

6/18/2015
Mr. Dennis Schroeder
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill
Project #:
Workorder #: 1506132

Dear Mr. Dennis Schroeder

The following report includes the data for the above referenced project for sample(s) received on 6/5/2015 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 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 #: 1506132

Work Order Summary

CLIENT:	Mr. Dennis Schroeder Missouri Dept. of Natural Resources 2710 West Main Jefferson City, MO 65109	BILL TO:	Accounts Payable Missouri Dept. of Natural Resources P.O Box 176 Jefferson City, MO 65102
PHONE:	573-526-4428	P.O. #	3ESP4000007
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	06/05/2015	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/18/2015		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (152331)	Modified TO-15	8 "Hg	5 psi
02A	U1 (152332)	Modified TO-15	8.4 "Hg	5 psi
03A	D2 (152333)	Modified TO-15	6.5 "Hg	5 psi
04A	D3 (152334)	Modified TO-15	9.6 "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: 06/18/15

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# 1506132

Four 6 Liter Summa Canister (100% Certified) samples were received on June 05, 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

The Chain of Custody was missing method information. EATL proceeded with the analysis as per the original contract or verbal agreement.

Analytical Notes

Due to the MDL study performed on instrument MSD-V, the reporting limit for 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 (152331)

Lab ID#: 1506132-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.45	0.90	2.2
Freon 11	0.18	0.25	1.0	1.4
Ethanol	0.91	2.4	1.7	4.6
Acetone	0.91	4.9	2.2	12
Hexane	0.18	0.19	0.64	0.67
Benzene	0.18	0.31	0.58	1.0
Toluene	0.18	0.25	0.68	0.94
m,p-Xylene	0.18	0.42	0.79	1.8

Client Sample ID: U1 (152332)

Lab ID#: 1506132-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.19	0.49	0.92	2.4
1,3-Butadiene	0.19	0.73	0.41	1.6
Freon 11	0.19	0.23	1.0	1.3
Ethanol	0.93	3.8	1.8	7.3
Acetone	0.93	7.0	2.2	17
Methylene Chloride	0.37	0.56	1.3	1.9
Hexane	0.19	0.53	0.66	1.9
2-Butanone (Methyl Ethyl Ketone)	0.93	1.2	2.7	3.6
Benzene	0.19	2.0	0.59	6.2
Heptane	0.19	0.36	0.76	1.5
Toluene	0.19	1.9	0.70	7.0
m,p-Xylene	0.19	0.26	0.81	1.1

Client Sample ID: D2 (152333)

Lab ID#: 1506132-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.46	0.84	2.3
1,3-Butadiene	0.17	0.37	0.38	0.82
Freon 11	0.17	0.23	0.96	1.3

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

Client Sample ID: D2 (152333)

Lab ID#: 1506132-03A

Ethanol	0.86	3.0	1.6	5.6
Acetone	0.86	5.0	2.0	12
Hexane	0.17	0.32	0.60	1.1
2-Butanone (Methyl Ethyl Ketone)	0.86	0.90	2.5	2.6
Benzene	0.17	0.99	0.55	3.2
Heptane	0.17	0.19	0.70	0.78
Toluene	0.17	1.0	0.64	3.8
m,p-Xylene	0.17	0.22	0.74	0.94

Client Sample ID: D3 (152334)

Lab ID#: 1506132-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.20	0.45	0.98	2.2
Freon 11	0.20	0.23	1.1	1.3
Ethanol	0.99	2.1	1.9	3.9
Acetone	0.99	1.9	2.4	4.5



Air Toxics

Client Sample ID: D1 (152331)

Lab ID#: 1506132-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061014	Date of Collection:	5/31/15 2:02:00 PM
Dil. Factor:	1.82	Date of Analysis:	6/10/15 05:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.45	0.90	2.2
Freon 114	0.18	Not Detected	1.3	Not Detected
Chloromethane	0.91	Not Detected	1.9	Not Detected
Vinyl Chloride	0.18	Not Detected	0.46	Not Detected
1,3-Butadiene	0.18	Not Detected	0.40	Not Detected
Bromomethane	0.91	Not Detected	3.5	Not Detected
Chloroethane	0.91	Not Detected	2.4	Not Detected
Freon 11	0.18	0.25	1.0	1.4
Ethanol	0.91	2.4	1.7	4.6
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Acetone	0.91	4.9	2.2	12
2-Propanol	0.91	Not Detected	2.2	Not Detected
Carbon Disulfide	0.91	Not Detected	2.8	Not Detected
3-Chloropropene	0.91	Not Detected	2.8	Not Detected
Methylene Chloride	0.36	Not Detected	1.3	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.66	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Hexane	0.18	0.19	0.64	0.67
1,1-Dichloroethane	0.18	Not Detected	0.74	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.91	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.72	Not Detected
Tetrahydrofuran	0.91	Not Detected	2.7	Not Detected
Chloroform	0.18	Not Detected	0.89	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.99	Not Detected
Cyclohexane	0.18	Not Detected	0.63	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.91	Not Detected	4.2	Not Detected
Benzene	0.18	0.31	0.58	1.0
1,2-Dichloroethane	0.18	Not Detected	0.74	Not Detected
Heptane	0.18	Not Detected	0.74	Not Detected
Trichloroethene	0.18	Not Detected	0.98	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.84	Not Detected
1,4-Dioxane	0.18	Not Detected	0.66	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.83	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.74	Not Detected
Toluene	0.18	0.25	0.68	0.94
trans-1,3-Dichloropropene	0.18	Not Detected	0.83	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.99	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.91	Not Detected	3.7	Not Detected



Client Sample ID: D1 (152331)

Lab ID#: 1506132-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061014	Date of Collection:	5/31/15 2:02:00 PM
Dil. Factor:	1.82	Date of Analysis:	6/10/15 05:22 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.18	Not Detected	1.6	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.84	Not Detected
Ethyl Benzene	0.18	Not Detected	0.79	Not Detected
m,p-Xylene	0.18	0.42	0.79	1.8
o-Xylene	0.18	Not Detected	0.79	Not Detected
Styrene	0.18	Not Detected	0.78	Not Detected
Bromoform	0.18	Not Detected	1.9	Not Detected
Cumene	0.18	Not Detected	0.89	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.89	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.89	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.89	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.89	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.91	Not Detected	4.7	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.91	Not Detected	6.8	Not Detected
Hexachlorobutadiene	0.91	Not Detected	9.7	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	90	70-130



Air Toxics

Client Sample ID: U1 (152332)

Lab ID#: 1506132-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061015	Date of Collection:	5/31/15 2:16:00 PM
Dil. Factor:	1.86	Date of Analysis:	6/10/15 05:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.19	0.49	0.92	2.4
Freon 114	0.19	Not Detected	1.3	Not Detected
Chloromethane	0.93	Not Detected	1.9	Not Detected
Vinyl Chloride	0.19	Not Detected	0.48	Not Detected
1,3-Butadiene	0.19	0.73	0.41	1.6
Bromomethane	0.93	Not Detected	3.6	Not Detected
Chloroethane	0.93	Not Detected	2.4	Not Detected
Freon 11	0.19	0.23	1.0	1.3
Ethanol	0.93	3.8	1.8	7.3
Freon 113	0.19	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.19	Not Detected	0.74	Not Detected
Acetone	0.93	7.0	2.2	17
2-Propanol	0.93	Not Detected	2.3	Not Detected
Carbon Disulfide	0.93	Not Detected	2.9	Not Detected
3-Chloropropene	0.93	Not Detected	2.9	Not Detected
Methylene Chloride	0.37	0.56	1.3	1.9
Methyl tert-butyl ether	0.19	Not Detected	0.67	Not Detected
trans-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
Hexane	0.19	0.53	0.66	1.9
1,1-Dichloroethane	0.19	Not Detected	0.75	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.93	1.2	2.7	3.6
cis-1,2-Dichloroethene	0.19	Not Detected	0.74	Not Detected
Tetrahydrofuran	0.93	Not Detected	2.7	Not Detected
Chloroform	0.19	Not Detected	0.91	Not Detected
1,1,1-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Cyclohexane	0.19	Not Detected	0.64	Not Detected
Carbon Tetrachloride	0.19	Not Detected	1.2	Not Detected
2,2,4-Trimethylpentane	0.93	Not Detected	4.3	Not Detected
Benzene	0.19	2.0	0.59	6.2
1,2-Dichloroethane	0.19	Not Detected	0.75	Not Detected
Heptane	0.19	0.36	0.76	1.5
Trichloroethene	0.19	Not Detected	1.0	Not Detected
1,2-Dichloropropane	0.19	Not Detected	0.86	Not Detected
1,4-Dioxane	0.19	Not Detected	0.67	Not Detected
Bromodichloromethane	0.19	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.19	Not Detected	0.84	Not Detected
4-Methyl-2-pentanone	0.19	Not Detected	0.76	Not Detected
Toluene	0.19	1.9	0.70	7.0
trans-1,3-Dichloropropene	0.19	Not Detected	0.84	Not Detected
1,1,2-Trichloroethane	0.19	Not Detected	1.0	Not Detected
Tetrachloroethene	0.19	Not Detected	1.3	Not Detected
2-Hexanone	0.93	Not Detected	3.8	Not Detected

Client Sample ID: U1 (152332)

Lab ID#: 1506132-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061015	Date of Collection: 5/31/15 2:16:00 PM
Dil. Factor:	1.86	Date of Analysis: 6/10/15 05:58 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.19	Not Detected	1.6	Not Detected
1,2-Dibromoethane (EDB)	0.19	Not Detected	1.4	Not Detected
Chlorobenzene	0.19	Not Detected	0.86	Not Detected
Ethyl Benzene	0.19	Not Detected	0.81	Not Detected
m,p-Xylene	0.19	0.26	0.81	1.1
o-Xylene	0.19	Not Detected	0.81	Not Detected
Styrene	0.19	Not Detected	0.79	Not Detected
Bromoform	0.19	Not Detected	1.9	Not Detected
Cumene	0.19	Not Detected	0.91	Not Detected
1,1,2,2-Tetrachloroethane	0.19	Not Detected	1.3	Not Detected
Propylbenzene	0.19	Not Detected	0.91	Not Detected
4-Ethyltoluene	0.19	Not Detected	0.91	Not Detected
1,3,5-Trimethylbenzene	0.19	Not Detected	0.91	Not Detected
1,2,4-Trimethylbenzene	0.19	Not Detected	0.91	Not Detected
1,3-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.93	Not Detected	4.8	Not Detected
1,2-Dichlorobenzene	0.19	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.93	Not Detected	6.9	Not Detected
Hexachlorobutadiene	0.93	Not Detected	9.9	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: D2 (152333)

Lab ID#: 1506132-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061016	Date of Collection:	5/31/15 2:30:00 PM
Dil. Factor:	1.71	Date of Analysis:	6/10/15 06:33 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.46	0.84	2.3
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	0.37	0.38	0.82
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.2	Not Detected
Freon 11	0.17	0.23	0.96	1.3
Ethanol	0.86	3.0	1.6	5.6
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	5.0	2.0	12
2-Propanol	0.86	Not Detected	2.1	Not Detected
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	0.32	0.60	1.1
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	0.90	2.5	2.6
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	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	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	0.99	0.55	3.2
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	0.19	0.70	0.78
Trichloroethene	0.17	Not Detected	0.92	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	1.0	0.64	3.8
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	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	0.86	Not Detected	3.5	Not Detected



Client Sample ID: D2 (152333)

Lab ID#: 1506132-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061016	Date of Collection: 5/31/15 2:30:00 PM
Dil. Factor:	1.71	Date of Analysis: 6/10/15 06:33 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.74	Not Detected
m,p-Xylene	0.17	0.22	0.74	0.94
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.73	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	0.86	Not Detected	4.4	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.1	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	90	70-130



Air Toxics

Client Sample ID: D3 (152334)

Lab ID#: 1506132-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061017	Date of Collection:	5/31/15 2:55:00 PM
Dil. Factor:	1.98	Date of Analysis:	6/10/15 07:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.20	0.45	0.98	2.2
Freon 114	0.20	Not Detected	1.4	Not Detected
Chloromethane	0.99	Not Detected	2.0	Not Detected
Vinyl Chloride	0.20	Not Detected	0.51	Not Detected
1,3-Butadiene	0.20	Not Detected	0.44	Not Detected
Bromomethane	0.99	Not Detected	3.8	Not Detected
Chloroethane	0.99	Not Detected	2.6	Not Detected
Freon 11	0.20	0.23	1.1	1.3
Ethanol	0.99	2.1	1.9	3.9
Freon 113	0.20	Not Detected	1.5	Not Detected
1,1-Dichloroethene	0.20	Not Detected	0.78	Not Detected
Acetone	0.99	1.9	2.4	4.5
2-Propanol	0.99	Not Detected	2.4	Not Detected
Carbon Disulfide	0.99	Not Detected	3.1	Not Detected
3-Chloropropene	0.99	Not Detected	3.1	Not Detected
Methylene Chloride	0.40	Not Detected	1.4	Not Detected
Methyl tert-butyl ether	0.20	Not Detected	0.71	Not Detected
trans-1,2-Dichloroethene	0.20	Not Detected	0.78	Not Detected
Hexane	0.20	Not Detected	0.70	Not Detected
1,1-Dichloroethane	0.20	Not Detected	0.80	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.99	Not Detected	2.9	Not Detected
cis-1,2-Dichloroethene	0.20	Not Detected	0.78	Not Detected
Tetrahydrofuran	0.99	Not Detected	2.9	Not Detected
Chloroform	0.20	Not Detected	0.97	Not Detected
1,1,1-Trichloroethane	0.20	Not Detected	1.1	Not Detected
Cyclohexane	0.20	Not Detected	0.68	Not Detected
Carbon Tetrachloride	0.20	Not Detected	1.2	Not Detected
2,2,4-Trimethylpentane	0.99	Not Detected	4.6	Not Detected
Benzene	0.20	Not Detected	0.63	Not Detected
1,2-Dichloroethane	0.20	Not Detected	0.80	Not Detected
Heptane	0.20	Not Detected	0.81	Not Detected
Trichloroethene	0.20	Not Detected	1.1	Not Detected
1,2-Dichloropropane	0.20	Not Detected	0.92	Not Detected
1,4-Dioxane	0.20	Not Detected	0.71	Not Detected
Bromodichloromethane	0.20	Not Detected	1.3	Not Detected
cis-1,3-Dichloropropene	0.20	Not Detected	0.90	Not Detected
4-Methyl-2-pentanone	0.20	Not Detected	0.81	Not Detected
Toluene	0.20	Not Detected	0.75	Not Detected
trans-1,3-Dichloropropene	0.20	Not Detected	0.90	Not Detected
1,1,2-Trichloroethane	0.20	Not Detected	1.1	Not Detected
Tetrachloroethene	0.20	Not Detected	1.3	Not Detected
2-Hexanone	0.99	Not Detected	4.0	Not Detected

Client Sample ID: D3 (152334)

Lab ID#: 1506132-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061017	Date of Collection: 5/31/15 2:55:00 PM
Dil. Factor:	1.98	Date of Analysis: 6/10/15 07:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.20	Not Detected	1.7	Not Detected
1,2-Dibromoethane (EDB)	0.20	Not Detected	1.5	Not Detected
Chlorobenzene	0.20	Not Detected	0.91	Not Detected
Ethyl Benzene	0.20	Not Detected	0.86	Not Detected
m,p-Xylene	0.20	Not Detected	0.86	Not Detected
o-Xylene	0.20	Not Detected	0.86	Not Detected
Styrene	0.20	Not Detected	0.84	Not Detected
Bromoform	0.20	Not Detected	2.0	Not Detected
Cumene	0.20	Not Detected	0.97	Not Detected
1,1,2,2-Tetrachloroethane	0.20	Not Detected	1.4	Not Detected
Propylbenzene	0.20	Not Detected	0.97	Not Detected
4-Ethyltoluene	0.20	Not Detected	0.97	Not Detected
1,3,5-Trimethylbenzene	0.20	Not Detected	0.97	Not Detected
1,2,4-Trimethylbenzene	0.20	Not Detected	0.97	Not Detected
1,3-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected
1,4-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected
alpha-Chlorotoluene	0.99	Not Detected	5.1	Not Detected
1,2-Dichlorobenzene	0.20	Not Detected	1.2	Not Detected
1,2,4-Trichlorobenzene	0.99	Not Detected	7.3	Not Detected
Hexachlorobutadiene	0.99	Not Detected	10	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1506132-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061006	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/10/15 11:28 AM

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



Client Sample ID: Lab Blank

Lab ID#: 1506132-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061006	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/10/15 11:28 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	5.3	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1506132-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/10/15 08:04 AM

Compound	%Recovery
Freon 12	116
Freon 114	108
Chloromethane	113
Vinyl Chloride	117
1,3-Butadiene	115
Bromomethane	125
Chloroethane	127
Freon 11	124
Ethanol	126
Freon 113	110
1,1-Dichloroethene	116
Acetone	113
2-Propanol	128
Carbon Disulfide	121
3-Chloropropene	109
Methylene Chloride	116
Methyl tert-butyl ether	121
trans-1,2-Dichloroethene	116
Hexane	113
1,1-Dichloroethane	122
2-Butanone (Methyl Ethyl Ketone)	114
cis-1,2-Dichloroethene	112
Tetrahydrofuran	120
Chloroform	115
1,1,1-Trichloroethane	111
Cyclohexane	113
Carbon Tetrachloride	106
2,2,4-Trimethylpentane	121
Benzene	110
1,2-Dichloroethane	114
Heptane	110
Trichloroethene	104
1,2-Dichloropropane	107
1,4-Dioxane	106
Bromodichloromethane	110
cis-1,3-Dichloropropene	108
4-Methyl-2-pentanone	114
Toluene	108
trans-1,3-Dichloropropene	114
1,1,2-Trichloroethane	112
Tetrachloroethene	108
2-Hexanone	109



Air Toxics

Client Sample ID: CCV

Lab ID#: 1506132-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/10/15 08:04 AM

Compound	%Recovery
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	113
Chlorobenzene	109
Ethyl Benzene	108
m,p-Xylene	109
o-Xylene	106
Styrene	104
Bromoform	97
Cumene	108
1,1,2,2-Tetrachloroethane	102
Propylbenzene	96
4-Ethyltoluene	91
1,3,5-Trimethylbenzene	93
1,2,4-Trimethylbenzene	107
1,3-Dichlorobenzene	97
1,4-Dichlorobenzene	86
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	90
1,2,4-Trichlorobenzene	76
Hexachlorobutadiene	79

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1506132-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/10/15 08:45 AM

Compound	%Recovery	Method Limits
Freon 12	113	70-130
Freon 114	103	70-130
Chloromethane	109	70-130
Vinyl Chloride	110	70-130
1,3-Butadiene	103	70-130
Bromomethane	105	70-130
Chloroethane	120	70-130
Freon 11	114	70-130
Ethanol	133 Q	70-130
Freon 113	97	70-130
1,1-Dichloroethene	108	70-130
Acetone	107	70-130
2-Propanol	129	70-130
Carbon Disulfide	98	70-130
3-Chloropropene	104	70-130
Methylene Chloride	110	70-130
Methyl tert-butyl ether	110	70-130
trans-1,2-Dichloroethene	90	70-130
Hexane	103	70-130
1,1-Dichloroethane	114	70-130
2-Butanone (Methyl Ethyl Ketone)	117	70-130
cis-1,2-Dichloroethene	118	70-130
Tetrahydrofuran	124	70-130
Chloroform	109	70-130
1,1,1-Trichloroethane	105	70-130
Cyclohexane	109	70-130
Carbon Tetrachloride	104	70-130
2,2,4-Trimethylpentane	114	70-130
Benzene	109	70-130
1,2-Dichloroethane	112	70-130
Heptane	113	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	108	70-130
1,4-Dioxane	112	70-130
Bromodichloromethane	112	70-130
cis-1,3-Dichloropropene	104	70-130
4-Methyl-2-pentanone	136 Q	70-130
Toluene	105	70-130
trans-1,3-Dichloropropene	111	70-130
1,1,2-Trichloroethane	107	70-130
Tetrachloroethene	96	70-130
2-Hexanone	127	70-130

Client Sample ID: LCS

Lab ID#: 1506132-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/10/15 08:45 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	103	70-130
1,2-Dibromoethane (EDB)	105	70-130
Chlorobenzene	101	70-130
Ethyl Benzene	106	70-130
m,p-Xylene	108	70-130
o-Xylene	112	70-130
Styrene	110	70-130
Bromoform	106	70-130
Cumene	110	70-130
1,1,2,2-Tetrachloroethane	106	70-130
Propylbenzene	102	70-130
4-Ethyltoluene	89	70-130
1,3,5-Trimethylbenzene	84	70-130
1,2,4-Trimethylbenzene	87	70-130
1,3-Dichlorobenzene	96	70-130
1,4-Dichlorobenzene	84	70-130
alpha-Chlorotoluene	117	70-130
1,2-Dichlorobenzene	92	70-130
1,2,4-Trichlorobenzene	95	70-130
Hexachlorobutadiene	88	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: LCS D

Lab ID#: 1506132-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/10/15 09:53 AM

Compound	%Recovery	Method Limits
Freon 12	114	70-130
Freon 114	106	70-130
Chloromethane	107	70-130
Vinyl Chloride	116	70-130
1,3-Butadiene	106	70-130
Bromomethane	103	70-130
Chloroethane	121	70-130
Freon 11	118	70-130
Ethanol	136 Q	70-130
Freon 113	99	70-130
1,1-Dichloroethene	111	70-130
Acetone	110	70-130
2-Propanol	131 Q	70-130
Carbon Disulfide	100	70-130
3-Chloropropene	103	70-130
Methylene Chloride	112	70-130
Methyl tert-butyl ether	112	70-130
trans-1,2-Dichloroethene	94	70-130
Hexane	102	70-130
1,1-Dichloroethane	116	70-130
2-Butanone (Methyl Ethyl Ketone)	121	70-130
cis-1,2-Dichloroethene	122	70-130
Tetrahydrofuran	126	70-130
Chloroform	110	70-130
1,1,1-Trichloroethane	105	70-130
Cyclohexane	112	70-130
Carbon Tetrachloride	105	70-130
2,2,4-Trimethylpentane	111	70-130
Benzene	107	70-130
1,2-Dichloroethane	113	70-130
Heptane	112	70-130
Trichloroethene	100	70-130
1,2-Dichloropropane	110	70-130
1,4-Dioxane	112	70-130
Bromodichloromethane	114	70-130
cis-1,3-Dichloropropene	105	70-130
4-Methyl-2-pentanone	134 Q	70-130
Toluene	103	70-130
trans-1,3-Dichloropropene	118	70-130
1,1,2-Trichloroethane	111	70-130
Tetrachloroethene	100	70-130
2-Hexanone	132 Q	70-130

Client Sample ID: LCSD

Lab ID#: 1506132-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v061004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/10/15 09:53 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	110	70-130
1,2-Dibromoethane (EDB)	112	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	105	70-130
m,p-Xylene	104	70-130
o-Xylene	107	70-130
Styrene	104	70-130
Bromoform	112	70-130
Cumene	111	70-130
1,1,2,2-Tetrachloroethane	111	70-130
Propylbenzene	99	70-130
4-Ethyltoluene	84	70-130
1,3,5-Trimethylbenzene	69 Q	70-130
1,2,4-Trimethylbenzene	70	70-130
1,3-Dichlorobenzene	91	70-130
1,4-Dichlorobenzene	79	70-130
alpha-Chlorotoluene	113	70-130
1,2-Dichlorobenzene	84	70-130
1,2,4-Trichlorobenzene	87	70-130
Hexachlorobutadiene	84	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130