-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050610	Date of Collection: 4/28/16 1:05:00 PM
Dil. Factor:	1.60	Date of Analysis: 5/6/16 03:23 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	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.74	Not Detected
Ethyl Benzene	0.16	Not Detected	0.69	Not Detected
m,p-Xylene	0.16	Not Detected	0.69	Not Detected
o-Xylene	0.16	Not Detected	0.69	Not Detected
Styrene	0.16	Not Detected	0.68	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.79	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.79	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.79	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	5.9	Not Detected
Hexachlorobutadiene	0.80	Not Detected	8.5	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: U1(162234)

Lab ID#: 1605091-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050611	Date of Collection:	4/28/16 12:40:00 PM
Dil. Factor:	1.67	Date of Analysis:	5/6/16 04:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.36	0.82	1.8
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	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.2	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.19	0.94	1.0
Ethanol	0.84	2.2	1.6	4.1
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.84	2.3	2.0	5.5
2-Propanol	0.84	Not Detected	2.0	Not Detected
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	0.62	1.2	2.2
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	0.59	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	Not Detected	2.5	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.66	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	0.91	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	0.84	Not Detected	3.9	Not Detected
Benzene	0.17	Not Detected	0.53	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	Not Detected	0.68	Not Detected
Trichloroethene	0.17	Not Detected	0.90	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	0.76	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.68	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	0.91	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.84	Not Detected	3.4	Not Detected

Client Sample ID: U1(162234)

Lab ID#: 1605091-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050611	Date of Collection:	4/28/16 12:40:00 PM
Dil. Factor:	1.67	Date of Analysis:	5/6/16 04:10 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	0.77	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	0.84	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.84	Not Detected	8.9	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: U2(162235)

Lab ID#: 1605091-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050613	Date of Collection:	4/28/16 12:50:00 PM
Dil. Factor:	2.68	Date of Analysis:	5/6/16 06:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.27	0.37	1.3	1.8
Freon 114	0.27	Not Detected	1.9	Not Detected
Chloromethane	1.3	Not Detected	2.8	Not Detected
Vinyl Chloride	0.27	Not Detected	0.68	Not Detected
1,3-Butadiene	0.27	Not Detected	0.59	Not Detected
Bromomethane	1.3	Not Detected	5.2	Not Detected
Chloroethane	1.3	Not Detected	3.5	Not Detected
Freon 11	0.27	Not Detected	1.5	Not Detected
Ethanol	1.3	52	2.5	99
Freon 113	0.27	Not Detected	2.0	Not Detected
1,1-Dichloroethene	0.27	Not Detected	1.1	Not Detected
Acetone	1.3	30	3.2	72
2-Propanol	1.3	9.6	3.3	24
Carbon Disulfide	1.3	2.0	4.2	6.3
3-Chloropropene	1.3	Not Detected	4.2	Not Detected
Methylene Chloride	0.54	4.5	1.9	16
Methyl tert-butyl ether	0.27	Not Detected	0.97	Not Detected
trans-1,2-Dichloroethene	0.27	Not Detected	1.1	Not Detected
Hexane	0.27	0.76	0.94	2.7
1,1-Dichloroethane	0.27	Not Detected	1.1	Not Detected
2-Butanone (Methyl Ethyl Ketone)	1.3	3.8	4.0	11
cis-1,2-Dichloroethene	0.27	Not Detected	1.1	Not Detected
Tetrahydrofuran	1.3	1.5	4.0	4.4
Chloroform	0.27	Not Detected	1.3	Not Detected
1,1,1-Trichloroethane	0.27	Not Detected	1.5	Not Detected
Cyclohexane	0.27	1.2	0.92	4.0
Carbon Tetrachloride	0.27	Not Detected	1.7	Not Detected
2,2,4-Trimethylpentane	1.3	Not Detected	6.2	Not Detected
Benzene	0.27	Not Detected	0.86	Not Detected
1,2-Dichloroethane	0.27	1.6	1.1	6.6
Heptane	0.27	1.1	1.1	4.6
Trichloroethene	0.27	Not Detected	1.4	Not Detected
1,2-Dichloropropane	0.27	Not Detected	1.2	Not Detected
1,4-Dioxane	0.27	Not Detected	0.96	Not Detected
Bromodichloromethane	0.27	Not Detected	1.8	Not Detected
cis-1,3-Dichloropropene	0.27	Not Detected	1.2	Not Detected
4-Methyl-2-pentanone	0.27	3.8	1.1	15
Toluene	0.27	22	1.0	85
trans-1,3-Dichloropropene	0.27	Not Detected	1.2	Not Detected
1,1,2-Trichloroethane	0.27	Not Detected	1.5	Not Detected
Tetrachloroethene	0.27	Not Detected	1.8	Not Detected
2-Hexanone	1.3	Not Detected	5.5	Not Detected



Client Sample ID: U2(162235)

Lab ID#: 1605091-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050613	Date of Collection:	4/28/16 12:50:00 PM
Dil. Factor:	2.68	Date of Analysis:	5/6/16 06:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.27	Not Detected	2.3	Not Detected
1,2-Dibromoethane (EDB)	0.27	Not Detected	2.0	Not Detected
Chlorobenzene	0.27	Not Detected	1.2	Not Detected
Ethyl Benzene	0.27	2.1	1.2	9.1
m,p-Xylene	0.27	4.5	1.2	19
o-Xylene	0.27	2.0	1.2	8.6
Styrene	0.27	1.5	1.1	6.3
Bromoform	0.27	Not Detected	2.8	Not Detected
Cumene	0.27	Not Detected	1.3	Not Detected
1,1,2,2-Tetrachloroethane	0.27	Not Detected	1.8	Not Detected
Propylbenzene	0.27	Not Detected	1.3	Not Detected
4-Ethyltoluene	0.27	0.54	1.3	2.7
1,3,5-Trimethylbenzene	0.27	Not Detected	1.3	Not Detected
1,2,4-Trimethylbenzene	0.27	0.48	1.3	2.4
1,3-Dichlorobenzene	0.27	Not Detected	1.6	Not Detected
1,4-Dichlorobenzene	0.27	Not Detected	1.6	Not Detected
alpha-Chlorotoluene	0.27	Not Detected	1.4	Not Detected
1,2-Dichlorobenzene	0.27	Not Detected	1.6	Not Detected
1,2,4-Trichlorobenzene	1.3	Not Detected	9.9	Not Detected
Hexachlorobutadiene	1.3	Not Detected	14	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1605091-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050608	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/6/16 01:26 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#: 1605091-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050608	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/6/16 01:26 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	87	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1605091-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/6/16 09:28 AM

Compound	%Recovery
Freon 12	87
Freon 114	94
Chloromethane	94
Vinyl Chloride	93
1,3-Butadiene	94
Bromomethane	102
Chloroethane	104
Freon 11	88
Ethanol	96
Freon 113	87
1,1-Dichloroethene	91
Acetone	88
2-Propanol	87
Carbon Disulfide	90
3-Chloropropene	130
Methylene Chloride	89
Methyl tert-butyl ether	89
trans-1,2-Dichloroethene	94
Hexane	95
1,1-Dichloroethane	90
2-Butanone (Methyl Ethyl Ketone)	94
cis-1,2-Dichloroethene	94
Tetrahydrofuran	74
Chloroform	86
1,1,1-Trichloroethane	83
Cyclohexane	98
Carbon Tetrachloride	80
2,2,4-Trimethylpentane	100
Benzene	87
1,2-Dichloroethane	79
Heptane	93
Trichloroethene	94
1,2-Dichloropropane	91
1,4-Dioxane	93
Bromodichloromethane	87
cis-1,3-Dichloropropene	89
4-Methyl-2-pentanone	89
Toluene	92
trans-1,3-Dichloropropene	90
1,1,2-Trichloroethane	90
Tetrachloroethene	99
2-Hexanone	92



Air Toxics

Client Sample ID: CCV

Lab ID#: 1605091-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/6/16 09:28 AM

Compound	%Recovery
Dibromochloromethane	95
1,2-Dibromoethane (EDB)	96
Chlorobenzene	96
Ethyl Benzene	94
m,p-Xylene	100
o-Xylene	99
Styrene	98
Bromoform	98
Cumene	90
1,1,2,2-Tetrachloroethane	77
Propylbenzene	83
4-Ethyltoluene	85
1,3,5-Trimethylbenzene	76
1,2,4-Trimethylbenzene	74
1,3-Dichlorobenzene	79
1,4-Dichlorobenzene	81
alpha-Chlorotoluene	82
1,2-Dichlorobenzene	84
1,2,4-Trichlorobenzene	97
Hexachlorobutadiene	108

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1605091-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050605	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/6/16 10:54 AM

Compound	%Recovery	Method Limits
Freon 12	91	70-130
Freon 114	102	70-130
Chloromethane	97	70-130
Vinyl Chloride	96	70-130
1,3-Butadiene	93	70-130
Bromomethane	105	70-130
Chloroethane	117	70-130
Freon 11	93	70-130
Ethanol	100	70-130
Freon 113	86	70-130
1,1-Dichloroethene	96	70-130
Acetone	88	70-130
2-Propanol	92	70-130
Carbon Disulfide	80	70-130
3-Chloropropene	123	70-130
Methylene Chloride	90	70-130
Methyl tert-butyl ether	91	70-130
trans-1,2-Dichloroethene	98	70-130
Hexane	96	70-130
1,1-Dichloroethane	89	70-130
2-Butanone (Methyl Ethyl Ketone)	93	70-130
cis-1,2-Dichloroethene	94	70-130
Tetrahydrofuran	73	70-130
Chloroform	89	70-130
1,1,1-Trichloroethane	86	70-130
Cyclohexane	102	70-130
Carbon Tetrachloride	89	70-130
2,2,4-Trimethylpentane	105	70-130
Benzene	95	70-130
1,2-Dichloroethane	85	70-130
Heptane	102	70-130
Trichloroethene	105	70-130
1,2-Dichloropropane	98	70-130
1,4-Dioxane	95	70-130
Bromodichloromethane	98	70-130
cis-1,3-Dichloropropene	91	70-130
4-Methyl-2-pentanone	95	70-130
Toluene	100	70-130
trans-1,3-Dichloropropene	94	70-130
1,1,2-Trichloroethane	94	70-130
Tetrachloroethene	105	70-130
2-Hexanone	102	70-130

Client Sample ID: LCS

Lab ID#: 1605091-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050605	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/6/16 10:54 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	102	70-130
1,2-Dibromoethane (EDB)	103	70-130
Chlorobenzene	101	70-130
Ethyl Benzene	102	70-130
m,p-Xylene	107	70-130
o-Xylene	110	70-130
Styrene	103	70-130
Bromoform	106	70-130
Cumene	98	70-130
1,1,2,2-Tetrachloroethane	82	70-130
Propylbenzene	90	70-130
4-Ethyltoluene	91	70-130
1,3,5-Trimethylbenzene	81	70-130
1,2,4-Trimethylbenzene	80	70-130
1,3-Dichlorobenzene	83	70-130
1,4-Dichlorobenzene	87	70-130
alpha-Chlorotoluene	77	70-130
1,2-Dichlorobenzene	91	70-130
1,2,4-Trichlorobenzene	104	70-130
Hexachlorobutadiene	118	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	85	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCS D

Lab ID#: 1605091-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050606	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/6/16 11:37 AM

Compound	%Recovery	Method Limits
Freon 12	93	70-130
Freon 114	103	70-130
Chloromethane	92	70-130
Vinyl Chloride	99	70-130
1,3-Butadiene	96	70-130
Bromomethane	108	70-130
Chloroethane	117	70-130
Freon 11	95	70-130
Ethanol	102	70-130
Freon 113	90	70-130
1,1-Dichloroethene	95	70-130
Acetone	87	70-130
2-Propanol	95	70-130
Carbon Disulfide	84	70-130
3-Chloropropene	127	70-130
Methylene Chloride	93	70-130
Methyl tert-butyl ether	92	70-130
trans-1,2-Dichloroethene	104	70-130
Hexane	98	70-130
1,1-Dichloroethane	93	70-130
2-Butanone (Methyl Ethyl Ketone)	92	70-130
cis-1,2-Dichloroethene	94	70-130
Tetrahydrofuran	79	70-130
Chloroform	90	70-130
1,1,1-Trichloroethane	87	70-130
Cyclohexane	101	70-130
Carbon Tetrachloride	91	70-130
2,2,4-Trimethylpentane	100	70-130
Benzene	96	70-130
1,2-Dichloroethane	83	70-130
Heptane	99	70-130
Trichloroethene	106	70-130
1,2-Dichloropropane	97	70-130
1,4-Dioxane	98	70-130
Bromodichloromethane	96	70-130
cis-1,3-Dichloropropene	91	70-130
4-Methyl-2-pentanone	95	70-130
Toluene	99	70-130
trans-1,3-Dichloropropene	93	70-130
1,1,2-Trichloroethane	94	70-130
Tetrachloroethene	107	70-130
2-Hexanone	101	70-130

Client Sample ID: LCSD

Lab ID#: 1605091-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e050606	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/6/16 11:37 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	103	70-130
1,2-Dibromoethane (EDB)	105	70-130
Chlorobenzene	101	70-130
Ethyl Benzene	102	70-130
m,p-Xylene	107	70-130
o-Xylene	109	70-130
Styrene	104	70-130
Bromoform	108	70-130
Cumene	98	70-130
1,1,2,2-Tetrachloroethane	85	70-130
Propylbenzene	91	70-130
4-Ethyltoluene	92	70-130
1,3,5-Trimethylbenzene	81	70-130
1,2,4-Trimethylbenzene	81	70-130
1,3-Dichlorobenzene	85	70-130
1,4-Dichlorobenzene	86	70-130
alpha-Chlorotoluene	79	70-130
1,2-Dichlorobenzene	93	70-130
1,2,4-Trichlorobenzene	99	70-130
Hexachlorobutadiene	111	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130