

11/11/2013
Ms. Celeste Koon
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill
Project #:
Workorder #: 1310647

Dear Ms. Celeste Koon

The following report includes the data for the above referenced project for sample(s) received on 10/30/2013 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. is committed to providing accurate data of the highest quality. Please feel free to contact the Project Manager: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

WORK ORDER #: 1310647

Work Order Summary

CLIENT:	Ms. Celeste Koon 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. #	3ESP1301039
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	10/30/2013	CONTACT:	Kelly Buettner
DATE COMPLETED:	11/11/2013		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (132098)	Modified TO-15	2.8 "Hg	5.4 psi
02A	U1 (132099)	Modified TO-15	4.3 "Hg	5.1 psi
03A	U2 (132100)	Modified TO-15	2.6 "Hg	5 psi
04A	D2 (132101)	Modified TO-15	3.9 "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: 11/11/13

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935
 Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

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 Low Level
Missouri Dept. of Natural Resources
Workorder# 1310647

Four 6 Liter Summa Canister (100% Certified) samples were received on October 30, 2013. 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

The Chain of Custody (COC) information for samples D1 (132098), U1 (132099), U2 (132100) and D2 (132101) did not match the entries on the sample tags with regard to sample identification. Therefore the information on the COC was used to process and report the samples.

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 QC 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 (132098)

Lab ID#: 1310647-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.15	0.16	0.85	0.89
Ethanol	0.76	1.4	1.4	2.7
Acetone	0.76	3.4	1.8	8.0
Benzene	0.15	0.17	0.48	0.54

Client Sample ID: U1 (132099)

Lab ID#: 1310647-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.36	0.78	1.8
Freon 11	0.16	0.18	0.88	1.0
Ethanol	0.78	1.8	1.5	3.4
Acetone	0.78	1.6	1.9	3.8
Toluene	0.16	0.84	0.59	3.2

Client Sample ID: U2 (132100)

Lab ID#: 1310647-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.15	0.16	0.82	0.93
Acetone	0.74	1.7	1.7	4.0
Methylene Chloride	0.29	0.65	1.0	2.2

Client Sample ID: D2 (132101)

Lab ID#: 1310647-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.18	0.87	1.0
Ethanol	0.78	1.1	1.5	2.1
Acetone	0.78	2.2	1.8	5.4



Air Toxics

Client Sample ID: D1 (132098)

Lab ID#: 1310647-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110712	Date of Collection:	10/24/13 1:37:00 PM
Dil. Factor:	1.51	Date of Analysis:	11/7/13 05:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	Not Detected	0.75	Not Detected
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.76	Not Detected	1.6	Not Detected
Vinyl Chloride	0.15	Not Detected	0.38	Not Detected
1,3-Butadiene	0.15	Not Detected	0.33	Not Detected
Bromomethane	0.76	Not Detected	2.9	Not Detected
Chloroethane	0.76	Not Detected	2.0	Not Detected
Freon 11	0.15	0.16	0.85	0.89
Ethanol	0.76	1.4	1.4	2.7
Freon 113	0.15	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Acetone	0.76	3.4	1.8	8.0
2-Propanol	0.76	Not Detected	1.8	Not Detected
Carbon Disulfide	0.76	Not Detected	2.4	Not Detected
3-Chloropropene	0.76	Not Detected	2.4	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.54	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Hexane	0.15	Not Detected	0.53	Not Detected
1,1-Dichloroethane	0.15	Not Detected	0.61	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.76	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.60	Not Detected
Tetrahydrofuran	0.76	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.74	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.82	Not Detected
Cyclohexane	0.15	Not Detected	0.52	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.95	Not Detected
2,2,4-Trimethylpentane	0.76	Not Detected	3.5	Not Detected
Benzene	0.15	0.17	0.48	0.54
1,2-Dichloroethane	0.15	Not Detected	0.61	Not Detected
Heptane	0.15	Not Detected	0.62	Not Detected
Trichloroethene	0.15	Not Detected	0.81	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.70	Not Detected
1,4-Dioxane	0.15	Not Detected	0.54	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.62	Not Detected
Toluene	0.15	Not Detected	0.57	Not Detected
trans-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.82	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.76	Not Detected	3.1	Not Detected

Client Sample ID: D1 (132098)

Lab ID#: 1310647-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110712	Date of Collection:	10/24/13 1:37:00 PM
Dil. Factor:	1.51	Date of Analysis:	11/7/13 05:03 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.2	Not Detected
Chlorobenzene	0.15	Not Detected	0.70	Not Detected
Ethyl Benzene	0.15	Not Detected	0.66	Not Detected
m,p-Xylene	0.15	Not Detected	0.66	Not Detected
o-Xylene	0.15	Not Detected	0.66	Not Detected
Styrene	0.15	Not Detected	0.64	Not Detected
Bromoform	0.15	Not Detected	1.6	Not Detected
Cumene	0.15	Not Detected	0.74	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.74	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.74	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.74	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.78	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.91	Not Detected
1,2,4-Trichlorobenzene	0.76	Not Detected	5.6	Not Detected
Hexachlorobutadiene	0.76	Not Detected	8.0	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	70	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	108	70-130



Air Toxics

Client Sample ID: U1 (132099)

Lab ID#: 1310647-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110713	Date of Collection:	10/24/13 1:12:00 PM
Dil. Factor:	1.57	Date of Analysis:	11/7/13 05:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.36	0.78	1.8
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.78	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.40	Not Detected
1,3-Butadiene	0.16	Not Detected	0.35	Not Detected
Bromomethane	0.78	Not Detected	3.0	Not Detected
Chloroethane	0.78	Not Detected	2.1	Not Detected
Freon 11	0.16	0.18	0.88	1.0
Ethanol	0.78	1.8	1.5	3.4
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Acetone	0.78	1.6	1.9	3.8
2-Propanol	0.78	Not Detected	1.9	Not Detected
Carbon Disulfide	0.78	Not Detected	2.4	Not Detected
3-Chloropropene	0.78	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.57	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Hexane	0.16	Not Detected	0.55	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.64	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.78	Not Detected	2.3	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Tetrahydrofuran	0.78	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.77	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.86	Not Detected
Cyclohexane	0.16	Not Detected	0.54	Not Detected
Carbon Tetrachloride	0.16	Not Detected	0.99	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.7	Not Detected
Benzene	0.16	Not Detected	0.50	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.64	Not Detected
Heptane	0.16	Not Detected	0.64	Not Detected
Trichloroethene	0.16	Not Detected	0.84	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected	0.56	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.64	Not Detected
Toluene	0.16	0.84	0.59	3.2
trans-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.86	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected



Client Sample ID: U1 (132099)

Lab ID#: 1310647-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110713	Date of Collection: 10/24/13 1:12:00 PM
Dil. Factor:	1.57	Date of Analysis: 11/7/13 05:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.72	Not Detected
Ethyl Benzene	0.16	Not Detected	0.68	Not Detected
m,p-Xylene	0.16	Not Detected	0.68	Not Detected
o-Xylene	0.16	Not Detected	0.68	Not Detected
Styrene	0.16	Not Detected	0.67	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.77	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.77	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.77	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.77	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.77	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.81	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.94	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected
Hexachlorobutadiene	0.78	Not Detected	8.4	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	70	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	107	70-130



Air Toxics

Client Sample ID: U2 (132100)

Lab ID#: 1310647-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110714	Date of Collection:	10/24/13 2:11:00 PM
Dil. Factor:	1.47	Date of Analysis:	11/7/13 06:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	Not Detected	0.73	Not Detected
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.74	Not Detected	1.5	Not Detected
Vinyl Chloride	0.15	Not Detected	0.38	Not Detected
1,3-Butadiene	0.15	Not Detected	0.32	Not Detected
Bromomethane	0.74	Not Detected	2.8	Not Detected
Chloroethane	0.74	Not Detected	1.9	Not Detected
Freon 11	0.15	0.16	0.82	0.93
Ethanol	0.74	Not Detected	1.4	Not Detected
Freon 113	0.15	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.58	Not Detected
Acetone	0.74	1.7	1.7	4.0
2-Propanol	0.74	Not Detected	1.8	Not Detected
Carbon Disulfide	0.74	Not Detected	2.3	Not Detected
3-Chloropropene	0.74	Not Detected	2.3	Not Detected
Methylene Chloride	0.29	0.65	1.0	2.2
Methyl tert-butyl ether	0.15	Not Detected	0.53	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.58	Not Detected
Hexane	0.15	Not Detected	0.52	Not Detected
1,1-Dichloroethane	0.15	Not Detected	0.60	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.74	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.58	Not Detected
Tetrahydrofuran	0.74	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.72	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.80	Not Detected
Cyclohexane	0.15	Not Detected	0.50	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.92	Not Detected
2,2,4-Trimethylpentane	0.74	Not Detected	3.4	Not Detected
Benzene	0.15	Not Detected	0.47	Not Detected
1,2-Dichloroethane	0.15	Not Detected	0.59	Not Detected
Heptane	0.15	Not Detected	0.60	Not Detected
Trichloroethene	0.15	Not Detected	0.79	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.68	Not Detected
1,4-Dioxane	0.15	Not Detected	0.53	Not Detected
Bromodichloromethane	0.15	Not Detected	0.98	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.67	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.60	Not Detected
Toluene	0.15	Not Detected	0.55	Not Detected
trans-1,3-Dichloropropene	0.15	Not Detected	0.67	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.80	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.74	Not Detected	3.0	Not Detected

Client Sample ID: U2 (132100)

Lab ID#: 1310647-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110714	Date of Collection:	10/24/13 2:11:00 PM
Dil. Factor:	1.47	Date of Analysis:	11/7/13 06:35 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.2	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.1	Not Detected
Chlorobenzene	0.15	Not Detected	0.68	Not Detected
Ethyl Benzene	0.15	Not Detected	0.64	Not Detected
m,p-Xylene	0.15	Not Detected	0.64	Not Detected
o-Xylene	0.15	Not Detected	0.64	Not Detected
Styrene	0.15	Not Detected	0.63	Not Detected
Bromoform	0.15	Not Detected	1.5	Not Detected
Cumene	0.15	Not Detected	0.72	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.72	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.72	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.72	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.72	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.88	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.88	Not Detected
alpha-Chlorotoluene	0.15	Not Detected	0.76	Not Detected
1,2-Dichlorobenzene	0.15	Not Detected	0.88	Not Detected
1,2,4-Trichlorobenzene	0.74	Not Detected	5.4	Not Detected
Hexachlorobutadiene	0.74	Not Detected	7.8	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	76	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	110	70-130



Air Toxics

Client Sample ID: D2 (132101)

Lab ID#: 1310647-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110715	Date of Collection:	10/24/13 1:25:00 PM
Dil. Factor:	1.55	Date of Analysis:	11/7/13 07:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	Not Detected	0.77	Not Detected
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.78	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.40	Not Detected
1,3-Butadiene	0.16	Not Detected	0.34	Not Detected
Bromomethane	0.78	Not Detected	3.0	Not Detected
Chloroethane	0.78	Not Detected	2.0	Not Detected
Freon 11	0.16	0.18	0.87	1.0
Ethanol	0.78	1.1	1.5	2.1
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Acetone	0.78	2.2	1.8	5.4
2-Propanol	0.78	Not Detected	1.9	Not Detected
Carbon Disulfide	0.78	Not Detected	2.4	Not Detected
3-Chloropropene	0.78	Not Detected	2.4	Not Detected
Methylene Chloride	0.31	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.56	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Hexane	0.16	Not Detected	0.55	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.63	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.78	Not Detected	2.3	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Tetrahydrofuran	0.78	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.76	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.84	Not Detected
Cyclohexane	0.16	Not Detected	0.53	Not Detected
Carbon Tetrachloride	0.16	Not Detected	0.98	Not Detected
2,2,4-Trimethylpentane	0.78	Not Detected	3.6	Not Detected
Benzene	0.16	Not Detected	0.50	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.63	Not Detected
Heptane	0.16	Not Detected	0.64	Not Detected
Trichloroethene	0.16	Not Detected	0.83	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.72	Not Detected
1,4-Dioxane	0.16	Not Detected	0.56	Not Detected
Bromodichloromethane	0.16	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.63	Not Detected
Toluene	0.16	Not Detected	0.58	Not Detected
trans-1,3-Dichloropropene	0.16	Not Detected	0.70	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.84	Not Detected
Tetrachloroethene	0.16	Not Detected	1.0	Not Detected
2-Hexanone	0.78	Not Detected	3.2	Not Detected



Client Sample ID: D2 (132101)

Lab ID#: 1310647-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110715	Date of Collection:	10/24/13 1:25:00 PM
Dil. Factor:	1.55	Date of Analysis:	11/7/13 07:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.71	Not Detected
Ethyl Benzene	0.16	Not Detected	0.67	Not Detected
m,p-Xylene	0.16	Not Detected	0.67	Not Detected
o-Xylene	0.16	Not Detected	0.67	Not Detected
Styrene	0.16	Not Detected	0.66	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.76	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.76	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.76	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.76	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.76	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.80	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.93	Not Detected
1,2,4-Trichlorobenzene	0.78	Not Detected	5.8	Not Detected
Hexachlorobutadiene	0.78	Not Detected	8.3	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	76	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	112	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1310647-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110706	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/7/13 12:24 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#: 1310647-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110706	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/7/13 12:24 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	80	70-130
Toluene-d8	93	70-130
4-Bromofluorobenzene	107	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1310647-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/7/13 09:54 AM

Compound	%Recovery
Freon 12	88
Freon 114	100
Chloromethane	83
Vinyl Chloride	85
1,3-Butadiene	74
Bromomethane	85
Chloroethane	83
Freon 11	86
Ethanol	82
Freon 113	89
1,1-Dichloroethene	83
Acetone	77
2-Propanol	80
Carbon Disulfide	104
3-Chloropropene	101
Methylene Chloride	82
Methyl tert-butyl ether	88
trans-1,2-Dichloroethene	100
Hexane	74
1,1-Dichloroethane	80
2-Butanone (Methyl Ethyl Ketone)	91
cis-1,2-Dichloroethene	91
Tetrahydrofuran	73
Chloroform	86
1,1,1-Trichloroethane	88
Cyclohexane	88
Carbon Tetrachloride	102
2,2,4-Trimethylpentane	77
Benzene	92
1,2-Dichloroethane	83
Heptane	80
Trichloroethene	104
1,2-Dichloropropane	85
1,4-Dioxane	95
Bromodichloromethane	90
cis-1,3-Dichloropropene	95
4-Methyl-2-pentanone	76
Toluene	95
trans-1,3-Dichloropropene	99
1,1,2-Trichloroethane	96
Tetrachloroethene	110
2-Hexanone	87

Client Sample ID: CCV

Lab ID#: 1310647-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/7/13 09:54 AM

Compound	%Recovery
Dibromochloromethane	106
1,2-Dibromoethane (EDB)	107
Chlorobenzene	105
Ethyl Benzene	106
m,p-Xylene	110
o-Xylene	106
Styrene	111
Bromoform	115
Cumene	107
1,1,2,2-Tetrachloroethane	104
Propylbenzene	104
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	106
1,2,4-Trimethylbenzene	103
1,3-Dichlorobenzene	112
1,4-Dichlorobenzene	108
alpha-Chlorotoluene	96
1,2-Dichlorobenzene	110
1,2,4-Trichlorobenzene	93
Hexachlorobutadiene	96

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	82	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	111	70-130



Client Sample ID: LCS

Lab ID#: 1310647-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110703	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/7/13 10:34 AM

Compound	%Recovery	Method Limits
Freon 12	84	70-130
Freon 114	97	70-130
Chloromethane	78	70-130
Vinyl Chloride	84	70-130
1,3-Butadiene	75	70-130
Bromomethane	86	70-130
Chloroethane	84	70-130
Freon 11	83	70-130
Ethanol	73	70-130
Freon 113	96	70-130
1,1-Dichloroethene	94	70-130
Acetone	75	70-130
2-Propanol	73	70-130
Carbon Disulfide	107	70-130
3-Chloropropene	97	70-130
Methylene Chloride	86	70-130
Methyl tert-butyl ether	85	70-130
trans-1,2-Dichloroethene	105	70-130
Hexane	71	70-130
1,1-Dichloroethane	78	70-130
2-Butanone (Methyl Ethyl Ketone)	89	70-130
cis-1,2-Dichloroethene	90	70-130
Tetrahydrofuran	67 Q	70-130
Chloroform	83	70-130
1,1,1-Trichloroethane	83	70-130
Cyclohexane	87	70-130
Carbon Tetrachloride	56 Q	70-130
2,2,4-Trimethylpentane	74	70-130
Benzene	90	70-130
1,2-Dichloroethane	79	70-130
Heptane	76	70-130
Trichloroethene	103	70-130
1,2-Dichloropropane	80	70-130
1,4-Dioxane	94	70-130
Bromodichloromethane	88	70-130
cis-1,3-Dichloropropene	90	70-130
4-Methyl-2-pentanone	73	70-130
Toluene	89	70-130
trans-1,3-Dichloropropene	89	70-130
1,1,2-Trichloroethane	88	70-130
Tetrachloroethene	100	70-130
2-Hexanone	81	70-130

Client Sample ID: LCS

Lab ID#: 1310647-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/7/13 10:34 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	94	70-130
1,2-Dibromoethane (EDB)	96	70-130
Chlorobenzene	94	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	101	70-130
o-Xylene	97	70-130
Styrene	99	70-130
Bromoform	100	70-130
Cumene	98	70-130
1,1,2,2-Tetrachloroethane	90	70-130
Propylbenzene	92	70-130
4-Ethyltoluene	93	70-130
1,3,5-Trimethylbenzene	90	70-130
1,2,4-Trimethylbenzene	84	70-130
1,3-Dichlorobenzene	96	70-130
1,4-Dichlorobenzene	89	70-130
alpha-Chlorotoluene	82	70-130
1,2-Dichlorobenzene	94	70-130
1,2,4-Trichlorobenzene	81	70-130
Hexachlorobutadiene	78	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	79	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	111	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1310647-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110704	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	11/7/13 11:14 AM

Compound	%Recovery	Method Limits
Freon 12	85	70-130
Freon 114	100	70-130
Chloromethane	78	70-130
Vinyl Chloride	83	70-130
1,3-Butadiene	73	70-130
Bromomethane	87	70-130
Chloroethane	84	70-130
Freon 11	85	70-130
Ethanol	74	70-130
Freon 113	101	70-130
1,1-Dichloroethene	95	70-130
Acetone	75	70-130
2-Propanol	75	70-130
Carbon Disulfide	111	70-130
3-Chloropropene	100	70-130
Methylene Chloride	87	70-130
Methyl tert-butyl ether	88	70-130
trans-1,2-Dichloroethene	106	70-130
Hexane	72	70-130
1,1-Dichloroethane	79	70-130
2-Butanone (Methyl Ethyl Ketone)	90	70-130
cis-1,2-Dichloroethene	91	70-130
Tetrahydrofuran	69 Q	70-130
Chloroform	86	70-130
1,1,1-Trichloroethane	86	70-130
Cyclohexane	90	70-130
Carbon Tetrachloride	57 Q	70-130
2,2,4-Trimethylpentane	75	70-130
Benzene	89	70-130
1,2-Dichloroethane	76	70-130
Heptane	77	70-130
Trichloroethene	102	70-130
1,2-Dichloropropane	81	70-130
1,4-Dioxane	94	70-130
Bromodichloromethane	87	70-130
cis-1,3-Dichloropropene	90	70-130
4-Methyl-2-pentanone	70	70-130
Toluene	89	70-130
trans-1,3-Dichloropropene	88	70-130
1,1,2-Trichloroethane	89	70-130
Tetrachloroethene	100	70-130
2-Hexanone	82	70-130

Client Sample ID: LCSD

Lab ID#: 1310647-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v110704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/7/13 11:14 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	96	70-130
1,2-Dibromoethane (EDB)	99	70-130
Chlorobenzene	94	70-130
Ethyl Benzene	97	70-130
m,p-Xylene	100	70-130
o-Xylene	96	70-130
Styrene	98	70-130
Bromoform	99	70-130
Cumene	99	70-130
1,1,2,2-Tetrachloroethane	89	70-130
Propylbenzene	94	70-130
4-Ethyltoluene	95	70-130
1,3,5-Trimethylbenzene	91	70-130
1,2,4-Trimethylbenzene	85	70-130
1,3-Dichlorobenzene	96	70-130
1,4-Dichlorobenzene	90	70-130
alpha-Chlorotoluene	81	70-130
1,2-Dichlorobenzene	94	70-130
1,2,4-Trichlorobenzene	75	70-130
Hexachlorobutadiene	71	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	78	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	110	70-130