



Air Toxics

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Page 1 of 1

Project Manager Michael Paris

Collected by: (Print and Sign) Teresa Thurny

Company MO DNR Email: m.paris@airtoxics.com

Address PO Box 176 City Jefferson City State MO Zip 65102

Phone (573) 526-3118 Fax

Project Info:

PO # 3E5P160397

Project #

Project Name Brighton Landfill

Turn Around Time:

Normal

Rush

Lab Use Only: Pressurized by:

Date:

Pressurization Gas:

N2 He specify

Lab I.D. Field Sample I.D. (Location)

Can #

Date of Collection

Time of Collection

Analyses Requested

Canister Pressure/Vacuum

01A D1 (154582)

165

11/24/15

0825-1328

TD-15

30

-6

02A D2 (154583)

3483

11/24/15

0835-1350

TD-15

30

-6

07A B3 (154584)

30838

11/24/15

0834-1334

TD-15

295

-6

04A D1 (154585)

3725

11/24/15

0834-1406

TD-15

30

-55

Relinquished by: (signature) Date/Time 11/24/15 1447

Received by: (signature) Date/Time 1050

Notes: Shipped via UPS

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time 12/1/15

Tracking # 1ZRE04aw0399597464

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Lab Shipper Name

Air Bill #

Temp (°C)

Condition

Custody Seals Intact?

Work Order #

Use Only VPS

N/A

Good

Yes No None

1512043

12/14/2015
Mr. Dennis Schroeder
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill
Project #:
Workorder #: 1512043

Dear Mr. Dennis Schroeder

The following report includes the data for the above referenced project for sample(s) received on 12/1/2015 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 #: 1512043

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. #	3ESP60000002
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	12/01/2015	CONTACT:	Brian Whittaker
DATE COMPLETED:	12/14/2015		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (154582)	Modified TO-15	5.9 "Hg	5.1 psi
02A	D2 (154583)	Modified TO-15	4.7 "Hg	5 psi
03A	D3 (154584)	Modified TO-15	6.1 "Hg	5.2 psi
04A	U1 (154585)	Modified TO-15	5.5 "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: 12/14/15

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# 1512043

One 6 Liter Summa Canister (SIM Certified Calscience) and three 6 Liter Summa Canister (100% Certified) samples were received on December 01, 2015. 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 (154582)

Lab ID#: 1512043-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.51	0.83	2.5
Freon 11	0.17	0.42	0.94	2.3
Ethanol	0.84	7.5	1.6	14
Acetone	0.84	3.0	2.0	7.2
2-Propanol	0.84	0.97	2.1	2.4
Carbon Disulfide	0.84	2.0	2.6	6.1
Methylene Chloride	0.34	0.46	1.2	1.6
Hexane	0.17	0.59	0.59	2.1
Chloroform	0.17	0.21	0.82	1.0
Cyclohexane	0.17	0.20	0.58	0.67
Benzene	0.17	0.42	0.54	1.3
Heptane	0.17	0.48	0.69	2.0
Toluene	0.17	0.93	0.63	3.5
m,p-Xylene	0.17	0.36	0.73	1.6

Client Sample ID: D2 (154583)

Lab ID#: 1512043-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.53	0.79	2.6
Freon 11	0.16	0.74	0.89	4.2
Ethanol	0.80	4.4	1.5	8.4
Acetone	0.80	8.2	1.9	19
2-Propanol	0.80	23	2.0	58
Methylene Chloride	0.32	0.52	1.1	1.8
Hexane	0.16	0.66	0.56	2.3
Benzene	0.16	0.38	0.51	1.2
Heptane	0.16	0.59	0.65	2.4
Toluene	0.16	1.2	0.60	4.5
Ethyl Benzene	0.16	0.16	0.69	0.71
m,p-Xylene	0.16	0.48	0.69	2.1

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

Client Sample ID: D3 (154584)

Lab ID#: 1512043-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.44	0.84	2.2
Freon 11	0.17	0.22	0.96	1.2
Ethanol	0.85	4.6	1.6	8.6
Acetone	0.85	2.7	2.0	6.5
Hexane	0.17	0.24	0.60	0.83
Benzene	0.17	0.33	0.54	1.0
Heptane	0.17	0.21	0.70	0.87
Toluene	0.17	0.63	0.64	2.4
m,p-Xylene	0.17	0.24	0.74	1.0

Client Sample ID: U1 (154585)

Lab ID#: 1512043-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.45	0.82	2.2
Freon 11	0.16	0.24	0.93	1.3
Ethanol	0.82	4.8	1.6	9.0
Acetone	0.82	4.4	2.0	10
Hexane	0.16	0.26	0.58	0.91
Benzene	0.16	0.28	0.53	0.90
Heptane	0.16	0.28	0.68	1.2
Toluene	0.16	0.62	0.62	2.3
m,p-Xylene	0.16	0.24	0.72	1.1



Air Toxics

Client Sample ID: D1 (154582)

Lab ID#: 1512043-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120416	Date of Collection:	11/24/15 1:20:00 PM
Dil. Factor:	1.68	Date of Analysis:	12/5/15 06:22 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.51	0.83	2.5
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.84	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.42	0.94	2.3
Ethanol	0.84	7.5	1.6	14
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	3.0	2.0	7.2
2-Propanol	0.84	0.97	2.1	2.4
Carbon Disulfide	0.84	2.0	2.6	6.1
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	0.46	1.2	1.6
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	0.59	0.59	2.1
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	0.21	0.82	1.0
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Cyclohexane	0.17	0.20	0.58	0.67
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	0.42	0.54	1.3
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	0.48	0.69	2.0
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	0.93	0.63	3.5
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: D1 (154582)

Lab ID#: 1512043-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120416	Date of Collection: 11/24/15 1:20:00 PM
Dil. Factor:	1.68	Date of Analysis: 12/5/15 06:22 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.77	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	0.36	0.73	1.6
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 (SIM Certified Calscience)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	121	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: D2 (154583)

Lab ID#: 1512043-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120417	Date of Collection:	11/24/15 1:50:00 PM
Dil. Factor:	1.59	Date of Analysis:	12/5/15 07:16 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.53	0.79	2.6
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.80	Not Detected	1.6	Not Detected
Vinyl Chloride	0.16	Not Detected	0.41	Not Detected
1,3-Butadiene	0.16	Not Detected	0.35	Not Detected
Bromomethane	0.80	Not Detected	3.1	Not Detected
Chloroethane	0.80	Not Detected	2.1	Not Detected
Freon 11	0.16	0.74	0.89	4.2
Ethanol	0.80	4.4	1.5	8.4
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.80	8.2	1.9	19
2-Propanol	0.80	23	2.0	58
Carbon Disulfide	0.80	Not Detected	2.5	Not Detected
3-Chloropropene	0.80	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	0.52	1.1	1.8
Methyl tert-butyl ether	0.16	Not Detected	0.57	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Hexane	0.16	0.66	0.56	2.3
1,1-Dichloroethane	0.16	Not Detected	0.64	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.80	Not Detected	2.3	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.3	Not Detected
Chloroform	0.16	Not Detected	0.78	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.87	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	3.7	Not Detected
Benzene	0.16	0.38	0.51	1.2
1,2-Dichloroethane	0.16	Not Detected	0.64	Not Detected
Heptane	0.16	0.59	0.65	2.4
Trichloroethene	0.16	Not Detected	0.85	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.73	Not Detected
1,4-Dioxane	0.16	Not Detected	0.57	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.72	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.65	Not Detected
Toluene	0.16	1.2	0.60	4.5
trans-1,3-Dichloropropene	0.16	Not Detected	0.72	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.87	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.80	Not Detected	3.2	Not Detected



Air Toxics

Client Sample ID: D2 (154583)

Lab ID#: 1512043-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120417	Date of Collection:	11/24/15 1:50:00 PM
Dil. Factor:	1.59	Date of Analysis:	12/5/15 07:16 AM

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	0.73	Not Detected
Ethyl Benzene	0.16	0.16	0.69	0.71
m,p-Xylene	0.16	0.48	0.69	2.1
o-Xylene	0.16	Not Detected	0.69	Not Detected
Styrene	0.16	Not Detected	0.68	Not Detected
Bromoform	0.16	Not Detected	1.6	Not Detected
Cumene	0.16	Not Detected	0.78	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.78	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.78	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.78	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.78	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.82	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.96	Not Detected
1,2,4-Trichlorobenzene	0.80	Not Detected	5.9	Not Detected
Hexachlorobutadiene	0.80	Not Detected	8.5	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: D3 (154584)

Lab ID#: 1512043-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120418	Date of Collection:	11/24/15 1:39:00 PM
Dil. Factor:	1.70	Date of Analysis:	12/5/15 08:08 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.44	0.84	2.2
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.85	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.85	Not Detected	3.3	Not Detected
Chloroethane	0.85	Not Detected	2.2	Not Detected
Freon 11	0.17	0.22	0.96	1.2
Ethanol	0.85	4.6	1.6	8.6
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.85	2.7	2.0	6.5
2-Propanol	0.85	Not Detected	2.1	Not Detected
Carbon Disulfide	0.85	Not Detected	2.6	Not Detected
3-Chloropropene	0.85	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.61	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Hexane	0.17	0.24	0.60	0.83
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.85	Not Detected	2.5	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Tetrahydrofuran	0.85	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Cyclohexane	0.17	Not Detected	0.58	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.85	Not Detected	4.0	Not Detected
Benzene	0.17	0.33	0.54	1.0
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	0.21	0.70	0.87
Trichloroethene	0.17	Not Detected	0.91	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
1,4-Dioxane	0.17	Not Detected	0.61	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	0.63	0.64	2.4
trans-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.85	Not Detected	3.5	Not Detected



Client Sample ID: D3 (154584)

Lab ID#: 1512043-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120418	Date of Collection: 11/24/15 1:39:00 PM
Dil. Factor:	1.70	Date of Analysis: 12/5/15 08:08 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.78	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	0.24	0.74	1.0
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.72	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.85	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.85	Not Detected	9.1	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	104	70-130



Air Toxics

Client Sample ID: U1 (154585)

Lab ID#: 1512043-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120419	Date of Collection:	11/24/15 2:06:00 PM
Dil. Factor:	1.65	Date of Analysis:	12/5/15 09:04 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.45	0.82	2.2
Freon 114	0.16	Not Detected	1.2	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	0.24	0.93	1.3
Ethanol	0.82	4.8	1.6	9.0
Freon 113	0.16	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	4.4	2.0	10
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	0.26	0.58	0.91
1,1-Dichloroethane	0.16	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	Not Detected	2.4	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Tetrahydrofuran	0.82	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Cyclohexane	0.16	Not Detected	0.57	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.82	Not Detected	3.8	Not Detected
Benzene	0.16	0.28	0.53	0.90
1,2-Dichloroethane	0.16	Not Detected	0.67	Not Detected
Heptane	0.16	0.28	0.68	1.2
Trichloroethene	0.16	Not Detected	0.89	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	0.75	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.68	Not Detected
Toluene	0.16	0.62	0.62	2.3
trans-1,3-Dichloropropene	0.16	Not Detected	0.75	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected

Client Sample ID: U1 (154585)

Lab ID#: 1512043-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120419	Date of Collection:	11/24/15 2:06:00 PM
Dil. Factor:	1.65	Date of Analysis:	12/5/15 09:04 AM

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	0.72	Not Detected
m,p-Xylene	0.16	0.24	0.72	1.1
o-Xylene	0.16	Not Detected	0.72	Not Detected
Styrene	0.16	Not Detected	0.70	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.81	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.81	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.81	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.1	Not Detected
Hexachlorobutadiene	0.82	Not Detected	8.8	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1512043-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120415	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/4/15 09:51 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#: 1512043-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120415	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/15 09:51 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	115	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1512043-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120407	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/15 01:12 PM

Compound	%Recovery
Freon 12	112
Freon 114	99
Chloromethane	95
Vinyl Chloride	95
1,3-Butadiene	93
Bromomethane	93
Chloroethane	96
Freon 11	106
Ethanol	82
Freon 113	83
1,1-Dichloroethene	82
Acetone	85
2-Propanol	90
Carbon Disulfide	82
3-Chloropropene	83
Methylene Chloride	86
Methyl tert-butyl ether	93
trans-1,2-Dichloroethene	90
Hexane	91
1,1-Dichloroethane	95
2-Butanone (Methyl Ethyl Ketone)	85
cis-1,2-Dichloroethene	86
Tetrahydrofuran	94
Chloroform	98
1,1,1-Trichloroethane	104
Cyclohexane	90
Carbon Tetrachloride	106
2,2,4-Trimethylpentane	82
Benzene	100
1,2-Dichloroethane	123
Heptane	98
Trichloroethene	98
1,2-Dichloropropane	91
1,4-Dioxane	100
Bromodichloromethane	114
cis-1,3-Dichloropropene	97
4-Methyl-2-pentanone	98
Toluene	98
trans-1,3-Dichloropropene	106
1,1,2-Trichloroethane	105
Tetrachloroethene	107
2-Hexanone	108

Client Sample ID: CCV

Lab ID#: 1512043-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120407	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/15 01:12 PM

Compound	%Recovery
Dibromochloromethane	113
1,2-Dibromoethane (EDB)	110
Chlorobenzene	99
Ethyl Benzene	100
m,p-Xylene	103
o-Xylene	104
Styrene	104
Bromoform	109
Cumene	102
1,1,2,2-Tetrachloroethane	96
Propylbenzene	102
4-Ethyltoluene	95
1,3,5-Trimethylbenzene	112
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	100
1,4-Dichlorobenzene	102
alpha-Chlorotoluene	104
1,2-Dichlorobenzene	98
1,2,4-Trichlorobenzene	75
Hexachlorobutadiene	82

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1512043-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120411	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/15 04:47 PM

Compound	%Recovery	Method Limits
Freon 12	124	70-130
Freon 114	114	70-130
Chloromethane	103	70-130
Vinyl Chloride	104	70-130
1,3-Butadiene	96	70-130
Bromomethane	102	70-130
Chloroethane	109	70-130
Freon 11	125	70-130
Ethanol	97	70-130
Freon 113	109	70-130
1,1-Dichloroethene	95	70-130
Acetone	94	70-130
2-Propanol	102	70-130
Carbon Disulfide	78	70-130
3-Chloropropene	89	70-130
Methylene Chloride	95	70-130
Methyl tert-butyl ether	103	70-130
trans-1,2-Dichloroethene	92	70-130
Hexane	104	70-130
1,1-Dichloroethane	104	70-130
2-Butanone (Methyl Ethyl Ketone)	94	70-130
cis-1,2-Dichloroethene	111	70-130
Tetrahydrofuran	107	70-130
Chloroform	110	70-130
1,1,1-Trichloroethane	120	70-130
Cyclohexane	102	70-130
Carbon Tetrachloride	124	70-130
2,2,4-Trimethylpentane	86	70-130
Benzene	114	70-130
1,2-Dichloroethane	140 Q	70-130
Heptane	115	70-130
Trichloroethene	117	70-130
1,2-Dichloropropane	106	70-130
1,4-Dioxane	112	70-130
Bromodichloromethane	136 Q	70-130
cis-1,3-Dichloropropene	105	70-130
4-Methyl-2-pentanone	115	70-130
Toluene	116	70-130
trans-1,3-Dichloropropene	126	70-130
1,1,2-Trichloroethane	125	70-130
Tetrachloroethene	131 Q	70-130
2-Hexanone	127	70-130

Client Sample ID: LCS

Lab ID#: 1512043-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120411	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/15 04:47 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	136 Q	70-130
1,2-Dibromoethane (EDB)	130	70-130
Chlorobenzene	117	70-130
Ethyl Benzene	126	70-130
m,p-Xylene	129	70-130
o-Xylene	126	70-130
Styrene	129	70-130
Bromoform	134 Q	70-130
Cumene	124	70-130
1,1,2,2-Tetrachloroethane	116	70-130
Propylbenzene	128	70-130
4-Ethyltoluene	126	70-130
1,3,5-Trimethylbenzene	123	70-130
1,2,4-Trimethylbenzene	115	70-130
1,3-Dichlorobenzene	120	70-130
1,4-Dichlorobenzene	125	70-130
alpha-Chlorotoluene	136 Q	70-130
1,2-Dichlorobenzene	119	70-130
1,2,4-Trichlorobenzene	96	70-130
Hexachlorobutadiene	98	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	103	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1512043-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120412	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	12/4/15 05:36 PM

Compound	%Recovery	Method Limits
Freon 12	134 Q	70-130
Freon 114	120	70-130
Chloromethane	114	70-130
Vinyl Chloride	109	70-130
1,3-Butadiene	101	70-130
Bromomethane	108	70-130
Chloroethane	113	70-130
Freon 11	129	70-130
Ethanol	98	70-130
Freon 113	97	70-130
1,1-Dichloroethene	98	70-130
Acetone	97	70-130
2-Propanol	109	70-130
Carbon Disulfide	82	70-130
3-Chloropropene	92	70-130
Methylene Chloride	97	70-130
Methyl tert-butyl ether	108	70-130
trans-1,2-Dichloroethene	98	70-130
Hexane	111	70-130
1,1-Dichloroethane	110	70-130
2-Butanone (Methyl Ethyl Ketone)	101	70-130
cis-1,2-Dichloroethene	118	70-130
Tetrahydrofuran	114	70-130
Chloroform	118	70-130
1,1,1-Trichloroethane	127	70-130
Cyclohexane	109	70-130
Carbon Tetrachloride	128	70-130
2,2,4-Trimethylpentane	96	70-130
Benzene	115	70-130
1,2-Dichloroethane	141 Q	70-130
Heptane	115	70-130
Trichloroethene	114	70-130
1,2-Dichloropropane	108	70-130
1,4-Dioxane	112	70-130
Bromodichloromethane	134 Q	70-130
cis-1,3-Dichloropropene	106	70-130
4-Methyl-2-pentanone	115	70-130
Toluene	115	70-130
trans-1,3-Dichloropropene	126	70-130
1,1,2-Trichloroethane	123	70-130
Tetrachloroethene	128	70-130
2-Hexanone	124	70-130

Client Sample ID: LCSD

Lab ID#: 1512043-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e120412	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 12/4/15 05:36 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	135 Q	70-130
1,2-Dibromoethane (EDB)	135 Q	70-130
Chlorobenzene	116	70-130
Ethyl Benzene	123	70-130
m,p-Xylene	127	70-130
o-Xylene	127	70-130
Styrene	128	70-130
Bromoform	131 Q	70-130
Cumene	124	70-130
1,1,2,2-Tetrachloroethane	117	70-130
Propylbenzene	127	70-130
4-Ethyltoluene	116	70-130
1,3,5-Trimethylbenzene	139 Q	70-130
1,2,4-Trimethylbenzene	116	70-130
1,3-Dichlorobenzene	122	70-130
1,4-Dichlorobenzene	124	70-130
alpha-Chlorotoluene	135 Q	70-130
1,2-Dichlorobenzene	121	70-130
1,2,4-Trichlorobenzene	101	70-130
Hexachlorobutadiene	102	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	115	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	108	70-130