

6/14/2016

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1606185

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 6/8/2016 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 #: 1606185

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. #	3ESP160938
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	06/08/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/14/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (162498)	Modified TO-15	6.5 "Hg	5 psi
02A	D2 (162499)	Modified TO-15	7.8 "Hg	5 psi
03A	U1 (162500)	Modified TO-15	6.9 "Hg	4.8 psi
04A	U2 (162501)	Modified TO-15	6.1 "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: 06/14/16

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# 1606185

Four 6 Liter Summa Canister (100% Certified) samples were received on June 08, 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	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	$\leq 30\%$ 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 (162498)

Lab ID#: 1606185-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.41	0.84	2.0
Freon 11	0.17	0.21	0.96	1.2
Ethanol	0.86	30	1.6	57
Acetone	0.86	4.6	2.0	11
2-Propanol	0.86	1.4	2.1	3.3
2-Butanone (Methyl Ethyl Ketone)	0.86	1.0	2.5	3.0

Client Sample ID: D2 (162499)

Lab ID#: 1606185-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.44	0.90	2.2
Freon 11	0.18	0.20	1.0	1.1
Ethanol	0.90	29	1.7	54
Acetone	0.90	3.3	2.1	7.8
2-Propanol	0.90	1.9	2.2	4.6
Methylene Chloride	0.36	0.61	1.2	2.1
Benzene	0.18	0.22	0.58	0.72
Toluene	0.18	0.49	0.68	1.8

Client Sample ID: U1 (162500)

Lab ID#: 1606185-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.45	0.85	2.2
Freon 11	0.17	0.20	0.97	1.2
Ethanol	0.86	16	1.6	30
Acetone	0.86	3.9	2.0	9.2
2-Propanol	0.86	1.2	2.1	2.9
Hexane	0.17	0.22	0.61	0.76
Heptane	0.17	0.19	0.70	0.77
Toluene	0.17	0.22	0.65	0.83

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

Client Sample ID: U2 (162501)

Lab ID#: 1606185-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.50	0.83	2.5
Freon 11	0.17	0.22	0.94	1.2
Ethanol	0.84	120 E	1.6	220 E
Acetone	0.84	5.6	2.0	13
2-Propanol	0.84	6.8	2.1	17
Methylene Chloride	0.34	2.7	1.2	9.4
Cyclohexane	0.17	0.20	0.58	0.69
Heptane	0.17	0.33	0.69	1.4
4-Methyl-2-pentanone	0.17	0.18	0.69	0.72
Toluene	0.17	2.1	0.63	8.0
m,p-Xylene	0.17	0.35	0.73	1.5



Air Toxics

Client Sample ID: D1 (162498)

Lab ID#: 1606185-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061011	Date of Collection:	6/2/16 1:30:00 PM
Dil. Factor:	1.71	Date of Analysis:	6/10/16 04:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.41	0.84	2.0
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	0.21	0.96	1.2
Ethanol	0.86	30	1.6	57
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	4.6	2.0	11
2-Propanol	0.86	1.4	2.1	3.3
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	Not Detected	0.60	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	1.0	2.5	3.0
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	Not Detected	0.70	Not Detected
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 (162498)

Lab ID#: 1606185-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061011	Date of Collection:	6/2/16 1:30:00 PM
Dil. Factor:	1.71	Date of Analysis:	6/10/16 04:52 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	104	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: D2 (162499)

Lab ID#: 1606185-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061012	Date of Collection:	6/2/16 1:20:00 PM
Dil. Factor:	1.81	Date of Analysis:	6/10/16 05:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.44	0.90	2.2
Freon 114	0.18	Not Detected	1.3	Not Detected
Chloromethane	0.90	Not Detected	1.9	Not Detected
Vinyl Chloride	0.18	Not Detected	0.46	Not Detected
1,3-Butadiene	0.18	Not Detected	0.40	Not Detected
Bromomethane	0.90	Not Detected	3.5	Not Detected
Chloroethane	0.90	Not Detected	2.4	Not Detected
Freon 11	0.18	0.20	1.0	1.1
Ethanol	0.90	29	1.7	54
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Acetone	0.90	3.3	2.1	7.8
2-Propanol	0.90	1.9	2.2	4.6
Carbon Disulfide	0.90	Not Detected	2.8	Not Detected
3-Chloropropene	0.90	Not Detected	2.8	Not Detected
Methylene Chloride	0.36	0.61	1.2	2.1
Methyl tert-butyl ether	0.18	Not Detected	0.65	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Hexane	0.18	Not Detected	0.64	Not Detected
1,1-Dichloroethane	0.18	Not Detected	0.73	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.90	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Tetrahydrofuran	0.90	Not Detected	2.7	Not Detected
Chloroform	0.18	Not Detected	0.88	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.99	Not Detected
Cyclohexane	0.18	Not Detected	0.62	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.90	Not Detected	4.2	Not Detected
Benzene	0.18	0.22	0.58	0.72
1,2-Dichloroethane	0.18	Not Detected	0.73	Not Detected
Heptane	0.18	Not Detected	0.74	Not Detected
Trichloroethene	0.18	Not Detected	0.97	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.84	Not Detected
1,4-Dioxane	0.18	Not Detected	0.65	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.82	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.74	Not Detected
Toluene	0.18	0.49	0.68	1.8
trans-1,3-Dichloropropene	0.18	Not Detected	0.82	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.99	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.90	Not Detected	3.7	Not Detected

Client Sample ID: D2 (162499)

Lab ID#: 1606185-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061012	Date of Collection: 6/2/16 1:20:00 PM
Dil. Factor:	1.81	Date of Analysis: 6/10/16 05:36 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	0.83	Not Detected
Ethyl Benzene	0.18	Not Detected	0.78	Not Detected
m,p-Xylene	0.18	Not Detected	0.78	Not Detected
o-Xylene	0.18	Not Detected	0.78	Not Detected
Styrene	0.18	Not Detected	0.77	Not Detected
Bromoform	0.18	Not Detected	1.9	Not Detected
Cumene	0.18	Not Detected	0.89	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.89	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.89	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.89	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.89	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.94	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.90	Not Detected	6.7	Not Detected
Hexachlorobutadiene	0.90	Not Detected	9.6	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: U1 (162500)

Lab ID#: 1606185-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061013	Date of Collection:	6/2/16 1:35:00 PM
Dil. Factor:	1.72	Date of Analysis:	6/10/16 06:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.45	0.85	2.2
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.3	Not Detected
Freon 11	0.17	0.20	0.97	1.2
Ethanol	0.86	16	1.6	30
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	3.9	2.0	9.2
2-Propanol	0.86	1.2	2.1	2.9
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	0.22	0.61	0.76
1,1-Dichloroethane	0.17	Not Detected	0.70	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	0.84	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Cyclohexane	0.17	Not Detected	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	0.19	0.70	0.77
Trichloroethene	0.17	Not Detected	0.92	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	0.22	0.65	0.83
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected

Client Sample ID: U1 (162500)

Lab ID#: 1606185-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061013	Date of Collection: 6/2/16 1:35:00 PM
Dil. Factor:	1.72	Date of Analysis: 6/10/16 06:22 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	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.75	Not Detected
m,p-Xylene	0.17	Not Detected	0.75	Not Detected
o-Xylene	0.17	Not Detected	0.75	Not Detected
Styrene	0.17	Not Detected	0.73	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.2	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: U2 (162501)

Lab ID#: 1606185-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061014	Date of Collection:	6/2/16 1:45:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/10/16 07:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.50	0.83	2.5
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	0.22	0.94	1.2
Ethanol	0.84	120 E	1.6	220 E
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	5.6	2.0	13
2-Propanol	0.84	6.8	2.1	17
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	2.7	1.2	9.4
Methyl tert-butyl ether	0.17	Not Detected	0.60	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	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	0.67	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	0.20	0.58	0.69
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	0.54	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	0.33	0.69	1.4
Trichloroethene	0.17	Not Detected	0.90	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	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	0.18	0.69	0.72
Toluene	0.17	2.1	0.63	8.0
trans-1,3-Dichloropropene	0.17	Not Detected	0.76	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	3.4	Not Detected



Client Sample ID: U2 (162501)

Lab ID#: 1606185-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061014	Date of Collection:	6/2/16 1:45:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/10/16 07:07 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	0.73	Not Detected
m,p-Xylene	0.17	0.35	0.73	1.5
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	0.82	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	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	0.87	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	9.0	Not Detected

E = Exceeds instrument calibration range.

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

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



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1606185-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061006	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/10/16 12:21 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#: 1606185-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061006	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/10/16 12:21 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	99	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1606185-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/10/16 09:06 AM

Compound	%Recovery
Freon 12	105
Freon 114	108
Chloromethane	100
Vinyl Chloride	103
1,3-Butadiene	99
Bromomethane	115
Chloroethane	117
Freon 11	108
Ethanol	105
Freon 113	97
1,1-Dichloroethene	99
Acetone	96
2-Propanol	95
Carbon Disulfide	102
3-Chloropropene	129
Methylene Chloride	96
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	109
Hexane	97
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	105
cis-1,2-Dichloroethene	101
Tetrahydrofuran	80
Chloroform	101
1,1,1-Trichloroethane	99
Cyclohexane	105
Carbon Tetrachloride	82
2,2,4-Trimethylpentane	104
Benzene	106
1,2-Dichloroethane	106
Heptane	107
Trichloroethene	114
1,2-Dichloropropane	106
1,4-Dioxane	103
Bromodichloromethane	109
cis-1,3-Dichloropropene	107
4-Methyl-2-pentanone	105
Toluene	108
trans-1,3-Dichloropropene	106
1,1,2-Trichloroethane	106
Tetrachloroethene	118
2-Hexanone	100



Air Toxics

Client Sample ID: CCV

Lab ID#: 1606185-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/10/16 09:06 AM

Compound	%Recovery
Dibromochloromethane	113
1,2-Dibromoethane (EDB)	113
Chlorobenzene	110
Ethyl Benzene	110
m,p-Xylene	112
o-Xylene	112
Styrene	114
Bromoform	121
Cumene	104
1,1,2,2-Tetrachloroethane	91
Propylbenzene	96
4-Ethyltoluene	95
1,3,5-Trimethylbenzene	102
1,2,4-Trimethylbenzene	88
1,3-Dichlorobenzene	91
1,4-Dichlorobenzene	95
alpha-Chlorotoluene	95
1,2-Dichlorobenzene	99
1,2,4-Trichlorobenzene	117
Hexachlorobutadiene	133 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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: LCS

Lab ID#: 1606185-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/10/16 09:52 AM

Compound	%Recovery	Method Limits
Freon 12	92	70-130
Freon 114	98	70-130
Chloromethane	86	70-130
Vinyl Chloride	89	70-130
1,3-Butadiene	87	70-130
Bromomethane	97	70-130
Chloroethane	104	70-130
Freon 11	96	70-130
Ethanol	101	70-130
Freon 113	83	70-130
1,1-Dichloroethene	86	70-130
Acetone	80	70-130
2-Propanol	86	70-130
Carbon Disulfide	76	70-130
3-Chloropropene	104	70-130
Methylene Chloride	80	70-130
Methyl tert-butyl ether	82	70-130
trans-1,2-Dichloroethene	92	70-130
Hexane	85	70-130
1,1-Dichloroethane	84	70-130
2-Butanone (Methyl Ethyl Ketone)	82	70-130
cis-1,2-Dichloroethene	81	70-130
Tetrahydrofuran	66 Q	70-130
Chloroform	86	70-130
1,1,1-Trichloroethane	86	70-130
Cyclohexane	89	70-130
Carbon Tetrachloride	68 Q	70-130
2,2,4-Trimethylpentane	90	70-130
Benzene	86	70-130
1,2-Dichloroethane	88	70-130
Heptane	89	70-130
Trichloroethene	95	70-130
1,2-Dichloropropane	89	70-130
1,4-Dioxane	84	70-130
Bromodichloromethane	95	70-130
cis-1,3-Dichloropropene	81	70-130
4-Methyl-2-pentanone	85	70-130
Toluene	88	70-130
trans-1,3-Dichloropropene	89	70-130
1,1,2-Trichloroethane	89	70-130
Tetrachloroethene	97	70-130
2-Hexanone	84	70-130

Client Sample ID: LCS

Lab ID#: 1606185-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/10/16 09:52 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	94	70-130
1,2-Dibromoethane (EDB)	94	70-130
Chlorobenzene	91	70-130
Ethyl Benzene	88	70-130
m,p-Xylene	94	70-130
o-Xylene	94	70-130
Styrene	93	70-130
Bromoform	98	70-130
Cumene	86	70-130
1,1,2,2-Tetrachloroethane	75	70-130
Propylbenzene	80	70-130
4-Ethyltoluene	83	70-130
1,3,5-Trimethylbenzene	74	70-130
1,2,4-Trimethylbenzene	70	70-130
1,3-Dichlorobenzene	75	70-130
1,4-Dichlorobenzene	78	70-130
alpha-Chlorotoluene	84	70-130
1,2-Dichlorobenzene	82	70-130
1,2,4-Trichlorobenzene	89	70-130
Hexachlorobutadiene	99	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	99	70-130
4-Bromofluorobenzene	98	70-130



Client Sample ID: LCS D

Lab ID#: 1606185-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061004	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/10/16 10:46 AM

Compound	%Recovery	Method Limits
Freon 12	93	70-130
Freon 114	100	70-130
Chloromethane	87	70-130
Vinyl Chloride	90	70-130
1,3-Butadiene	86	70-130
Bromomethane	104	70-130
Chloroethane	107	70-130
Freon 11	96	70-130
Ethanol	101	70-130
Freon 113	83	70-130
1,1-Dichloroethene	88	70-130
Acetone	80	70-130
2-Propanol	86	70-130
Carbon Disulfide	80	70-130
3-Chloropropene	118	70-130
Methylene Chloride	83	70-130
Methyl tert-butyl ether	83	70-130
trans-1,2-Dichloroethene	92	70-130
Hexane	86	70-130
1,1-Dichloroethane	88	70-130
2-Butanone (Methyl Ethyl Ketone)	84	70-130
cis-1,2-Dichloroethene	89	70-130
Tetrahydrofuran	68 Q	70-130
Chloroform	89	70-130
1,1,1-Trichloroethane	88	70-130
Cyclohexane	94	70-130
Carbon Tetrachloride	70	70-130
2,2,4-Trimethylpentane	90	70-130
Benzene	88	70-130
1,2-Dichloroethane	89	70-130
Heptane	90	70-130
Trichloroethene	98	70-130
1,2-Dichloropropane	87	70-130
1,4-Dioxane	84	70-130
Bromodichloromethane	96	70-130
cis-1,3-Dichloropropene	83	70-130
4-Methyl-2-pentanone	86	70-130
Toluene	89	70-130
trans-1,3-Dichloropropene	90	70-130
1,1,2-Trichloroethane	87	70-130
Tetrachloroethene	95	70-130
2-Hexanone	84	70-130

Client Sample ID: LCSD

Lab ID#: 1606185-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e061004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/10/16 10:46 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	93	70-130
1,2-Dibromoethane (EDB)	95	70-130
Chlorobenzene	91	70-130
Ethyl Benzene	90	70-130
m,p-Xylene	91	70-130
o-Xylene	96	70-130
Styrene	95	70-130
Bromoform	96	70-130
Cumene	86	70-130
1,1,2,2-Tetrachloroethane	74	70-130
Propylbenzene	80	70-130
4-Ethyltoluene	80	70-130
1,3,5-Trimethylbenzene	70	70-130
1,2,4-Trimethylbenzene	66 Q	70-130
1,3-Dichlorobenzene	75	70-130
1,4-Dichlorobenzene	77	70-130
alpha-Chlorotoluene	83	70-130
1,2-Dichlorobenzene	81	70-130
1,2,4-Trichlorobenzene	102	70-130
Hexachlorobutadiene	109	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	97	70-130