

6/11/2016
Mr. Curt Lueckenhoff
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill
Project #:
Workorder #: 1605589

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 5/31/2016 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 #: 1605589

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. #	3ESP160908
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	05/31/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/11/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1(162494)	Modified TO-15	6.1 "Hg	5.1 psi
02A	D2(162495)	Modified TO-15	5.9 "Hg	4.7 psi
03A	U1(162496)	Modified TO-15	7.3 "Hg	4.9 psi
04A	U2(162497)	Modified TO-15	6.9 "Hg	5 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: 06/11/16

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# 1605589**

Four 6 Liter Summa Canister (100% Certified) samples were received on May 31, 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

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(162494)

Lab ID#: 1605589-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.42	0.84	2.1
Freon 11	0.17	0.23	0.95	1.3
Ethanol	0.84	19	1.6	36
Acetone	0.84	6.2	2.0	15
2-Propanol	0.84	4.2	2.1	10
Hexane	0.17	0.17	0.60	0.62
Cyclohexane	0.17	0.23	0.58	0.80
Benzene	0.17	0.17	0.54	0.54
Toluene	0.17	1.0	0.64	3.8
m,p-Xylene	0.17	0.19	0.73	0.82

Client Sample ID: D2(162495)

Lab ID#: 1605589-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.41	0.81	2.0
Freon 11	0.16	0.22	0.92	1.2
Ethanol	0.82	18	1.5	35
Acetone	0.82	5.2	1.9	12
2-Propanol	0.82	3.8	2.0	9.2
Hexane	0.16	0.16 J	0.58	0.56 J
Cyclohexane	0.16	0.20	0.56	0.70
Benzene	0.16	0.16 J	0.52	0.51 J
Toluene	0.16	0.92	0.62	3.4

Client Sample ID: U1(162496)

Lab ID#: 1605589-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.38	0.87	1.9
Freon 11	0.18	0.20	0.99	1.2
Ethanol	0.88	4.8	1.6	9.0
Acetone	0.88	3.3	2.1	7.8

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

Client Sample ID: U1(162496)

Lab ID#: 1605589-03A

Toluene	0.18	0.18	0.66	0.68
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Client Sample ID: U2(162497)

Lab ID#: 1605589-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.46	0.86	2.3
Freon 11	0.17	0.22	0.98	1.2
Ethanol	0.87	38	1.6	71
Acetone	0.87	10	2.1	25
2-Propanol	0.87	9.2	2.1	23
Methylene Chloride	0.35	0.34 J	1.2	1.2 J
Hexane	0.17	0.34	0.61	1.2
2-Butanone (Methyl Ethyl Ketone)	0.87	1.0	2.6	3.1
Cyclohexane	0.17	0.44	0.60	1.5
Benzene	0.17	0.19	0.56	0.60
Heptane	0.17	0.21	0.71	0.85
4-Methyl-2-pentanone	0.17	0.21	0.71	0.86
Toluene	0.17	2.2	0.66	8.2
m,p-Xylene	0.17	0.28	0.76	1.2



Air Toxics

Client Sample ID: D1(162494)

Lab ID#: 1605589-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060211	Date of Collection:	5/24/16 1:05:00 PM
Dil. Factor:	1.69	Date of Analysis:	6/2/16 02:43 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.42	0.84	2.1
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	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.23	0.95	1.3
Ethanol	0.84	19	1.6	36
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	6.2	2.0	15
2-Propanol	0.84	4.2	2.1	10
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.61	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Hexane	0.17	0.17	0.60	0.62
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	0.67	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Cyclohexane	0.17	0.23	0.58	0.80
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.84	Not Detected	3.9	Not Detected
Benzene	0.17	0.17	0.54	0.54
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	Not Detected	0.69	Not Detected
Trichloroethene	0.17	Not Detected	0.91	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
1,4-Dioxane	0.17	Not Detected	0.61	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.69	Not Detected
Toluene	0.17	1.0	0.64	3.8
trans-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.84	Not Detected	3.5	Not Detected



Client Sample ID: D1(162494)

Lab ID#: 1605589-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060211	Date of Collection:	5/24/16 1:05:00 PM
Dil. Factor:	1.69	Date of Analysis:	6/2/16 02:43 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	0.78	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	0.19	0.73	0.82
o-Xylene	0.17	Not Detected	0.73	Not Detected
Styrene	0.17	Not Detected	0.72	Not Detected
Bromoform	0.17	Not Detected	1.7	Not Detected
Cumene	0.17	Not Detected	0.83	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.83	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.83	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.83	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.83	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: D2(162495)

Lab ID#: 1605589-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060212	Date of Collection:	5/24/16 1:10:00 PM
Dil. Factor:	1.64	Date of Analysis:	6/2/16 03:25 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.41	0.81	2.0
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	0.22	0.92	1.2
Ethanol	0.82	18	1.5	35
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	5.2	1.9	12
2-Propanol	0.82	3.8	2.0	9.2
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	0.16 J	0.58	0.56 J
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	0.20	0.56	0.70
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	0.16 J	0.52	0.51 J
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	Not Detected	0.67	Not Detected
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	0.92	0.62	3.4
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	3.4	Not Detected

Client Sample ID: D2(162495)

Lab ID#: 1605589-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060212	Date of Collection: 5/24/16 1:10:00 PM
Dil. Factor:	1.64	Date of Analysis: 6/2/16 03:25 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	Not Detected	0.71	Not Detected
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

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: U1(162496)

Lab ID#: 1605589-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060213	Date of Collection:	5/24/16 1:25:00 PM
Dil. Factor:	1.76	Date of Analysis:	6/2/16 04:08 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.38	0.87	1.9
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	0.20	0.99	1.2
Ethanol	0.88	4.8	1.6	9.0
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Acetone	0.88	3.3	2.1	7.8
2-Propanol	0.88	Not Detected	2.2	Not Detected
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	Not Detected	0.62	Not Detected
1,1-Dichloroethane	0.18	Not Detected	0.71	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
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	Not Detected	0.72	Not Detected
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	0.18	0.66	0.68
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: U1(162496)

Lab ID#: 1605589-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060213	Date of Collection: 5/24/16 1:25:00 PM
Dil. Factor:	1.76	Date of Analysis: 6/2/16 04:08 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	Not Detected	0.76	Not Detected
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% Certified)

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



Air Toxics

Client Sample ID: U2(162497)

Lab ID#: 1605589-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060214	Date of Collection:	5/24/16 12:55:00 PM
Dil. Factor:	1.74	Date of Analysis:	6/2/16 04:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.46	0.86	2.3
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.87	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	0.87	Not Detected	3.4	Not Detected
Chloroethane	0.87	Not Detected	2.3	Not Detected
Freon 11	0.17	0.22	0.98	1.2
Ethanol	0.87	38	1.6	71
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Acetone	0.87	10	2.1	25
2-Propanol	0.87	9.2	2.1	23
Carbon Disulfide	0.87	Not Detected	2.7	Not Detected
3-Chloropropene	0.87	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	0.34 J	1.2	1.2 J
Methyl tert-butyl ether	0.17	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Hexane	0.17	0.34	0.61	1.2
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.87	1.0	2.6	3.1
cis-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Tetrahydrofuran	0.87	Not Detected	2.6	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.95	Not Detected
Cyclohexane	0.17	0.44	0.60	1.5
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.87	Not Detected	4.1	Not Detected
Benzene	0.17	0.19	0.56	0.60
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	0.21	0.71	0.85
Trichloroethene	0.17	Not Detected	0.94	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.80	Not Detected
1,4-Dioxane	0.17	Not Detected	0.63	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
4-Methyl-2-pentanone	0.17	0.21	0.71	0.86
Toluene	0.17	2.2	0.66	8.2
trans-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.95	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.87	Not Detected	3.6	Not Detected



Client Sample ID: U2(162497)

Lab ID#: 1605589-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060214	Date of Collection:	5/24/16 12:55:00 PM
Dil. Factor:	1.74	Date of Analysis:	6/2/16 04:50 PM

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	0.80	Not Detected
Ethyl Benzene	0.17	Not Detected	0.76	Not Detected
m,p-Xylene	0.17	0.28	0.76	1.2
o-Xylene	0.17	Not Detected	0.76	Not Detected
Styrene	0.17	Not Detected	0.74	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.86	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	0.90	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.87	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.87	Not Detected	9.3	Not Detected

J = Estimated value.

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

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



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1605589-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060207	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/2/16 10:30 AM

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#: 1605589-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060207	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/2/16 10:30 AM

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	92	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1605589-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/2/16 06:33 AM

Compound	%Recovery
Freon 12	112
Freon 114	119
Chloromethane	112
Vinyl Chloride	114
1,3-Butadiene	111
Bromomethane	128
Chloroethane	130
Freon 11	116
Ethanol	120
Freon 113	106
1,1-Dichloroethene	112
Acetone	103
2-Propanol	107
Carbon Disulfide	114
3-Chloropropene	156 Q
Methylene Chloride	109
Methyl tert-butyl ether	111
trans-1,2-Dichloroethene	119
Hexane	115
1,1-Dichloroethane	112
2-Butanone (Methyl Ethyl Ketone)	113
cis-1,2-Dichloroethene	114
Tetrahydrofuran	89
Chloroform	110
1,1,1-Trichloroethane	109
Cyclohexane	123
Carbon Tetrachloride	107
2,2,4-Trimethylpentane	121
Benzene	111
1,2-Dichloroethane	109
Heptane	113
Trichloroethene	120
1,2-Dichloropropane	112
1,4-Dioxane	115
Bromodichloromethane	116
cis-1,3-Dichloropropene	115
4-Methyl-2-pentanone	111
Toluene	115
trans-1,3-Dichloropropene	111
1,1,2-Trichloroethane	111
Tetrachloroethene	124
2-Hexanone	107



Air Toxics

Client Sample ID: CCV

Lab ID#: 1605589-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/2/16 06:33 AM

Compound	%Recovery
Dibromochloromethane	120
1,2-Dibromoethane (EDB)	119
Chlorobenzene	118
Ethyl Benzene	117
m,p-Xylene	124
o-Xylene	122
Styrene	123
Bromoform	126
Cumene	112
1,1,2,2-Tetrachloroethane	96
Propylbenzene	105
4-Ethyltoluene	109
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	98
1,4-Dichlorobenzene	103
alpha-Chlorotoluene	103
1,2-Dichlorobenzene	106
1,2,4-Trichlorobenzene	118
Hexachlorobutadiene	137 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1605589-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/2/16 07:18 AM

Compound	%Recovery	Method Limits
Freon 12	91	70-130
Freon 114	99	70-130
Chloromethane	89	70-130
Vinyl Chloride	87	70-130
1,3-Butadiene	82	70-130
Bromomethane	99	70-130
Chloroethane	104	70-130
Freon 11	92	70-130
Ethanol	96	70-130
Freon 113	82	70-130
1,1-Dichloroethene	87	70-130
Acetone	85	70-130
2-Propanol	84	70-130
Carbon Disulfide	80	70-130
3-Chloropropene	100	70-130
Methylene Chloride	87	70-130
Methyl tert-butyl ether	84	70-130
trans-1,2-Dichloroethene	93	70-130
Hexane	85	70-130
1,1-Dichloroethane	85	70-130
2-Butanone (Methyl Ethyl Ketone)	89	70-130
cis-1,2-Dichloroethene	87	70-130
Tetrahydrofuran	66 Q	70-130
Chloroform	85	70-130
1,1,1-Trichloroethane	85	70-130
Cyclohexane	91	70-130
Carbon Tetrachloride	85	70-130
2,2,4-Trimethylpentane	88	70-130
Benzene	86	70-130
1,2-Dichloroethane	87	70-130
Heptane	87	70-130
Trichloroethene	94	70-130
1,2-Dichloropropane	89	70-130
1,4-Dioxane	84	70-130
Bromodichloromethane	92	70-130
cis-1,3-Dichloropropene	82	70-130
4-Methyl-2-pentanone	83	70-130
Toluene	90	70-130
trans-1,3-Dichloropropene	91	70-130
1,1,2-Trichloroethane	91	70-130
Tetrachloroethene	101	70-130
2-Hexanone	81	70-130

Client Sample ID: LCS

Lab ID#: 1605589-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/2/16 07:18 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	97	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	95	70-130
Ethyl Benzene	95	70-130
m,p-Xylene	101	70-130
o-Xylene	102	70-130
Styrene	97	70-130
Bromoform	103	70-130
Cumene	91	70-130
1,1,2,2-Tetrachloroethane	80	70-130
Propylbenzene	85	70-130
4-Ethyltoluene	86	70-130
1,3,5-Trimethylbenzene	76	70-130
1,2,4-Trimethylbenzene	75	70-130
1,3-Dichlorobenzene	82	70-130
1,4-Dichlorobenzene	83	70-130
alpha-Chlorotoluene	84	70-130
1,2-Dichlorobenzene	87	70-130
1,2,4-Trichlorobenzene	120	70-130
Hexachlorobutadiene	121	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCS D

Lab ID#: 1605589-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/2/16 08:01 AM

Compound	%Recovery	Method Limits
Freon 12	86	70-130
Freon 114	93	70-130
Chloromethane	84	70-130
Vinyl Chloride	88	70-130
1,3-Butadiene	84	70-130
Bromomethane	96	70-130
Chloroethane	102	70-130
Freon 11	90	70-130
Ethanol	93	70-130
Freon 113	81	70-130
1,1-Dichloroethene	87	70-130
Acetone	82	70-130
2-Propanol	78	70-130
Carbon Disulfide	76	70-130
3-Chloropropene	109	70-130
Methylene Chloride	80	70-130
Methyl tert-butyl ether	83	70-130
trans-1,2-Dichloroethene	92	70-130
Hexane	86	70-130
1,1-Dichloroethane	84	70-130
2-Butanone (Methyl Ethyl Ketone)	86	70-130
cis-1,2-Dichloroethene	81	70-130
Tetrahydrofuran	65 Q	70-130
Chloroform	81	70-130
1,1,1-Trichloroethane	82	70-130
Cyclohexane	88	70-130
Carbon Tetrachloride	82	70-130
2,2,4-Trimethylpentane	93	70-130
Benzene	86	70-130
1,2-Dichloroethane	85	70-130
Heptane	84	70-130
Trichloroethene	92	70-130
1,2-Dichloropropane	86	70-130
1,4-Dioxane	83	70-130
Bromodichloromethane	92	70-130
cis-1,3-Dichloropropene	81	70-130
4-Methyl-2-pentanone	85	70-130
Toluene	89	70-130
trans-1,3-Dichloropropene	91	70-130
1,1,2-Trichloroethane	87	70-130
Tetrachloroethene	98	70-130
2-Hexanone	80	70-130

Client Sample ID: LCSD

Lab ID#: 1605589-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e060204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/2/16 08:01 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	94	70-130
1,2-Dibromoethane (EDB)	96	70-130
Chlorobenzene	93	70-130
Ethyl Benzene	93	70-130
m,p-Xylene	96	70-130
o-Xylene	98	70-130
Styrene	96	70-130
Bromoform	99	70-130
Cumene	87	70-130
1,1,2,2-Tetrachloroethane	76	70-130
Propylbenzene	82	70-130
4-Ethyltoluene	84	70-130
1,3,5-Trimethylbenzene	73	70-130
1,2,4-Trimethylbenzene	72	70-130
1,3-Dichlorobenzene	77	70-130
1,4-Dichlorobenzene	81	70-130
alpha-Chlorotoluene	84	70-130
1,2-Dichlorobenzene	85	70-130
1,2,4-Trichlorobenzene	103	70-130
Hexachlorobutadiene	112	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130