

6/6/2016

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1605467

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 5/24/2016 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 #: 1605467

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:	05/24/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/06/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (162490)	Modified TO-15	5.7 "Hg	5.2 psi
02A	D2 (162491)	Modified TO-15	5.7 "Hg	4.8 psi
03A	U1 (162492)	Modified TO-15	5.3 "Hg	4.9 psi
04A	U2 (162493)	Modified TO-15	5.3 "Hg	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: 06/06/16

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# 1605467**

Four 6 Liter Summa Canister (100% Certified) samples were received on May 24, 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.

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 (162490)

Lab ID#: 1605467-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.40	0.82	2.0
Freon 11	0.17	0.20	0.94	1.1
Ethanol	0.84	1.9	1.6	3.7
Acetone	0.84	3.3	2.0	7.9
Carbon Disulfide	0.84	0.86	2.6	2.7

Client Sample ID: D2 (162491)

Lab ID#: 1605467-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.40	0.81	2.0
Freon 11	0.16	0.18	0.92	1.0
Ethanol	0.82	2.5	1.5	4.7
Acetone	0.82	2.0	1.9	4.9
2,2,4-Trimethylpentane	0.82	0.99	3.8	4.6
Benzene	0.16	0.20	0.52	0.62

Client Sample ID: U1 (162492)

Lab ID#: 1605467-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.40	0.80	2.0
Freon 11	0.16	0.18	0.91	1.0
Ethanol	0.81	1.9	1.5	3.7
Acetone	0.81	3.6	1.9	8.5
Methylene Chloride	0.32	2.6	1.1	9.2
Cyclohexane	0.16	0.26	0.56	0.88
Toluene	0.16	1.2	0.61	4.6

Client Sample ID: U2 (162493)

Lab ID#: 1605467-04A

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

Client Sample ID: U2 (162493)

Lab ID#: 1605467-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.38	0.81	1.9
Freon 11	0.16	0.22	0.92	1.2
Ethanol	0.82	8.2	1.5	15
Acetone	0.82	3.4	1.9	8.0
2-Propanol	0.82	3.2	2.0	7.7
Hexane	0.16	0.20	0.58	0.72
Cyclohexane	0.16	0.28	0.56	0.95
Toluene	0.16	1.7	0.62	6.6
m,p-Xylene	0.16	0.27	0.71	1.2



Air Toxics

Client Sample ID: D1 (162490)

Lab ID#: 1605467-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052508	Date of Collection:	5/18/16 12:55:00 PM
Dil. Factor:	1.67	Date of Analysis:	5/25/16 12:51 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.40	0.82	2.0
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	0.20	0.94	1.1
Ethanol	0.84	1.9	1.6	3.7
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.84	3.3	2.0	7.9
2-Propanol	0.84	Not Detected	2.0	Not Detected
Carbon Disulfide	0.84	0.86	2.6	2.7
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.60	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Hexane	0.17	Not Detected	0.59	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 UJ	2.5	Not Detected UJ
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 UJ	1.0	Not Detected UJ
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: D1 (162490)

Lab ID#: 1605467-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052508	Date of Collection:	5/18/16 12:55:00 PM
Dil. Factor:	1.67	Date of Analysis:	5/25/16 12:51 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 UJ	0.82	Not Detected UJ
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

UJ = Analyte associated with low bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: D2 (162491)

Lab ID#: 1605467-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052509	Date of Collection:	5/18/16 1:10:00 PM
Dil. Factor:	1.64	Date of Analysis:	5/25/16 01:41 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.40	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	0.18	0.92	1.0
Ethanol	0.82	2.5	1.5	4.7
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	2.0	1.9	4.9
2-Propanol	0.82	Not Detected	2.0	Not Detected
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	Not Detected	0.58	Not Detected
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 UJ	2.4	Not Detected UJ
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 UJ	1.0	Not Detected UJ
2,2,4-Trimethylpentane	0.82	0.99	3.8	4.6
Benzene	0.16	0.20	0.52	0.62
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	Not Detected	0.62	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	3.4	Not Detected



Client Sample ID: D2 (162491)

Lab ID#: 1605467-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052509	Date of Collection:	5/18/16 1:10:00 PM
Dil. Factor:	1.64	Date of Analysis:	5/25/16 01:41 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 UJ	0.81	Not Detected UJ
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

UJ = Analyte associated with low bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: U1 (162492)

Lab ID#: 1605467-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052510	Date of Collection:	5/18/16 1:35:00 PM
Dil. Factor:	1.62	Date of Analysis:	5/25/16 02:26 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.40	0.80	2.0
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.81	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.81	Not Detected	3.1	Not Detected
Chloroethane	0.81	Not Detected	2.1	Not Detected
Freon 11	0.16	0.18	0.91	1.0
Ethanol	0.81	1.9	1.5	3.7
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.81	3.6	1.9	8.5
2-Propanol	0.81	Not Detected	2.0	Not Detected
Carbon Disulfide	0.81	Not Detected	2.5	Not Detected
3-Chloropropene	0.81	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	2.6	1.1	9.2
Methyl tert-butyl ether	0.16	Not Detected	0.58	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Hexane	0.16	Not Detected	0.57	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.81	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Tetrahydrofuran	0.81	Not Detected UJ	2.4	Not Detected UJ
Chloroform	0.16	Not Detected	0.79	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Cyclohexane	0.16	0.26	0.56	0.88
Carbon Tetrachloride	0.16	Not Detected UJ	1.0	Not Detected UJ
2,2,4-Trimethylpentane	0.81	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	Not Detected	0.66	Not Detected
Trichloroethene	0.16	Not Detected	0.87	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.75	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	0.74	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.66	Not Detected
Toluene	0.16	1.2	0.61	4.6
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.81	Not Detected	3.3	Not Detected

Client Sample ID: U1 (162492)

Lab ID#: 1605467-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052510	Date of Collection: 5/18/16 1:35:00 PM
Dil. Factor:	1.62	Date of Analysis: 5/25/16 02:26 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	0.70	Not Detected
m,p-Xylene	0.16	Not Detected	0.70	Not Detected
o-Xylene	0.16	Not Detected	0.70	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 UJ	0.80	Not Detected UJ
1,3-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.81	Not Detected	6.0	Not Detected
Hexachlorobutadiene	0.81	Not Detected	8.6	Not Detected

UJ = Analyte associated with low bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: U2 (162493)

Lab ID#: 1605467-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052511	Date of Collection:	5/18/16 1:30:00 PM
Dil. Factor:	1.64	Date of Analysis:	5/25/16 03:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.38	0.81	1.9
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	8.2	1.5	15
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	3.4	1.9	8.0
2-Propanol	0.82	3.2	2.0	7.7
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	0.20	0.58	0.72
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 UJ	2.4	Not Detected UJ
Chloroform	0.16	Not Detected	0.80	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Cyclohexane	0.16	0.28	0.56	0.95
Carbon Tetrachloride	0.16	Not Detected UJ	1.0	Not Detected UJ
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	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	1.7	0.62	6.6
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: U2 (162493)

Lab ID#: 1605467-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052511	Date of Collection:	5/18/16 1:30:00 PM
Dil. Factor:	1.64	Date of Analysis:	5/25/16 03:11 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	0.27	0.71	1.2
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 UJ	0.81	Not Detected UJ
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

UJ = Analyte associated with low bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1605467-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052507	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/25/16 11:16 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 UJ	1.5	Not Detected UJ
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 UJ	0.63	Not Detected UJ
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#: 1605467-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052507	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/25/16 11:16 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 UJ	0.49	Not Detected UJ
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

UJ = Analyte associated with low bias in the CCV.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1605467-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/25/16 07:39 AM

Compound	%Recovery
Freon 12	80
Freon 114	86
Chloromethane	82
Vinyl Chloride	83
1,3-Butadiene	86
Bromomethane	89
Chloroethane	94
Freon 11	80
Ethanol	91
Freon 113	79
1,1-Dichloroethene	83
Acetone	78
2-Propanol	79
Carbon Disulfide	84
3-Chloropropene	113
Methylene Chloride	81
Methyl tert-butyl ether	79
trans-1,2-Dichloroethene	84
Hexane	82
1,1-Dichloroethane	81
2-Butanone (Methyl Ethyl Ketone)	82
cis-1,2-Dichloroethene	85
Tetrahydrofuran	63 Q
Chloroform	77
1,1,1-Trichloroethane	76
Cyclohexane	87
Carbon Tetrachloride	66 Q
2,2,4-Trimethylpentane	89
Benzene	81
1,2-Dichloroethane	74
Heptane	85
Trichloroethene	87
1,2-Dichloropropane	82
1,4-Dioxane	81
Bromodichloromethane	82
cis-1,3-Dichloropropene	83
4-Methyl-2-pentanone	81
Toluene	85
trans-1,3-Dichloropropene	86
1,1,2-Trichloroethane	85
Tetrachloroethene	95
2-Hexanone	90



Air Toxics

Client Sample ID: CCV

Lab ID#: 1605467-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052502	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/25/16 07:39 AM

Compound	%Recovery
Dibromochloromethane	89
1,2-Dibromoethane (EDB)	92
Chlorobenzene	92
Ethyl Benzene	91
m,p-Xylene	93
o-Xylene	92
Styrene	92
Bromoform	96
Cumene	85
1,1,2,2-Tetrachloroethane	74
Propylbenzene	78
4-Ethyltoluene	77
1,3,5-Trimethylbenzene	79
1,2,4-Trimethylbenzene	69 Q
1,3-Dichlorobenzene	75
1,4-Dichlorobenzene	76
alpha-Chlorotoluene	77
1,2-Dichlorobenzene	80
1,2,4-Trichlorobenzene	103
Hexachlorobutadiene	111

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	86	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1605467-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/25/16 08:24 AM

Compound	%Recovery	Method Limits
Freon 12	80	70-130
Freon 114	88	70-130
Chloromethane	76	70-130
Vinyl Chloride	85	70-130
1,3-Butadiene	78	70-130
Bromomethane	89	70-130
Chloroethane	99	70-130
Freon 11	82	70-130
Ethanol	88	70-130
Freon 113	77	70-130
1,1-Dichloroethene	80	70-130
Acetone	79	70-130
2-Propanol	79	70-130
Carbon Disulfide	72	70-130
3-Chloropropene	107	70-130
Methylene Chloride	78	70-130
Methyl tert-butyl ether	79	70-130
trans-1,2-Dichloroethene	88	70-130
Hexane	82	70-130
1,1-Dichloroethane	81	70-130
2-Butanone (Methyl Ethyl Ketone)	81	70-130
cis-1,2-Dichloroethene	77	70-130
Tetrahydrofuran	62 Q	70-130
Chloroform	78	70-130
1,1,1-Trichloroethane	75	70-130
Cyclohexane	89	70-130
Carbon Tetrachloride	75	70-130
2,2,4-Trimethylpentane	88	70-130
Benzene	81	70-130
1,2-Dichloroethane	73	70-130
Heptane	82	70-130
Trichloroethene	88	70-130
1,2-Dichloropropane	83	70-130
1,4-Dioxane	79	70-130
Bromodichloromethane	84	70-130
cis-1,3-Dichloropropene	74	70-130
4-Methyl-2-pentanone	82	70-130
Toluene	85	70-130
trans-1,3-Dichloropropene	83	70-130
1,1,2-Trichloroethane	81	70-130
Tetrachloroethene	92	70-130
2-Hexanone	87	70-130

Client Sample ID: LCS

Lab ID#: 1605467-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052503	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/25/16 08:24 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	88	70-130
1,2-Dibromoethane (EDB)	91	70-130
Chlorobenzene	89	70-130
Ethyl Benzene	88	70-130
m,p-Xylene	89	70-130
o-Xylene	96	70-130
Styrene	87	70-130
Bromoform	92	70-130
Cumene	83	70-130
1,1,2,2-Tetrachloroethane	72	70-130
Propylbenzene	78	70-130
4-Ethyltoluene	74	70-130
1,3,5-Trimethylbenzene	76	70-130
1,2,4-Trimethylbenzene	69 Q	70-130
1,3-Dichlorobenzene	73	70-130
1,4-Dichlorobenzene	76	70-130
alpha-Chlorotoluene	59 Q	70-130
1,2-Dichlorobenzene	79	70-130
1,2,4-Trichlorobenzene	96	70-130
Hexachlorobutadiene	106	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1605467-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/25/16 09:05 AM

Compound	%Recovery	Method Limits
Freon 12	82	70-130
Freon 114	92	70-130
Chloromethane	78	70-130
Vinyl Chloride	85	70-130
1,3-Butadiene	83	70-130
Bromomethane	92	70-130
Chloroethane	98	70-130
Freon 11	85	70-130
Ethanol	90	70-130
Freon 113	79	70-130
1,1-Dichloroethene	84	70-130
Acetone	83	70-130
2-Propanol	87	70-130
Carbon Disulfide	73	70-130
3-Chloropropene	109	70-130
Methylene Chloride	79	70-130
Methyl tert-butyl ether	82	70-130
trans-1,2-Dichloroethene	90	70-130
Hexane	86	70-130
1,1-Dichloroethane	84	70-130
2-Butanone (Methyl Ethyl Ketone)	84	70-130
cis-1,2-Dichloroethene	84	70-130
Tetrahydrofuran	64 Q	70-130
Chloroform	81	70-130
1,1,1-Trichloroethane	77	70-130
Cyclohexane	88	70-130
Carbon Tetrachloride	79	70-130
2,2,4-Trimethylpentane	86	70-130
Benzene	79	70-130
1,2-Dichloroethane	75	70-130
Heptane	82	70-130
Trichloroethene	89	70-130
1,2-Dichloropropane	82	70-130
1,4-Dioxane	80	70-130
Bromodichloromethane	82	70-130
cis-1,3-Dichloropropene	76	70-130
4-Methyl-2-pentanone	78	70-130
Toluene	83	70-130
trans-1,3-Dichloropropene	81	70-130
1,1,2-Trichloroethane	80	70-130
Tetrachloroethene	91	70-130
2-Hexanone	86	70-130

Client Sample ID: LCSD

Lab ID#: 1605467-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052504	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/25/16 09:05 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	87	70-130
1,2-Dibromoethane (EDB)	90	70-130
Chlorobenzene	86	70-130
Ethyl Benzene	87	70-130
m,p-Xylene	92	70-130
o-Xylene	95	70-130
Styrene	87	70-130
Bromoform	92	70-130
Cumene	84	70-130
1,1,2,2-Tetrachloroethane	71	70-130
Propylbenzene	77	70-130
4-Ethyltoluene	75	70-130
1,3,5-Trimethylbenzene	76	70-130
1,2,4-Trimethylbenzene	69 Q	70-130
1,3-Dichlorobenzene	72	70-130
1,4-Dichlorobenzene	75	70-130
alpha-Chlorotoluene	57 Q	70-130
1,2-Dichlorobenzene	78	70-130
1,2,4-Trichlorobenzene	92	70-130
Hexachlorobutadiene	101	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	93	70-130