



Air Toxics

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Michael Parris

Collected by: (Print and Sign) Teresa Theveny

Company ME DNR

Address PO Box 176

Phone (573) 526-3118

Email michael.parris@me.dnr.mo.gov

City Jefferson City State MO Zip 65162

Fax _____

Project Info:

P.O. # 3ESCP400007

Project # _____

Project Name Budgetin LF

Turn Around Time:

☒ Normal

☐ Rush

Lab Use Only

Pressurized by:

Date:

Pressurization Gas:

specify

N₂ He

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

Can #

Date of Collection Time of Collection

Analyses Requested

Canister Pressure/Vacuum

Initial Final Receipt Final (psi)

01A	D1 (154574)	35279	11/12/15	0835	TO-15	-30	-5.5				
02A	D2 (154575)	35147	11/12/15	0847	TO-15	-30	-5.5				
03A	V1 (154576)	64127	11/12/15	0923	TO-15	-30	-6				
04A	V2 (154577)	25305	11/12/15	0917	TO-15	-29	-5.5				

Relinquished by: (signature) Date/Time

Received by: (signature) Date/Time

Notes:

[Signature] 11/12/15 1449

[Signature] 11/18/15 1050

Shipping via UPS
Tracking # 1Z80406039584417

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

UPS

14

Good

Yes No None

1511292

12/1/2015

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

Jefferson City MO 65109

Project Name: Bridgeton LF

Project #:

Workorder #: 1511292

Dear Mr. Dennis Schroeder

The following report includes the data for the above referenced project for sample(s) received on 11/18/2015 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 #: 1511292

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. #	3ESP400007
FAX:	573-526-3350	PROJECT #	Bridgeton LF
DATE RECEIVED:	11/18/2015	CONTACT:	Brian Whittaker
DATE COMPLETED:	12/01/2015		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1(154574)	Modified TO-15	4.1 "Hg	5.1 psi
02A	D2(154575)	Modified TO-15	4.5 "Hg	5.2 psi
03A	U1(154576)	Modified TO-15	4.5 "Hg	5.1 psi
04A	U2(154577)	Modified TO-15	5.3 "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: 12/01/15

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# 1511292

Four 6 Liter Summa Canister (100% Certified) samples were received on November 18, 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	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	$\leq 30\%$ RSD with 4 compounds allowed out to $< 40\%$ RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Due to the linear calibration range of the instrument, the reporting limit for Freon 12 and alpha-Chlorotoluene was raised from 0.10 ppbv to 0.50 ppbv.

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(154574)

Lab ID#: 1511292-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.22	0.88	1.3
Ethanol	0.78	5.4	1.5	10
Acetone	0.78	2.9	1.8	6.8
Hexane	0.16	0.20	0.55	0.72

Client Sample ID: D2(154575)

Lab ID#: 1511292-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.20	0.89	1.1
Ethanol	0.80	3.5	1.5	6.6
Acetone	0.80	3.0	1.9	7.1
2-Propanol	0.80	0.92	2.0	2.2
Hexane	0.16	0.15 J	0.56	0.54 J
1,4-Dioxane	0.16	6.4	0.57	23
4-Methyl-2-pentanone	0.16	0.30	0.65	1.2

Client Sample ID: U1(154576)

Lab ID#: 1511292-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.20	0.89	1.1
Ethanol	0.79	2.1	1.5	4.0
Acetone	0.79	4.6	1.9	11
Hexane	0.16	0.20	0.56	0.70
2-Butanone (Methyl Ethyl Ketone)	0.79	0.88	2.3	2.6
1,4-Dioxane	0.16	5.5	0.57	20

Client Sample ID: U2(154577)

Lab ID#: 1511292-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
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Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: U2(154577)

Lab ID#: 1511292-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 11	0.16	0.24	0.92	1.3
Ethanol	0.82	1.3	1.5	2.5
Acetone	0.82	2.9	1.9	7.0
Methylene Chloride	0.33	0.33	1.1	1.1
Hexane	0.16	0.64	0.57	2.2
2-Butanone (Methyl Ethyl Ketone)	0.82	1.5	2.4	4.4
Heptane	0.16	0.46	0.67	1.9
1,2-Dichloropropane	0.16	0.41	0.75	1.9
Toluene	0.16	7.5	0.61	28
Tetrachloroethene	0.16	0.34	1.1	2.3
m,p-Xylene	0.16	0.17	0.71	0.74



Air Toxics

Client Sample ID: D1(154574)

Lab ID#: 1511292-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112018	Date of Collection:	11/12/15 1:47:00 PM
Dil. Factor:	1.56	Date of Analysis:	11/20/15 09:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.78	Not Detected	3.8	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	0.22	0.88	1.3
Ethanol	0.78	5.4	1.5	10
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Acetone	0.78	2.9	1.8	6.8
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	0.56	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.62	Not Detected
Hexane	0.16	0.20	0.55	0.72
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	0.62	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	0.85	Not Detected
Cyclohexane	0.16	Not Detected	0.54	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	0.84	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	Not Detected	0.59	Not Detected
trans-1,3-Dichloropropene	0.16	Not Detected	0.71	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.85	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(154574)

Lab ID#: 1511292-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112018	Date of Collection:	11/12/15 1:47:00 PM	
Dil. Factor:	1.56	Date of Analysis:	11/20/15 09:28 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	0.66	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	0.78	Not Detected	4.0	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 UJ	8.3	Not Detected UJ

UJ = Analyte associated with low bias in the CCV and/or LCS.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	88	70-130



Air Toxics

Client Sample ID: D2(154575)

Lab ID#: 1511292-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112019	Date of Collection:	11/12/15 1:58:00 PM
Dil. Factor:	1.59	Date of Analysis:	11/20/15 10:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.80	Not Detected	3.9	Not Detected
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	0.20	0.89	1.1
Ethanol	0.80	3.5	1.5	6.6
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.80	3.0	1.9	7.1
2-Propanol	0.80	0.92	2.0	2.2
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	0.57	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Hexane	0.16	0.15 J	0.56	0.54 J
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	Not Detected	0.51	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.64	Not Detected
Heptane	0.16	Not Detected	0.65	Not Detected
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	6.4	0.57	23
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	0.30	0.65	1.2
Toluene	0.16	Not Detected	0.60	Not Detected
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

Client Sample ID: D2(154575)

Lab ID#: 1511292-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112019	Date of Collection:	11/12/15 1:58:00 PM
Dil. Factor:	1.59	Date of Analysis:	11/20/15 10:04 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	0.73	Not Detected
Ethyl Benzene	0.16	Not Detected	0.69	Not Detected
m,p-Xylene	0.16	Not Detected	0.69	Not Detected
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	0.80	Not Detected	4.1	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 UJ	8.5	Not Detected UJ

J = Estimated value.

UJ = Analyte associated with low bias in the CCV and/or LCS.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	86	70-130

Client Sample ID: U1(154576)

Lab ID#: 1511292-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112020	Date of Collection:	11/12/15 2:23:00 PM
Dil. Factor:	1.58	Date of Analysis:	11/20/15 10:39 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.79	Not Detected	3.9	Not Detected
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.79	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	0.79	Not Detected	3.1	Not Detected
Chloroethane	0.79	Not Detected	2.1	Not Detected
Freon 11	0.16	0.20	0.89	1.1
Ethanol	0.79	2.1	1.5	4.0
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.79	4.6	1.9	11
2-Propanol	0.79	Not Detected	1.9	Not Detected
Carbon Disulfide	0.79	Not Detected	2.5	Not Detected
3-Chloropropene	0.79	Not Detected	2.5	Not Detected
Methylene Chloride	0.32	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.57	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Hexane	0.16	0.20	0.56	0.70
1,1-Dichloroethane	0.16	Not Detected	0.64	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.79	0.88	2.3	2.6
cis-1,2-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Tetrahydrofuran	0.79	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	0.79	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	0.65	Not Detected
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	5.5	0.57	20
Bromodichloromethane	0.16	Not Detected	1.0	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	Not Detected	0.60	Not Detected
trans-1,3-Dichloropropene	0.16	Not Detected	0.72	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	0.79	Not Detected	3.2	Not Detected

Client Sample ID: U1(154576)

Lab ID#: 1511292-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112020	Date of Collection:	11/12/15 2:23:00 PM
Dil. Factor:	1.58	Date of Analysis:	11/20/15 10:39 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	0.73	Not Detected
Ethyl Benzene	0.16	Not Detected	0.69	Not Detected
m,p-Xylene	0.16	Not Detected	0.69	Not Detected
o-Xylene	0.16	Not Detected	0.69	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	0.78	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	0.95	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
alpha-Chlorotoluene	0.79	Not Detected	4.1	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.95	Not Detected
1,2,4-Trichlorobenzene	0.79	Not Detected	5.9	Not Detected
Hexachlorobutadiene	0.79	Not Detected UJ	8.4	Not Detected UJ

UJ = Analyte associated with low bias in the CCV and/or LCS.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	92	70-130

Client Sample ID: U2(154577)

Lab ID#: 1511292-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112021	Date of Collection:	11/12/15 2:08:00 PM
Dil. Factor:	1.63	Date of Analysis:	11/21/15 07:02 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.82	Not Detected	4.0	Not Detected
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.82	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.42	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.82	Not Detected	3.2	Not Detected
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.16	0.24	0.92	1.3
Ethanol	0.82	1.3	1.5	2.5
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	2.9	1.9	7.0
2-Propanol	0.82	Not Detected	2.0	Not Detected
Carbon Disulfide	0.82	Not Detected	2.5	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	0.33	1.1	1.1
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	0.64	0.57	2.2
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	1.5	2.4	4.4
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	0.89	Not Detected
Cyclohexane	0.16	Not Detected	0.56	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	Not Detected	0.52	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	0.46	0.67	1.9
Trichloroethene	0.16	Not Detected	0.88	Not Detected
1,2-Dichloropropane	0.16	0.41	0.75	1.9
1,4-Dioxane	0.16	Not Detected	0.59	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.67	Not Detected
Toluene	0.16	7.5	0.61	28
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Tetrachloroethene	0.16	0.34	1.1	2.3
2-Hexanone	0.82	Not Detected	3.3	Not Detected

Client Sample ID: U2(154577)

Lab ID#: 1511292-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112021	Date of Collection:	11/12/15 2:08:00 PM
Dil. Factor:	1.63	Date of Analysis:	11/21/15 07:02 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	0.75	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	0.17	0.71	0.74
o-Xylene	0.16	Not Detected	0.71	Not Detected
Styrene	0.16	Not Detected	0.69	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.80	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.80	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.80	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.80	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.80	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
alpha-Chlorotoluene	0.82	Not Detected	4.2	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.0	Not Detected
Hexachlorobutadiene	0.82	Not Detected UJ	8.7	Not Detected UJ

UJ = Analyte associated with low bias in the CCV and/or LCS.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	90	70-130

Client Sample ID: Lab Blank

Lab ID#: 1511292-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112006	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/20/15 11:23 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.50	Not Detected	2.5	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#: 1511292-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112006	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/20/15 11:23 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	0.50	Not Detected	2.6	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 UJ	5.3	Not Detected UJ

UJ = Analyte associated with low bias in the CCV and/or LCS.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	87	70-130

Client Sample ID: CCV

Lab ID#: 1511292-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/20/15 08:11 AM

Compound	%Recovery
Freon 12	102
Freon 114	95
Chloromethane	100
Vinyl Chloride	109
1,3-Butadiene	98
Bromomethane	109
Chloroethane	114
Freon 11	93
Ethanol	89
Freon 113	90
1,1-Dichloroethene	95
Acetone	98
2-Propanol	93
Carbon Disulfide	109
3-Chloropropene	104
Methylene Chloride	99
Methyl tert-butyl ether	96
trans-1,2-Dichloroethene	100
Hexane	87
1,1-Dichloroethane	100
2-Butanone (Methyl Ethyl Ketone)	111
cis-1,2-Dichloroethene	92
Tetrahydrofuran	100
Chloroform	98
1,1,1-Trichloroethane	88
Cyclohexane	101
Carbon Tetrachloride	82
2,2,4-Trimethylpentane	94
Benzene	100
1,2-Dichloroethane	93
Heptane	90
Trichloroethene	83
1,2-Dichloropropane	100
1,4-Dioxane	93
Bromodichloromethane	98
cis-1,3-Dichloropropene	98
4-Methyl-2-pentanone	100
Toluene	93
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	100
Tetrachloroethene	87
2-Hexanone	94



Air Toxics

Client Sample ID: CCV

Lab ID#: 1511292-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/20/15 08:11 AM

Compound	%Recovery
Dibromochloromethane	96
1,2-Dibromoethane (EDB)	99
Chlorobenzene	96
Ethyl Benzene	90
m,p-Xylene	89
o-Xylene	92
Styrene	81
Bromoform	85
Cumene	96
1,1,2,2-Tetrachloroethane	103
Propylbenzene	91
4-Ethyltoluene	81
1,3,5-Trimethylbenzene	84
1,2,4-Trimethylbenzene	86
1,3-Dichlorobenzene	82
1,4-Dichlorobenzene	76
alpha-Chlorotoluene	85
1,2-Dichlorobenzene	77
1,2,4-Trichlorobenzene	76
Hexachlorobutadiene	66 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: LCS

Lab ID#: 1511292-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/20/15 09:01 AM

Compound	%Recovery	Method Limits
Freon 12	109	70-130
Freon 114	104	70-130
Chloromethane	105	70-130
Vinyl Chloride	120	70-130
1,3-Butadiene	101	70-130
Bromomethane	122	70-130
Chloroethane	116	70-130
Freon 11	98	70-130
Ethanol	104	70-130
Freon 113	92	70-130
1,1-Dichloroethene	102	70-130
Acetone	95	70-130
2-Propanol	100	70-130
Carbon Disulfide	100	70-130
3-Chloropropene	102	70-130
Methylene Chloride	104	70-130
Methyl tert-butyl ether	100	70-130
trans-1,2-Dichloroethene	88	70-130
Hexane	90	70-130
1,1-Dichloroethane	102	70-130
2-Butanone (Methyl Ethyl Ketone)	103	70-130
cis-1,2-Dichloroethene	103	70-130
Tetrahydrofuran	105	70-130
Chloroform	99	70-130
1,1,1-Trichloroethane	94	70-130
Cyclohexane	105	70-130
Carbon Tetrachloride	65 Q	70-130
2,2,4-Trimethylpentane	94	70-130
Benzene	103	70-130
1,2-Dichloroethane	96	70-130
Heptane	93	70-130
Trichloroethene	85	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	96	70-130
Bromodichloromethane	102	70-130
cis-1,3-Dichloropropene	93	70-130
4-Methyl-2-pentanone	101	70-130
Toluene	96	70-130
trans-1,3-Dichloropropene	102	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	92	70-130
2-Hexanone	101	70-130

Client Sample ID: LCS

Lab ID#: 1511292-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/20/15 09:01 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	95	70-130
1,2-Dibromoethane (EDB)	101	70-130
Chlorobenzene	94	70-130
Ethyl Benzene	86	70-130
m,p-Xylene	86	70-130
o-Xylene	91	70-130
Styrene	83	70-130
Bromoform	87	70-130
Cumene	91	70-130
1,1,2,2-Tetrachloroethane	104	70-130
Propylbenzene	88	70-130
4-Ethyltoluene	79	70-130
1,3,5-Trimethylbenzene	84	70-130
1,2,4-Trimethylbenzene	88	70-130
1,3-Dichlorobenzene	78	70-130
1,4-Dichlorobenzene	78	70-130
alpha-Chlorotoluene	91	70-130
1,2-Dichlorobenzene	77	70-130
1,2,4-Trichlorobenzene	75	70-130
Hexachlorobutadiene	60 Q	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	89	70-130

Client Sample ID: LCSD

Lab ID#: 1511292-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/20/15 09:36 AM

Compound	%Recovery	Method Limits
Freon 12	105	70-130
Freon 114	105	70-130
Chloromethane	106	70-130
Vinyl Chloride	117	70-130
1,3-Butadiene	100	70-130
Bromomethane	117	70-130
Chloroethane	116	70-130
Freon 11	100	70-130
Ethanol	107	70-130
Freon 113	92	70-130
1,1-Dichloroethene	98	70-130
Acetone	104	70-130
2-Propanol	104	70-130
Carbon Disulfide	103	70-130
3-Chloropropene	93	70-130
Methylene Chloride	102	70-130
Methyl tert-butyl ether	99	70-130
trans-1,2-Dichloroethene	90	70-130
Hexane	94	70-130
1,1-Dichloroethane	103	70-130
2-Butanone (Methyl Ethyl Ketone)	109	70-130
cis-1,2-Dichloroethene	111	70-130
Tetrahydrofuran	102	70-130
Chloroform	100	70-130
1,1,1-Trichloroethane	92	70-130
Cyclohexane	110	70-130
Carbon Tetrachloride	66 Q	70-130
2,2,4-Trimethylpentane	97	70-130
Benzene	108	70-130
1,2-Dichloroethane	98	70-130
Heptane	96	70-130
Trichloroethene	86	70-130
1,2-Dichloropropane	104	70-130
1,4-Dioxane	94	70-130
Bromodichloromethane	103	70-130
cis-1,3-Dichloropropene	93	70-130
4-Methyl-2-pentanone	103	70-130
Toluene	96	70-130
trans-1,3-Dichloropropene	101	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	91	70-130
2-Hexanone	103	70-130

Client Sample ID: LCSD

Lab ID#: 1511292-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v112004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 11/20/15 09:36 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	98	70-130
1,2-Dibromoethane (EDB)	105	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	90	70-130
m,p-Xylene	92	70-130
o-Xylene	95	70-130
Styrene	92	70-130
Bromoform	86	70-130
Cumene	98	70-130
1,1,2,2-Tetrachloroethane	112	70-130
Propylbenzene	101	70-130
4-Ethyltoluene	86	70-130
1,3,5-Trimethylbenzene	88	70-130
1,2,4-Trimethylbenzene	86	70-130
1,3-Dichlorobenzene	87	70-130
1,4-Dichlorobenzene	84	70-130
alpha-Chlorotoluene	101	70-130
1,2-Dichlorobenzene	86	70-130
1,2,4-Trichlorobenzene	72	70-130
Hexachlorobutadiene	74	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	94	70-130