



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) Cedric Luningan

Company MO DNR Email cedric.luningan@dnr.mo.gov

Address PO Box 176 City Jefferson City State MO Zip 65102

Phone (573) 526-3918 Fax _____

Project Info:

P.O. # _____

Project # _____

Project Name Bridgeton LF

Turn Around Time:

☒ Normal

☐ Rush

specify _____

Lab Use Only
Pressurized by:

Date:

Pressurization Gas:

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)

OIA D1 (149613)

34259

3/18/14 1230-1757

TO-15

-30

-5

-30

-6

Relinquished by: (signature) [Signature] Date/Time 3/19/14 950

Received by: (signature) [Signature] Date/Time 3/19/14 0950

Notes: Shipped via UPS
Tracking #: 1Z6427880344951888

Relinquished by: (signature) [Signature] Date/Time 3/20/14 1030

Received by: (signature) [Signature] Date/Time 3/26/14 1010

Shipper Name

Air Bill #

Temp (°C)

Condition

Custody Seals Intact?

Work Order #

Lab Use Only

UPS

NO

Good

Yes No None

1403478

4/9/2014

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

Jefferson City MO 65109

Project Name: Bridgeton LF

Project #:

Workorder #: 1403478

Dear Mr. Dennis Schroeder

The following report includes the data for the above referenced project for sample(s) received on 3/26/2014 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 #: 1403478

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. #	3ESP1301039
FAX:	573-526-3350	PROJECT #	Bridgeton LF
DATE RECEIVED:	03/26/2014	CONTACT:	Brian Whittaker
DATE COMPLETED:	04/09/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (149613)	Modified TO-15	5.0 "Hg	5 psi
02A	U1 (149614)	Modified TO-15	5.0 "Hg	5 psi
03A	Lab Blank	Modified TO-15	NA	NA
04A	CCV	Modified TO-15	NA	NA
05A	LCS	Modified TO-15	NA	NA
05AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY:



Technical Director

DATE: 04/09/14

Certification numbers: AZ Licensure AZ0775, CA NELAP - 12282CA, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-13-6, UT NELAP CA009332013-4, VA NELAP - 460197, WA NELAP - C935

Name of Accrediting Agency: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005, Effective date: 10/18/2013, Expiration date: 10/17/2014.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1403478

Two 6 Liter Summa Canister (100% Certified) samples were received on March 26, 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	<=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.

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

Methylene Chloride was detected in the laboratory blank at greater than the reporting limit. Associated samples had no detections for Methylene Chloride .

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 (149613)

Lab ID#: 1403478-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.46	0.79	2.3
Freon 11	0.16	0.25	0.90	1.4
Ethanol	0.80	3.6	1.5	6.8
Acetone	0.80	4.5	1.9	11
Benzene	0.16	0.18	0.51	0.57
Toluene	0.16	0.18	0.60	0.69

Client Sample ID: U1 (149614)

Lab ID#: 1403478-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.79	2.2
Freon 11	0.16	0.22	0.90	1.2
Ethanol	0.80	2.6	1.5	5.0
Acetone	0.80	7.1	1.9	17

Client Sample ID: D1 (149613)

Lab ID#: 1403478-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EXTRACT METHOD TO 15 GCMS FULL SCAN				
File Name:	c040816	Date of Collection: 3/18/14 5:57:00 PM		
Dil. Factor:	1.60	Date of Analysis: 4/8/14 10:15 PM		
Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.46	0.79	2.3
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	0.25	0.90	1.4
Ethanol	0.80	3.6	1.5	6.8
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.80	4.5	1.9	11
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	0.63	Not Detected
Hexane	0.16	Not Detected	0.56	Not Detected
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	0.63	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	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	0.18	0.51	0.57
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	0.18	0.60	0.69
trans-1,3-Dichloropropene	0.16	Not Detected	0.73	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	3.3	Not Detected



Air Toxics

Client Sample ID: D1 (149613)

Lab ID#: 1403478-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EPA METHOD TO IS GC/MS FULL SCAN				
File Name:	c040816	Date of Collection: 3/18/14 5:57:00 PM		
Dil. Factor:	1.60	Date of Analysis: 4/8/14 10:15 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	0.69	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	0.79	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	0.96	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 UJ	5.9	Not Detected UJ
Hexachlorobutadiene	0.80	Not Detected UJ	8.5	Not Detected UJ

UJ = Non-detected compound 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	98	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: U1 (149614)

Lab ID#: 1403478-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	c040817	Date of Collection:	3/18/14 5:38:00 PM
Dil. Factor:	1.60	Date of Analysis:	4/8/14 10:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.44	0.79	2.2
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	0.22	0.90	1.2
Ethanol	0.80	2.6	1.5	5.0
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.63	Not Detected
Acetone	0.80	7.1	1.9	17
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	0.63	Not Detected
Hexane	0.16	Not Detected	0.56	Not Detected
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	0.63	Not Detected
Tetrahydrofuran	0.80	Not Detected	2.4	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	0.65	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	Not Detected	0.60	Not Detected
trans-1,3-Dichloropropene	0.16	Not Detected	0.73	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	3.3	Not Detected

Client Sample ID: U1 (149614)

Lab ID#: 1403478-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EPA METHOD TO IS GC/MS FULL SCAN				
File Name:	c040817	Date of Collection: 3/18/14 5:38:00 PM		
Dil. Factor:	1.60	Date of Analysis: 4/8/14 10:56 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	0.69	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	0.79	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	0.96	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 UJ	5.9	Not Detected UJ
Hexachlorobutadiene	0.80	Not Detected UJ	8.5	Not Detected UJ

UJ = Non-detected compound 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	100	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1403478-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EXTRACT METHOD TO 15 COMPS FULL SCAN				
File Name:	c040810	Date of Collection: NA		
Dil. Factor:	1.00	Date of Analysis: 4/8/14 04:43 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	0.40	0.69	1.4
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#: 1403478-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

MODIFIED EXTRA METHOD TO IS GC/MS FULL SCAN				
File Name:	c040810	Date of Collection: NA		
Dil. Factor:	1.00	Date of Analysis: 4/8/14 04:43 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	0.50	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 UJ	3.7	Not Detected UJ
Hexachlorobutadiene	0.50	Not Detected UJ	5.3	Not Detected UJ

UJ = Non-detected compound associated with low bias in the CCV and/or LCS.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	109	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1403478-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	c040802	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/8/14 11:20 AM

Compound	%Recovery
Freon 12	94
Freon 114	100
Chloromethane	111
Vinyl Chloride	97
1,3-Butadiene	96
Bromomethane	99
Chloroethane	102
Freon 11	95
Ethanol	98
Freon 113	99
1,1-Dichloroethene	108
Acetone	94
2-Propanol	100
Carbon Disulfide	100
3-Chloropropene	112
Methylene Chloride	93
Methyl tert-butyl ether	103
trans-1,2-Dichloroethene	101
Hexane	106
1,1-Dichloroethane	99
2-Butanone (Methyl Ethyl Ketone)	98
cis-1,2-Dichloroethene	97
Tetrahydrofuran	101
Chloroform	93
1,1,1-Trichloroethane	101
Cyclohexane	103
Carbon Tetrachloride	100
2,2,4-Trimethylpentane	106
Benzene	99
1,2-Dichloroethane	96
Heptane	104
Trichloroethene	98
1,2-Dichloropropane	100
1,4-Dioxane	109
Bromodichloromethane	100
cis-1,3-Dichloropropene	106
4-Methyl-2-pentanone	112
Toluene	103
trans-1,3-Dichloropropene	100
1,1,2-Trichloroethane	95
Tetrachloroethene	96
2-Hexanone	100

Client Sample ID: CCV

Lab ID#: 1403478-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	c040802	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/8/14 11:20 AM

Compound	%Recovery
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	96
Chlorobenzene	96
Ethyl Benzene	103
m,p-Xylene	106
o-Xylene	104
Styrene	103
Bromoform	99
Cumene	100
1,1,2,2-Tetrachloroethane	98
Propylbenzene	96
4-Ethyltoluene	91
1,3,5-Trimethylbenzene	92
1,2,4-Trimethylbenzene	85
1,3-Dichlorobenzene	94
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	98
1,2-Dichlorobenzene	91
1,2,4-Trichlorobenzene	66 Q
Hexachlorobutadiene	67 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCS

Lab ID#: 1403478-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	c040804	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/8/14 12:46 PM

Compound	%Recovery	Method Limits
Freon 12	94	70-130
Freon 114	98	70-130
Chloromethane	97	70-130
Vinyl Chloride	96	70-130
1,3-Butadiene	93	70-130
Bromomethane	86	70-130
Chloroethane	100	70-130
Freon 11	93	70-130
Ethanol	116	70-130
Freon 113	112	70-130
1,1-Dichloroethene	122	70-130
Acetone	98	70-130
2-Propanol	101	70-130
Carbon Disulfide	92	70-130
3-Chloropropene	115	70-130
Methylene Chloride	106	70-130
Methyl tert-butyl ether	100	70-130
trans-1,2-Dichloroethene	88	70-130
Hexane	109	70-130
1,1-Dichloroethane	100	70-130
2-Butanone (Methyl Ethyl Ketone)	101	70-130
cis-1,2-Dichloroethene	108	70-130
Tetrahydrofuran	100	70-130
Chloroform	93	70-130
1,1,1-Trichloroethane	98	70-130
Cyclohexane	107	70-130
Carbon Tetrachloride	101	70-130
2,2,4-Trimethylpentane	102	70-130
Benzene	100	70-130
1,2-Dichloroethane	97	70-130
Heptane	107	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	112	70-130
Bromodichloromethane	103	70-130
cis-1,3-Dichloropropene	109	70-130
4-Methyl-2-pentanone	113	70-130
Toluene	102	70-130
trans-1,3-Dichloropropene	98	70-130
1,1,2-Trichloroethane	100	70-130
Tetrachloroethene	100	70-130
2-Hexanone	112	70-130

Client Sample ID: LCS

Lab ID#: 1403478-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	c040804	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 4/8/14 12:46 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	114	70-130
1,2-Dibromoethane (EDB)	100	70-130
Chlorobenzene	98	70-130
Ethyl Benzene	107	70-130
m,p-Xylene	111	70-130
o-Xylene	107	70-130
Styrene	105	70-130
Bromoform	105	70-130
Cumene	105	70-130
1,1,2,2-Tetrachloroethane	100	70-130
Propylbenzene	101	70-130
4-Ethyltoluene	96	70-130
1,3,5-Trimethylbenzene	95	70-130
1,2,4-Trimethylbenzene	88	70-130
1,3-Dichlorobenzene	94	70-130
1,4-Dichlorobenzene	90	70-130
alpha-Chlorotoluene	106	70-130
1,2-Dichlorobenzene	90	70-130
1,2,4-Trichlorobenzene	69 Q	70-130
Hexachlorobutadiene	65 Q	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	101	70-130

Client Sample ID: LCSD

Lab ID#: 1403478-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: c040806
Dil. Factor: 1.00

Date of Collection: NA
Date of Analysis: 4/8/14 01:58 PM

Compound	%Recovery	Method Limits
Freon 12	89	70-130
Freon 114	93	70-130
Chloromethane	88	70-130
Vinyl Chloride	95	70-130
1,3-Butadiene	94	70-130
Bromomethane	92	70-130
Chloroethane	100	70-130
Freon 11	93	70-130
Ethanol	101	70-130
Freon 113	111	70-130
1,1-Dichloroethene	118	70-130
Acetone	100	70-130
2-Propanol	99	70-130
Carbon Disulfide	93	70-130
3-Chloropropene	110	70-130
Methylene Chloride	106	70-130
Methyl tert-butyl ether	102	70-130
trans-1,2-Dichloroethene	84	70-130
Hexane	109	70-130
1,1-Dichloroethane	102	70-130
2-Butanone (Methyl Ethyl Ketone)	104	70-130
cis-1,2-Dichloroethene	112	70-130
Tetrahydrofuran	100	70-130
Chloroform	96	70-130
1,1,1-Trichloroethane	100	70-130
Cyclohexane	108	70-130
Carbon Tetrachloride	102	70-130
2,2,4-Trimethylpentane	102	70-130
Benzene	102	70-130
1,2-Dichloroethane	97	70-130
Heptane	109	70-130
Trichloroethene	101	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	112	70-130
Bromodichloromethane	107	70-130
cis-1,3-Dichloropropene	113	70-130
4-Methyl-2-pentanone	116	70-130
Toluene	104	70-130
trans-1,3-Dichloropropene	103	70-130
1,1,2-Trichloroethane	102	70-130
Tetrachloroethene	102	70-130
2-Hexanone	113	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1403478-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name: c040806
Dil. Factor: 1.00

Date of Collection: NA
Date of Analysis: 4/8/14 01:58 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	115	70-130
1,2-Dibromoethane (EDB)	103	70-130
Chlorobenzene	101	70-130
Ethyl Benzene	108	70-130
m,p-Xylene	109	70-130
o-Xylene	104	70-130
Styrene	106	70-130
Bromoform	109	70-130
Cumene	106	70-130
1,1,2,2-Tetrachloroethane	103	70-130
Propylbenzene	102	70-130
4-Ethyltoluene	99	70-130
1,3,5-Trimethylbenzene	98	70-130
1,2,4-Trimethylbenzene	87	70-130
1,3-Dichlorobenzene	96	70-130
1,4-Dichlorobenzene	92	70-130
alpha-Chlorotoluene	110	70-130
1,2-Dichlorobenzene	93	70-130
1,2,4-Trichlorobenzene	67 Q	70-130
Hexachlorobutadiene	71	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	89	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	99	70-130