



Air Toxics

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Project Manager Michael Parris

Collected by: (Print and Sign) Dan Pelikan

Company MD DNR

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City Jefferson city State MD Zip 65702

Fax

Project Info:

P.O. # 3ESR000007

Project #

Project Name Bridgeton Landfill

Turn Around Time:

Normal

Rush

Lab Use Only

Pressurized by:

Date:

Pressurization Gas:

N2 He

Table with columns: Lab I.D., Field Sample I.D. (Location), Can #, Date of Collection, Time of Collection, Analyses Requested, Canister Pressure/Vacuum (Initial, Final, Receipt, Final gas)

Table rows for Lab I.D. 01A, 02A, 03A, 04A with corresponding sample IDs and collection data.

Table for Relinquished by (signature), Date/Time, Received by (signature), Date/Time, and Notes.

Shipping information section including Shipper Name (UPS), Air Bill #, Temp (°C), Condition, Custody Seals Intact?, and Work Order # (1410477).

11/11/2014
Mr. Dennis Schroeder
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill
Project #:
Workorder #: 1410477

Dear Mr. Dennis Schroeder

The following report includes the data for the above referenced project for sample(s) received on 10/29/2014 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: Brian Whittaker at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Brian Whittaker
Project Manager

WORK ORDER #: 1410477

Work Order Summary

CLIENT:	Mr. Dennis Schroeder 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:	573-526-4428	P.O. #	3ESP4000007
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	10/29/2014	CONTACT:	Brian Whittaker
DATE COMPLETED:	11/11/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (1412003)	Modified TO-15	4.0 "Hg	5 psi
02A	U2 (1412006)	Modified TO-15	6.0 "Hg	5 psi
03A	D2 (1412004)	Modified TO-15	5.0 "Hg	5 psi
04A	U1 (1412005)	Modified TO-15	0.5 "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: 11/11/14

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

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# 1410477

Four 6 Liter Summa Canister (100% Certified) samples were received on October 29, 2014. 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 was a significant difference (greater than 5.0" Hg) between the measured canister receipt vacuum and that which was reported on the Chain of Custody (COC) OR the canister tag for sample U1 (1412005). A leak test indicated that the valve was functioning properly.

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.

Due to the linear calibration range of the instrument, the reporting limit for Freon 12 and alpha-Chlorotoluene was raised from 0.1ppbv to 0.5ppbv.

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 (1412003)

Lab ID#: 1410477-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.20	0.87	1.1
Ethanol	0.78	35	1.5	66
Acetone	0.78	6.3	1.8	15
2-Propanol	0.78	3.1	1.9	7.5
Hexane	0.16	0.27	0.55	0.94
Benzene	0.16	0.22	0.50	0.72
Heptane	0.16	2.8	0.64	11
Toluene	0.16	5.2	0.58	20
m,p-Xylene	0.16	0.26	0.67	1.1

Client Sample ID: U2 (1412006)

Lab ID#: 1410477-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.17	0.19	0.94	1.1
Ethanol	0.84	3.6	1.6	6.8
Acetone	0.84	2.9	2.0	6.9
Hexane	0.17	0.19	0.59	0.66
Toluene	0.17	0.29	0.63	1.1

Client Sample ID: D2 (1412004)

Lab ID#: 1410477-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.18	0.90	1.0
Ethanol	0.80	3.3	1.5	6.2
Acetone	0.80	2.3	1.9	5.4
Hexane	0.16	0.17	0.57	0.59
Toluene	0.16	0.24	0.61	0.91

Client Sample ID: U1 (1412005)

Lab ID#: 1410477-04A

Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: U1 (1412005)

Lab ID#: 1410477-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.14	0.20	0.76	1.1
Ethanol	0.68	28	1.3	53
Acetone	0.68	13	1.6	31
2-Propanol	0.68	9.4	1.7	23
Methylene Chloride	0.27	0.58	0.94	2.0
Hexane	0.14	0.45	0.48	1.6
Cyclohexane	0.14	0.42	0.47	1.4
Benzene	0.14	0.21	0.43	0.66
Heptane	0.14	1.1	0.56	4.6
Trichloroethene	0.14	0.13 J	0.73	0.72 J
4-Methyl-2-pentanone	0.14	0.23	0.56	0.93
Toluene	0.14	8.2	0.51	31
Tetrachloroethene	0.14	0.28	0.92	1.9
Ethyl Benzene	0.14	0.50	0.59	2.2
m,p-Xylene	0.14	1.4	0.59	6.1
o-Xylene	0.14	0.52	0.59	2.2
Styrene	0.14	0.47	0.58	2.0
4-Ethyltoluene	0.14	0.22	0.67	1.1
1,2,4-Trimethylbenzene	0.14	0.31	0.67	1.5



Air Toxics

Client Sample ID: D1 (1412003)

Lab ID#: 1410477-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103117	Date of Collection:	10/22/14 3:48:00 PM
Dil. Factor:	1.55	Date of Analysis:	10/31/14 07:31 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	0.20	0.87	1.1
Ethanol	0.78	35	1.5	66
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.61	Not Detected
Acetone	0.78	6.3	1.8	15
2-Propanol	0.78	3.1	1.9	7.5
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	0.27	0.55	0.94
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	0.22	0.50	0.72
1,2-Dichloroethane	0.16	Not Detected	0.63	Not Detected
Heptane	0.16	2.8	0.64	11
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	5.2	0.58	20
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: D1 (1412003)

Lab ID#: 1410477-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103117	Date of Collection:	10/22/14 3:48:00 PM
Dil. Factor:	1.55	Date of Analysis:	10/31/14 07:31 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	0.26	0.67	1.1
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	97	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: U2 (1412006)

Lab ID#: 1410477-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103118	Date of Collection:	10/22/14 4:07:00 PM
Dil. Factor:	1.68	Date of Analysis:	10/31/14 08:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	Not Detected	0.83	Not Detected
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	0.19	0.94	1.1
Ethanol	0.84	3.6	1.6	6.8
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	2.9	2.0	6.9
2-Propanol	0.84	Not Detected	2.1	Not Detected
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	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	0.67	Not Detected
Hexane	0.17	0.19	0.59	0.66
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	Not Detected	0.58	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.84	Not Detected	3.9	Not Detected
Benzene	0.17	Not Detected	0.54	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	Not Detected	0.69	Not Detected
Trichloroethene	0.17	Not Detected	0.90	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	Not Detected	0.69	Not Detected
Toluene	0.17	0.29	0.63	1.1
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 (1412006)

Lab ID#: 1410477-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103118	Date of Collection:	10/22/14 4:07:00 PM
Dil. Factor:	1.68	Date of Analysis:	10/31/14 08:50 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	Not Detected	0.73	Not Detected
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

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: D2 (1412004)

Lab ID#: 1410477-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103119	Date of Collection:	10/22/14 3:57:00 PM
Dil. Factor:	1.61	Date of Analysis:	10/31/14 09:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	Not Detected	0.80	Not Detected
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.80	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	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.16	0.18	0.90	1.0
Ethanol	0.80	3.3	1.5	6.2
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Acetone	0.80	2.3	1.9	5.4
2-Propanol	0.80	Not Detected	2.0	Not Detected
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
3-Chloropropene	0.80	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
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	0.17	0.57	0.59
1,1-Dichloroethane	0.16	Not Detected	0.65	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.64	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.79	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.88	Not Detected
Cyclohexane	0.16	Not Detected	0.55	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.80	Not Detected	3.8	Not Detected
Benzene	0.16	Not Detected	0.51	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.65	Not Detected
Heptane	0.16	Not Detected	0.66	Not Detected
Trichloroethene	0.16	Not Detected	0.86	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.74	Not Detected
1,4-Dioxane	0.16	Not Detected	0.58	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.73	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.66	Not Detected
Toluene	0.16	0.24	0.61	0.91
trans-1,3-Dichloropropene	0.16	Not Detected	0.73	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	0.80	Not Detected	3.3	Not Detected



Client Sample ID: D2 (1412004)

Lab ID#: 1410477-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103119	Date of Collection:	10/22/14 3:57:00 PM
Dil. Factor:	1.61	Date of Analysis:	10/31/14 09:36 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	0.68	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.79	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.79	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.79	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.79	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.83	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.97	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	6.0	Not Detected
Hexachlorobutadiene	0.80	Not Detected	8.6	Not Detected

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

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



Air Toxics

Client Sample ID: U1 (1412005)

Lab ID#: 1410477-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103120	Date of Collection:	10/22/14 3:35:00 PM
Dil. Factor:	1.36	Date of Analysis:	10/31/14 10:42 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.14	Not Detected	0.67	Not Detected
Freon 114	0.14	Not Detected	0.95	Not Detected
Chloromethane	0.68	Not Detected	1.4	Not Detected
Vinyl Chloride	0.14	Not Detected	0.35	Not Detected
1,3-Butadiene	0.14	Not Detected	0.30	Not Detected
Bromomethane	0.68	Not Detected	2.6	Not Detected
Chloroethane	0.68	Not Detected	1.8	Not Detected
Freon 11	0.14	0.20	0.76	1.1
Ethanol	0.68	28	1.3	53
Freon 113	0.14	Not Detected	1.0	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.54	Not Detected
Acetone	0.68	13	1.6	31
2-Propanol	0.68	9.4	1.7	23
Carbon Disulfide	0.68	Not Detected	2.1	Not Detected
3-Chloropropene	0.68	Not Detected	2.1	Not Detected
Methylene Chloride	0.27	0.58	0.94	2.0
Methyl tert-butyl ether	0.14	Not Detected	0.49	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected
Hexane	0.14	0.45	0.48	1.6
1,1-Dichloroethane	0.14	Not Detected	0.55	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.68	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected
Tetrahydrofuran	0.68	Not Detected	2.0	Not Detected
Chloroform	0.14	Not Detected	0.66	Not Detected
1,1,1-Trichloroethane	0.14	Not Detected	0.74	Not Detected
Cyclohexane	0.14	0.42	0.47	1.4
Carbon Tetrachloride	0.14	Not Detected	0.86	Not Detected
2,2,4-Trimethylpentane	0.68	Not Detected	3.2	Not Detected
Benzene	0.14	0.21	0.43	0.66
1,2-Dichloroethane	0.14	Not Detected	0.55	Not Detected
Heptane	0.14	1.1	0.56	4.6
Trichloroethene	0.14	0.13 J	0.73	0.72 J
1,2-Dichloropropane	0.14	Not Detected	0.63	Not Detected
1,4-Dioxane	0.14	Not Detected	0.49	Not Detected
Bromodichloromethane	0.14	Not Detected	0.91	Not Detected
cis-1,3-Dichloropropene	0.14	Not Detected	0.62	Not Detected
4-Methyl-2-pentanone	0.14	0.23	0.56	0.93
Toluene	0.14	8.2	0.51	31
trans-1,3-Dichloropropene	0.14	Not Detected	0.62	Not Detected
1,1,2-Trichloroethane	0.14	Not Detected	0.74	Not Detected
Tetrachloroethene	0.14	0.28	0.92	1.9
2-Hexanone	0.68	Not Detected	2.8	Not Detected



Client Sample ID: U1 (1412005)

Lab ID#: 1410477-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103120	Date of Collection:	10/22/14 3:35:00 PM
Dil. Factor:	1.36	Date of Analysis:	10/31/14 10:42 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.14	Not Detected	1.2	Not Detected
1,2-Dibromoethane (EDB)	0.14	Not Detected	1.0	Not Detected
Chlorobenzene	0.14	Not Detected	0.63	Not Detected
Ethyl Benzene	0.14	0.50	0.59	2.2
m,p-Xylene	0.14	1.4	0.59	6.1
o-Xylene	0.14	0.52	0.59	2.2
Styrene	0.14	0.47	0.58	2.0
Bromoform	0.14	Not Detected	1.4	Not Detected
Cumene	0.14	Not Detected	0.67	Not Detected
1,1,2,2-Tetrachloroethane	0.14	Not Detected	0.93	Not Detected
Propylbenzene	0.14	Not Detected	0.67	Not Detected
4-Ethyltoluene	0.14	0.22	0.67	1.1
1,3,5-Trimethylbenzene	0.14	Not Detected	0.67	Not Detected
1,2,4-Trimethylbenzene	0.14	0.31	0.67	1.5
1,3-Dichlorobenzene	0.14	Not Detected	0.82	Not Detected
1,4-Dichlorobenzene	0.14	Not Detected	0.82	Not Detected
alpha-Chlorotoluene	0.14	Not Detected	0.70	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.82	Not Detected
1,2,4-Trichlorobenzene	0.68	Not Detected	5.0	Not Detected
Hexachlorobutadiene	0.68	Not Detected	7.2	Not Detected

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	105	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1410477-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103107	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	10/31/14 09:12 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.10	Not Detected	0.49	Not Detected
Freon 114	0.10	Not Detected	0.70	Not Detected
Chloromethane	0.50	Not Detected	1.0	Not Detected
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
1,3-Butadiene	0.10	Not Detected	0.22	Not Detected
Bromomethane	0.50	Not Detected	1.9	Not Detected
Chloroethane	0.50	Not Detected	1.3	Not Detected
Freon 11	0.10	Not Detected	0.56	Not Detected
Ethanol	0.50	Not Detected	0.94	Not Detected
Freon 113	0.10	Not Detected	0.77	Not Detected
1,1-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Acetone	0.50	Not Detected	1.2	Not Detected
2-Propanol	0.50	Not Detected	1.2	Not Detected
Carbon Disulfide	0.50	Not Detected	1.6	Not Detected
3-Chloropropene	0.50	Not Detected	1.6	Not Detected
Methylene Chloride	0.20	Not Detected	0.69	Not Detected
Methyl tert-butyl ether	0.10	Not Detected	0.36	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Hexane	0.10	Not Detected	0.35	Not Detected
1,1-Dichloroethane	0.10	Not Detected	0.40	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.50	Not Detected	1.5	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Tetrahydrofuran	0.50	Not Detected	1.5	Not Detected
Chloroform	0.10	Not Detected	0.49	Not Detected
1,1,1-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Cyclohexane	0.10	Not Detected	0.34	Not Detected
Carbon Tetrachloride	0.10	Not Detected	0.63	Not Detected
2,2,4-Trimethylpentane	0.50	Not Detected	2.3	Not Detected
Benzene	0.10	Not Detected	0.32	Not Detected
1,2-Dichloroethane	0.10	Not Detected	0.40	Not Detected
Heptane	0.10	Not Detected	0.41	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected
1,2-Dichloropropane	0.10	Not Detected	0.46	Not Detected
1,4-Dioxane	0.10	Not Detected	0.36	Not Detected
Bromodichloromethane	0.10	Not Detected	0.67	Not Detected
cis-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
4-Methyl-2-pentanone	0.10	Not Detected	0.41	Not Detected
Toluene	0.10	Not Detected	0.38	Not Detected
trans-1,3-Dichloropropene	0.10	Not Detected	0.45	Not Detected
1,1,2-Trichloroethane	0.10	Not Detected	0.54	Not Detected
Tetrachloroethene	0.10	Not Detected	0.68	Not Detected
2-Hexanone	0.50	Not Detected	2.0	Not Detected

Client Sample ID: Lab Blank

Lab ID#: 1410477-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103107	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/31/14 09:12 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.10	Not Detected	0.85	Not Detected
1,2-Dibromoethane (EDB)	0.10	Not Detected	0.77	Not Detected
Chlorobenzene	0.10	Not Detected	0.46	Not Detected
Ethyl Benzene	0.10	Not Detected	0.43	Not Detected
m,p-Xylene	0.10	Not Detected	0.43	Not Detected
o-Xylene	0.10	Not Detected	0.43	Not Detected
Styrene	0.10	Not Detected	0.42	Not Detected
Bromoform	0.10	Not Detected	1.0	Not Detected
Cumene	0.10	Not Detected	0.49	Not Detected
1,1,2,2-Tetrachloroethane	0.10	Not Detected	0.69	Not Detected
Propylbenzene	0.10	Not Detected	0.49	Not Detected
4-Ethyltoluene	0.10	Not Detected	0.49	Not Detected
1,3,5-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,2,4-Trimethylbenzene	0.10	Not Detected	0.49	Not Detected
1,3-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,4-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
alpha-Chlorotoluene	0.10	Not Detected	0.52	Not Detected
1,2-Dichlorobenzene	0.10	Not Detected	0.60	Not Detected
1,2,4-Trichlorobenzene	0.50	Not Detected	3.7	Not Detected
Hexachlorobutadiene	0.50	Not Detected	5.3	Not Detected

Container Type: NA - Not Applicable

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



Air Toxics

Client Sample ID: CCV

Lab ID#: 1410477-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/31/14 05:32 AM

Compound	%Recovery
Freon 12	84
Freon 114	87
Chloromethane	88
Vinyl Chloride	93
1,3-Butadiene	94
Bromomethane	96
Chloroethane	95
Freon 11	82
Ethanol	112
Freon 113	86
1,1-Dichloroethene	88
Acetone	92
2-Propanol	97
Carbon Disulfide	91
3-Chloropropene	99
Methylene Chloride	91
Methyl tert-butyl ether	86
trans-1,2-Dichloroethene	91
Hexane	88
1,1-Dichloroethane	86
2-Butanone (Methyl Ethyl Ketone)	94
cis-1,2-Dichloroethene	89
Tetrahydrofuran	89
Chloroform	82
1,1,1-Trichloroethane	81
Cyclohexane	86
Carbon Tetrachloride	85
2,2,4-Trimethylpentane	90
Benzene	83
1,2-Dichloroethane	78
Heptane	88
Trichloroethene	86
1,2-Dichloropropane	88
1,4-Dioxane	86
Bromodichloromethane	83
cis-1,3-Dichloropropene	92
4-Methyl-2-pentanone	91
Toluene	84
trans-1,3-Dichloropropene	84
1,1,2-Trichloroethane	82
Tetrachloroethene	84
2-Hexanone	88



Air Toxics

Client Sample ID: CCV

Lab ID#: 1410477-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103102	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/31/14 05:32 AM

Compound	%Recovery
Dibromochloromethane	82
1,2-Dibromoethane (EDB)	84
Chlorobenzene	81
Ethyl Benzene	85
m,p-Xylene	84
o-Xylene	88
Styrene	85
Bromoform	86
Cumene	86
1,1,2,2-Tetrachloroethane	80
Propylbenzene	86
4-Ethyltoluene	85
1,3,5-Trimethylbenzene	91
1,2,4-Trimethylbenzene	93
1,3-Dichlorobenzene	88
1,4-Dichlorobenzene	83
alpha-Chlorotoluene	87
1,2-Dichlorobenzene	86
1,2,4-Trichlorobenzene	88
Hexachlorobutadiene	86

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	111	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1410477-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/31/14 06:18 AM

Compound	%Recovery	Method Limits
Freon 12	85	70-130
Freon 114	88	70-130
Chloromethane	90	70-130
Vinyl Chloride	95	70-130
1,3-Butadiene	92	70-130
Bromomethane	96	70-130
Chloroethane	97	70-130
Freon 11	83	70-130
Ethanol	127	70-130
Freon 113	89	70-130
1,1-Dichloroethene	91	70-130
Acetone	91	70-130
2-Propanol	103	70-130
Carbon Disulfide	84	70-130
3-Chloropropene	96	70-130
Methylene Chloride	93	70-130
Methyl tert-butyl ether	84	70-130
trans-1,2-Dichloroethene	85	70-130
Hexane	88	70-130
1,1-Dichloroethane	86	70-130
2-Butanone (Methyl Ethyl Ketone)	96	70-130
cis-1,2-Dichloroethene	89	70-130
Tetrahydrofuran	87	70-130
Chloroform	82	70-130
1,1,1-Trichloroethane	80	70-130
Cyclohexane	86	70-130
Carbon Tetrachloride	73	70-130
2,2,4-Trimethylpentane	86	70-130
Benzene	85	70-130
1,2-Dichloroethane	81	70-130
Heptane	91	70-130
Trichloroethene	88	70-130
1,2-Dichloropropane	91	70-130
1,4-Dioxane	93	70-130
Bromodichloromethane	85	70-130
cis-1,3-Dichloropropene	100	70-130
4-Methyl-2-pentanone	96	70-130
Toluene	86	70-130
trans-1,3-Dichloropropene	83	70-130
1,1,2-Trichloroethane	85	70-130
Tetrachloroethene	88	70-130
2-Hexanone	98	70-130



Client Sample ID: LCS

Lab ID#: 1410477-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103103	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/31/14 06:18 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	84	70-130
1,2-Dibromoethane (EDB)	86	70-130
Chlorobenzene	84	70-130
Ethyl Benzene	87	70-130
m,p-Xylene	87	70-130
o-Xylene	89	70-130
Styrene	94	70-130
Bromoform	89	70-130
Cumene	89	70-130
1,1,2,2-Tetrachloroethane	83	70-130
Propylbenzene	92	70-130
4-Ethyltoluene	92	70-130
1,3,5-Trimethylbenzene	102	70-130
1,2,4-Trimethylbenzene	107	70-130
1,3-Dichlorobenzene	91	70-130
1,4-Dichlorobenzene	87	70-130
alpha-Chlorotoluene	142 Q	70-130
1,2-Dichlorobenzene	92	70-130
1,2,4-Trichlorobenzene	100	70-130
Hexachlorobutadiene	91	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	100	70-130
4-Bromofluorobenzene	110	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1410477-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/31/14 07:09 AM

Compound	%Recovery	Method Limits
Freon 12	89	70-130
Freon 114	92	70-130
Chloromethane	96	70-130
Vinyl Chloride	99	70-130
1,3-Butadiene	96	70-130
Bromomethane	101	70-130
Chloroethane	100	70-130
Freon 11	86	70-130
Ethanol	133 Q	70-130
Freon 113	94	70-130
1,1-Dichloroethene	93	70-130
Acetone	97	70-130
2-Propanol	108	70-130
Carbon Disulfide	89	70-130
3-Chloropropene	100	70-130
Methylene Chloride	97	70-130
Methyl tert-butyl ether	88	70-130
trans-1,2-Dichloroethene	91	70-130
Hexane	91	70-130
1,1-Dichloroethane	90	70-130
2-Butanone (Methyl Ethyl Ketone)	98	70-130
cis-1,2-Dichloroethene	93	70-130
Tetrahydrofuran	92	70-130
Chloroform	86	70-130
1,1,1-Trichloroethane	84	70-130
Cyclohexane	90	70-130
Carbon Tetrachloride	75	70-130
2,2,4-Trimethylpentane	89	70-130
Benzene	86	70-130
1,2-Dichloroethane	81	70-130
Heptane	93	70-130
Trichloroethene	90	70-130
1,2-Dichloropropane	92	70-130
1,4-Dioxane	96	70-130
Bromodichloromethane	86	70-130
cis-1,3-Dichloropropene	101	70-130
4-Methyl-2-pentanone	97	70-130
Toluene	87	70-130
trans-1,3-Dichloropropene	84	70-130
1,1,2-Trichloroethane	86	70-130
Tetrachloroethene	88	70-130
2-Hexanone	98	70-130

Client Sample ID: LCSD

Lab ID#: 1410477-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v103104	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/31/14 07:09 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	83	70-130
1,2-Dibromoethane (EDB)	89	70-130
Chlorobenzene	83	70-130
Ethyl Benzene	88	70-130
m,p-Xylene	89	70-130
o-Xylene	91	70-130
Styrene	96	70-130
Bromoform	89	70-130
Cumene	90	70-130
1,1,2,2-Tetrachloroethane	82	70-130
Propylbenzene	93	70-130
4-Ethyltoluene	92	70-130
1,3,5-Trimethylbenzene	102	70-130
1,2,4-Trimethylbenzene	109	70-130
1,3-Dichlorobenzene	91	70-130
1,4-Dichlorobenzene	87	70-130
alpha-Chlorotoluene	143 Q	70-130
1,2-Dichlorobenzene	91	70-130
1,2,4-Trichlorobenzene	99	70-130
Hexachlorobutadiene	86	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	112	70-130