

1/29/2014

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1401175

Dear Mr. Dennis Schroeder

The following report includes the data for the above referenced project for sample(s) received on 1/15/2014 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: Kelly Buettner at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kelly Buettner
Project Manager

WORK ORDER #: 1401175

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 Landfill
DATE RECEIVED:	01/15/2014	CONTACT:	Kelly Buettner
DATE COMPLETED:	01/28/2014		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (135067)	Modified TO-15	0.2 psi	5.3 psi
02A	D2 (135068)	Modified TO-15	0.2 "Hg	5.3 psi
03A	U1 (135069)	Modified TO-15	1.4 "Hg	5.4 psi
04A	U2 (135070)	Modified TO-15	1 "Hg	5.2 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: 01/29/14

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# 1401175

Four 6 Liter Summa Canister (100% Certified) samples were received on January 15, 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

Sample identification for samples D2 (135068) and U2 (135070) were not provided on the sample tag. Therefore the information on the Chain of Custody was used to process and report the sample.

Despite the use of flow controllers for sample collection, the final canister vacuum for sample D1 (135067) was measured at ambient pressure. These ambient pressure reading was confirmed by the laboratory upon sample receipt.

Analytical Notes

There were no analytical discrepancies.

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 (135067)

Lab ID#: 1401175-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.13	0.44	0.66	2.2
Freon 11	0.13	0.21	0.75	1.2
Ethanol	0.67	12	1.3	23
Acetone	0.67	9.9	1.6	23
2-Propanol	0.67	1.9	1.6	4.7
Methylene Chloride	0.27	0.84	0.93	2.9
Hexane	0.13	0.19	0.47	0.68
2-Butanone (Methyl Ethyl Ketone)	0.67	3.8	2.0	11
Tetrahydrofuran	0.67	2.1	2.0	6.3
Benzene	0.13	3.8	0.43	12
Heptane	0.13	0.15	0.55	0.61
Toluene	0.13	0.75	0.50	2.8
Ethyl Benzene	0.13	0.23	0.58	1.0
m,p-Xylene	0.13	0.46	0.58	2.0
o-Xylene	0.13	0.15	0.58	0.64

Client Sample ID: D2 (135068)

Lab ID#: 1401175-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.14	0.44	0.68	2.2
Freon 11	0.14	0.19	0.77	1.1
Ethanol	0.68	2.3	1.3	4.3
Acetone	0.68	1.8	1.6	4.3
Methylene Chloride	0.27	0.30	0.95	1.0
Hexane	0.14	0.23	0.48	0.80
Benzene	0.14	0.54	0.44	1.7
Heptane	0.14	0.16	0.56	0.64
Toluene	0.14	0.23	0.52	0.87
m,p-Xylene	0.14	0.14	0.59	0.60

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

Client Sample ID: U1 (135069)

Lab ID#: 1401175-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.14	0.50	0.71	2.4
Freon 11	0.14	0.20	0.81	1.1
Ethanol	0.72	1.4	1.4	2.6
Acetone	0.72	1.2	1.7	2.7
2-Propanol	0.72	0.93	1.8	2.3
Benzene	0.14	0.21	0.46	0.66
Toluene	0.14	0.17	0.54	0.63

Client Sample ID: U2 (135070)

Lab ID#: 1401175-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.14	0.47	0.69	2.3
Freon 11	0.14	0.21	0.79	1.2
Ethanol	0.70	2.0	1.3	3.8
Acetone	0.70	4.9	1.7	12
Methylene Chloride	0.28	6.4	0.97	22
Benzene	0.14	0.25	0.45	0.81
Toluene	0.14	0.65	0.53	2.4



Air Toxics

Client Sample ID: D1 (135067)

Lab ID#: 1401175-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011707	Date of Collection:	1/8/14 8:50:00 PM
Dil. Factor:	1.34	Date of Analysis:	1/17/14 03:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.13	0.44	0.66	2.2
Freon 114	0.13	Not Detected	0.94	Not Detected
Chloromethane	0.67	Not Detected	1.4	Not Detected
Vinyl Chloride	0.13	Not Detected	0.34	Not Detected
1,3-Butadiene	0.13	Not Detected	0.30	Not Detected
Bromomethane	0.67	Not Detected	2.6	Not Detected
Chloroethane	0.67	Not Detected	1.8	Not Detected
Freon 11	0.13	0.21	0.75	1.2
Ethanol	0.67	12	1.3	23
Freon 113	0.13	Not Detected	1.0	Not Detected
1,1-Dichloroethene	0.13	Not Detected	0.53	Not Detected
Acetone	0.67	9.9	1.6	23
2-Propanol	0.67	1.9	1.6	4.7
Carbon Disulfide	0.67	Not Detected	2.1	Not Detected
3-Chloropropene	0.67	Not Detected	2.1	Not Detected
Methylene Chloride	0.27	0.84	0.93	2.9
Methyl tert-butyl ether	0.13	Not Detected	0.48	Not Detected
trans-1,2-Dichloroethene	0.13	Not Detected	0.53	Not Detected
Hexane	0.13	0.19	0.47	0.68
1,1-Dichloroethane	0.13	Not Detected	0.54	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.67	3.8	2.0	11
cis-1,2-Dichloroethene	0.13	Not Detected	0.53	Not Detected
Tetrahydrofuran	0.67	2.1	2.0	6.3
Chloroform	0.13	Not Detected	0.65	Not Detected
1,1,1-Trichloroethane	0.13	Not Detected	0.73	Not Detected
Cyclohexane	0.13	Not Detected	0.46	Not Detected
Carbon Tetrachloride	0.13	Not Detected	0.84	Not Detected
2,2,4-Trimethylpentane	0.67	Not Detected	3.1	Not Detected
Benzene	0.13	3.8	0.43	12
1,2-Dichloroethane	0.13	Not Detected	0.54	Not Detected
Heptane	0.13	0.15	0.55	0.61
Trichloroethene	0.13	Not Detected	0.72	Not Detected
1,2-Dichloropropane	0.13	Not Detected	0.62	Not Detected
1,4-Dioxane	0.13	Not Detected	0.48	Not Detected
Bromodichloromethane	0.13	Not Detected	0.90	Not Detected
cis-1,3-Dichloropropene	0.13	Not Detected	0.61	Not Detected
4-Methyl-2-pentanone	0.13	Not Detected	0.55	Not Detected
Toluene	0.13	0.75	0.50	2.8
trans-1,3-Dichloropropene	0.13	Not Detected	0.61	Not Detected
1,1,2-Trichloroethane	0.13	Not Detected	0.73	Not Detected
Tetrachloroethene	0.13	Not Detected	0.91	Not Detected
2-Hexanone	0.67	Not Detected	2.7	Not Detected



Client Sample ID: D1 (135067)

Lab ID#: 1401175-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011707	Date of Collection: 1/8/14 8:50:00 PM
Dil. Factor:	1.34	Date of Analysis: 1/17/14 03:07 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.13	Not Detected	1.1	Not Detected
1,2-Dibromoethane (EDB)	0.13	Not Detected	1.0	Not Detected
Chlorobenzene	0.13	Not Detected	0.62	Not Detected
Ethyl Benzene	0.13	0.23	0.58	1.0
m,p-Xylene	0.13	0.46	0.58	2.0
o-Xylene	0.13	0.15	0.58	0.64
Styrene	0.13	Not Detected	0.57	Not Detected
Bromoform	0.13	Not Detected	1.4	Not Detected
Cumene	0.13	Not Detected	0.66	Not Detected
1,1,2,2-Tetrachloroethane	0.13	Not Detected	0.92	Not Detected
Propylbenzene	0.13	Not Detected	0.66	Not Detected
4-Ethyltoluene	0.13	Not Detected	0.66	Not Detected
1,3,5-Trimethylbenzene	0.13	Not Detected	0.66	Not Detected
1,2,4-Trimethylbenzene	0.13	Not Detected	0.66	Not Detected
1,3-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected
1,4-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected
alpha-Chlorotoluene	0.13	Not Detected	0.69	Not Detected
1,2-Dichlorobenzene	0.13	Not Detected	0.80	Not Detected
1,2,4-Trichlorobenzene	0.67	Not Detected	5.0	Not Detected
Hexachlorobutadiene	0.67	Not Detected	7.1	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	91	70-130



Air Toxics

Client Sample ID: D2 (135068)

Lab ID#: 1401175-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011708	Date of Collection:	1/8/14 9:05:00 PM
Dil. Factor:	1.37	Date of Analysis:	1/17/14 04:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.14	0.44	0.68	2.2
Freon 114	0.14	Not Detected	0.96	Not Detected
Chloromethane	0.68	Not Detected	1.4	Not Detected
Vinyl Chloride	0.14	Not Detected	0.35	Not Detected
1,3-Butadiene	0.14	Not Detected	0.30	Not Detected
Bromomethane	0.68	Not Detected	2.7	Not Detected
Chloroethane	0.68	Not Detected	1.8	Not Detected
Freon 11	0.14	0.19	0.77	1.1
Ethanol	0.68	2.3	1.3	4.3
Freon 113	0.14	Not Detected	1.0	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.54	Not Detected
Acetone	0.68	1.8	1.6	4.3
2-Propanol	0.68	Not Detected	1.7	Not Detected
Carbon Disulfide	0.68	Not Detected	2.1	Not Detected
3-Chloropropene	0.68	Not Detected	2.1	Not Detected
Methylene Chloride	0.27	0.30	0.95	1.0
Methyl tert-butyl ether	0.14	Not Detected	0.49	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected
Hexane	0.14	0.23	0.48	0.80
1,1-Dichloroethane	0.14	Not Detected	0.55	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.68	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected
Tetrahydrofuran	0.68	Not Detected	2.0	Not Detected
Chloroform	0.14	Not Detected	0.67	Not Detected
1,1,1-Trichloroethane	0.14	Not Detected	0.75	Not Detected
Cyclohexane	0.14	Not Detected	0.47	Not Detected
Carbon Tetrachloride	0.14	Not Detected	0.86	Not Detected
2,2,4-Trimethylpentane	0.68	Not Detected	3.2	Not Detected
Benzene	0.14	0.54	0.44	1.7
1,2-Dichloroethane	0.14	Not Detected	0.55	Not Detected
Heptane	0.14	0.16	0.56	0.64
Trichloroethene	0.14	Not Detected	0.74	Not Detected
1,2-Dichloropropane	0.14	Not Detected	0.63	Not Detected
1,4-Dioxane	0.14	Not Detected	0.49	Not Detected
Bromodichloromethane	0.14	Not Detected	0.92	Not Detected
cis-1,3-Dichloropropene	0.14	Not Detected	0.62	Not Detected
4-Methyl-2-pentanone	0.14	Not Detected	0.56	Not Detected
Toluene	0.14	0.23	0.52	0.87
trans-1,3-Dichloropropene	0.14	Not Detected	0.62	Not Detected
1,1,2-Trichloroethane	0.14	Not Detected	0.75	Not Detected
Tetrachloroethene	0.14	Not Detected	0.93	Not Detected
2-Hexanone	0.68	Not Detected	2.8	Not Detected

Client Sample ID: D2 (135068)

Lab ID#: 1401175-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011708	Date of Collection:	1/8/14 9:05:00 PM
Dil. Factor:	1.37	Date of Analysis:	1/17/14 04:04 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.14	Not Detected	1.2	Not Detected
1,2-Dibromoethane (EDB)	0.14	Not Detected	1.0	Not Detected
Chlorobenzene	0.14	Not Detected	0.63	Not Detected
Ethyl Benzene	0.14	Not Detected	0.59	Not Detected
m,p-Xylene	0.14	0.14	0.59	0.60
o-Xylene	0.14	Not Detected	0.59	Not Detected
Styrene	0.14	Not Detected	0.58	Not Detected
Bromoform	0.14	Not Detected	1.4	Not Detected
Cumene	0.14	Not Detected	0.67	Not Detected
1,1,2,2-Tetrachloroethane	0.14	Not Detected	0.94	Not Detected
Propylbenzene	0.14	Not Detected	0.67	Not Detected
4-Ethyltoluene	0.14	Not Detected	0.67	Not Detected
1,3,5-Trimethylbenzene	0.14	Not Detected	0.67	Not Detected
1,2,4-Trimethylbenzene	0.14	Not Detected	0.67	Not Detected
1,3-Dichlorobenzene	0.14	Not Detected	0.82	Not Detected
1,4-Dichlorobenzene	0.14	Not Detected	0.82	Not Detected
alpha-Chlorotoluene	0.14	Not Detected	0.71	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.82	Not Detected
1,2,4-Trichlorobenzene	0.68	Not Detected	5.1	Not Detected
Hexachlorobutadiene	0.68	Not Detected	7.3	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: U1 (135069)

Lab ID#: 1401175-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011711	Date of Collection:	1/8/14 8:29:00 PM
Dil. Factor:	1.44	Date of Analysis:	1/17/14 06:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.14	0.50	0.71	2.4
Freon 114	0.14	Not Detected	1.0	Not Detected
Chloromethane	0.72	Not Detected	1.5	Not Detected
Vinyl Chloride	0.14	Not Detected	0.37	Not Detected
1,3-Butadiene	0.14	Not Detected	0.32	Not Detected
Bromomethane	0.72	Not Detected	2.8	Not Detected
Chloroethane	0.72	Not Detected	1.9	Not Detected
Freon 11	0.14	0.20	0.81	1.1
Ethanol	0.72	1.4	1.4	2.6
Freon 113	0.14	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.57	Not Detected
Acetone	0.72	1.2	1.7	2.7
2-Propanol	0.72	0.93	1.8	2.3
Carbon Disulfide	0.72	Not Detected	2.2	Not Detected
3-Chloropropene	0.72	Not Detected	2.2	Not Detected
Methylene Chloride	0.29	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.14	Not Detected	0.52	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.57	Not Detected
Hexane	0.14	Not Detected	0.51	Not Detected
1,1-Dichloroethane	0.14	Not Detected	0.58	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.72	Not Detected	2.1	Not Detected
cis-1,2-Dichloroethene	0.14	Not Detected	0.57	Not Detected
Tetrahydrofuran	0.72	Not Detected	2.1	Not Detected
Chloroform	0.14	Not Detected	0.70	Not Detected
1,1,1-Trichloroethane	0.14	Not Detected	0.78	Not Detected
Cyclohexane	0.14	Not Detected	0.50	Not Detected
Carbon Tetrachloride	0.14	Not Detected	0.91	Not Detected
2,2,4-Trimethylpentane	0.72	Not Detected	3.4	Not Detected
Benzene	0.14	0.21	0.46	0.66
1,2-Dichloroethane	0.14	Not Detected	0.58	Not Detected
Heptane	0.14	Not Detected	0.59	Not Detected
Trichloroethene	0.14	Not Detected	0.77	Not Detected
1,2-Dichloropropane	0.14	Not Detected	0.66	Not Detected
1,4-Dioxane	0.14	Not Detected	0.52	Not Detected
Bromodichloromethane	0.14	Not Detected	0.96	Not Detected
cis-1,3-Dichloropropene	0.14	Not Detected	0.65	Not Detected
4-Methyl-2-pentanone	0.14	Not Detected	0.59	Not Detected
Toluene	0.14	0.17	0.54	0.63
trans-1,3-Dichloropropene	0.14	Not Detected	0.65	Not Detected
1,1,2-Trichloroethane	0.14	Not Detected	0.78	Not Detected
Tetrachloroethene	0.14	Not Detected	0.98	Not Detected
2-Hexanone	0.72	Not Detected	2.9	Not Detected

Client Sample ID: U1 (135069)

Lab ID#: 1401175-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011711	Date of Collection: 1/8/14 8:29:00 PM
Dil. Factor:	1.44	Date of Analysis: 1/17/14 06:09 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.14	Not Detected	1.2	Not Detected
1,2-Dibromoethane (EDB)	0.14	Not Detected	1.1	Not Detected
Chlorobenzene	0.14	Not Detected	0.66	Not Detected
Ethyl Benzene	0.14	Not Detected	0.62	Not Detected
m,p-Xylene	0.14	Not Detected	0.62	Not Detected
o-Xylene	0.14	Not Detected	0.62	Not Detected
Styrene	0.14	Not Detected	0.61	Not Detected
Bromoform	0.14	Not Detected	1.5	Not Detected
Cumene	0.14	Not Detected	0.71	Not Detected
1,1,2,2-Tetrachloroethane	0.14	Not Detected	0.99	Not Detected
Propylbenzene	0.14	Not Detected	0.71	Not Detected
4-Ethyltoluene	0.14	Not Detected	0.71	Not Detected
1,3,5-Trimethylbenzene	0.14	Not Detected	0.71	Not Detected
1,2,4-Trimethylbenzene	0.14	Not Detected	0.71	Not Detected
1,3-Dichlorobenzene	0.14	Not Detected	0.86	Not Detected
1,4-Dichlorobenzene	0.14	Not Detected	0.86	Not Detected
alpha-Chlorotoluene	0.14	Not Detected	0.74	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.86	Not Detected
1,2,4-Trichlorobenzene	0.72	Not Detected	5.3	Not Detected
Hexachlorobutadiene	0.72	Not Detected	7.7	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: U2 (135070)

Lab ID#: 1401175-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011712	Date of Collection:	1/8/14 8:38:00 PM
Dil. Factor:	1.40	Date of Analysis:	1/17/14 06:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.14	0.47	0.69	2.3
Freon 114	0.14	Not Detected	0.98	Not Detected
Chloromethane	0.70	Not Detected	1.4	Not Detected
Vinyl Chloride	0.14	Not Detected	0.36	Not Detected
1,3-Butadiene	0.14	Not Detected	0.31	Not Detected
Bromomethane	0.70	Not Detected	2.7	Not Detected
Chloroethane	0.70	Not Detected	1.8	Not Detected
Freon 11	0.14	0.21	0.79	1.2
Ethanol	0.70	2.0	1.3	3.8
Freon 113	0.14	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.56	Not Detected
Acetone	0.70	4.9	1.7	12
2-Propanol	0.70	Not Detected	1.7	Not Detected
Carbon Disulfide	0.70	Not Detected	2.2	Not Detected
3-Chloropropene	0.70	Not Detected	2.2	Not Detected
Methylene Chloride	0.28	6.4	0.97	22
Methyl tert-butyl ether	0.14	Not Detected	0.50	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.56	Not Detected
Hexane	0.14	Not Detected	0.49	Not Detected
1,1-Dichloroethane	0.14	Not Detected	0.57	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.70	Not Detected	2.1	Not Detected
cis-1,2-Dichloroethene	0.14	Not Detected	0.56	Not Detected
Tetrahydrofuran	0.70	Not Detected	2.1	Not Detected
Chloroform	0.14	Not Detected	0.68	Not Detected
1,1,1-Trichloroethane	0.14	Not Detected	0.76	Not Detected
Cyclohexane	0.14	Not Detected	0.48	Not Detected
Carbon Tetrachloride	0.14	Not Detected	0.88	Not Detected
2,2,4-Trimethylpentane	0.70	Not Detected	3.3	Not Detected
Benzene	0.14	0.25	0.45	0.81
1,2-Dichloroethane	0.14	Not Detected	0.57	Not Detected
Heptane	0.14	Not Detected	0.57	Not Detected
Trichloroethene	0.14	Not Detected	0.75	Not Detected
1,2-Dichloropropane	0.14	Not Detected	0.65	Not Detected
1,4-Dioxane	0.14	Not Detected	0.50	Not Detected
Bromodichloromethane	0.14	Not Detected	0.94	Not Detected
cis-1,3-Dichloropropene	0.14	Not Detected	0.64	Not Detected
4-Methyl-2-pentanone	0.14	Not Detected	0.57	Not Detected
Toluene	0.14	0.65	0.53	2.4
trans-1,3-Dichloropropene	0.14	Not Detected	0.64	Not Detected
1,1,2-Trichloroethane	0.14	Not Detected	0.76	Not Detected
Tetrachloroethene	0.14	Not Detected	0.95	Not Detected
2-Hexanone	0.70	Not Detected	2.9	Not Detected



Client Sample ID: U2 (135070)

Lab ID#: 1401175-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011712	Date of Collection:	1/8/14 8:38:00 PM
Dil. Factor:	1.40	Date of Analysis:	1/17/14 06:44 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.14	Not Detected	1.2	Not Detected
1,2-Dibromoethane (EDB)	0.14	Not Detected	1.1	Not Detected
Chlorobenzene	0.14	Not Detected	0.64	Not Detected
Ethyl Benzene	0.14	Not Detected	0.61	Not Detected
m,p-Xylene	0.14	Not Detected	0.61	Not Detected
o-Xylene	0.14	Not Detected	0.61	Not Detected
Styrene	0.14	Not Detected	0.60	Not Detected
Bromoform	0.14	Not Detected	1.4	Not Detected
Cumene	0.14	Not Detected	0.69	Not Detected
1,1,2,2-Tetrachloroethane	0.14	Not Detected	0.96	Not Detected
Propylbenzene	0.14	Not Detected	0.69	Not Detected
4-Ethyltoluene	0.14	Not Detected	0.69	Not Detected
1,3,5-Trimethylbenzene	0.14	Not Detected	0.69	Not Detected
1,2,4-Trimethylbenzene	0.14	Not Detected	0.69	Not Detected
1,3-Dichlorobenzene	0.14	Not Detected	0.84	Not Detected
1,4-Dichlorobenzene	0.14	Not Detected	0.84	Not Detected
alpha-Chlorotoluene	0.14	Not Detected	0.72	Not Detected
1,2-Dichlorobenzene	0.14	Not Detected	0.84	Not Detected
1,2,4-Trichlorobenzene	0.70	Not Detected	5.2	Not Detected
Hexachlorobutadiene	0.70	Not Detected	7.5	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1401175-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011706	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/17/14 01:53 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#: 1401175-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011706	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/17/14 01:53 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	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1401175-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/17/14 08:41 AM

Compound	%Recovery
Freon 12	99
Freon 114	102
Chloromethane	89
Vinyl Chloride	98
1,3-Butadiene	98
Bromomethane	105
Chloroethane	99
Freon 11	94
Ethanol	91
Freon 113	97
1,1-Dichloroethene	95
Acetone	98
2-Propanol	98
Carbon Disulfide	97
3-Chloropropene	100
Methylene Chloride	98
Methyl tert-butyl ether	97
trans-1,2-Dichloroethene	99
Hexane	92
1,1-Dichloroethane	94
2-Butanone (Methyl Ethyl Ketone)	99
cis-1,2-Dichloroethene	96
Tetrahydrofuran	98
Chloroform	94
1,1,1-Trichloroethane	94
Cyclohexane	94
Carbon Tetrachloride	97
2,2,4-Trimethylpentane	94
Benzene	98
1,2-Dichloroethane	96
Heptane	96
Trichloroethene	99
1,2-Dichloropropane	99
1,4-Dioxane	99
Bromodichloromethane	98
cis-1,3-Dichloropropene	102
4-Methyl-2-pentanone	105
Toluene	96
trans-1,3-Dichloropropene	109
1,1,2-Trichloroethane	105
Tetrachloroethene	100
2-Hexanone	112

Client Sample ID: CCV

Lab ID#: 1401175-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/17/14 08:41 AM

Compound	%Recovery
Dibromochloromethane	105
1,2-Dibromoethane (EDB)	104
Chlorobenzene	99
Ethyl Benzene	100
m,p-Xylene	102
o-Xylene	102
Styrene	98
Bromoform	110
Cumene	102
1,1,2,2-Tetrachloroethane	100
Propylbenzene	98
4-Ethyltoluene	99
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	96
1,3-Dichlorobenzene	94
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	106
1,2-Dichlorobenzene	94
1,2,4-Trichlorobenzene	87
Hexachlorobutadiene	94

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1401175-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/17/14 09:34 AM

Compound	%Recovery	Method Limits
Freon 12	94	70-130
Freon 114	96	70-130
Chloromethane	82	70-130
Vinyl Chloride	94	70-130
1,3-Butadiene	90	70-130
Bromomethane	110	70-130
Chloroethane	95	70-130
Freon 11	91	70-130
Ethanol	95	70-130
Freon 113	106	70-130
1,1-Dichloroethene	105	70-130
Acetone	95	70-130
2-Propanol	94	70-130
Carbon Disulfide	88	70-130
3-Chloropropene	94	70-130
Methylene Chloride	104	70-130
Methyl tert-butyl ether	92	70-130
trans-1,2-Dichloroethene	81	70-130
Hexane	91	70-130
1,1-Dichloroethane	92	70-130
2-Butanone (Methyl Ethyl Ketone)	96	70-130
cis-1,2-Dichloroethene	104	70-130
Tetrahydrofuran	92	70-130
Chloroform	91	70-130
1,1,1-Trichloroethane	90	70-130
Cyclohexane	92	70-130
Carbon Tetrachloride	88	70-130
2,2,4-Trimethylpentane	91	70-130
Benzene	94	70-130
1,2-Dichloroethane	92	70-130
Heptane	94	70-130
Trichloroethene	96	70-130
1,2-Dichloropropane	94	70-130
1,4-Dioxane	99	70-130
Bromodichloromethane	96	70-130
cis-1,3-Dichloropropene	100	70-130
4-Methyl-2-pentanone	99	70-130
Toluene	91	70-130
trans-1,3-Dichloropropene	92	70-130
1,1,2-Trichloroethane	93	70-130
Tetrachloroethene	91	70-130
2-Hexanone	101	70-130

Client Sample ID: LCS

Lab ID#: 1401175-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/17/14 09:34 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	98	70-130
1,2-Dibromoethane (EDB)	95	70-130
Chlorobenzene	90	70-130
Ethyl Benzene	94	70-130
m,p-Xylene	97	70-130
o-Xylene	92	70-130
Styrene	91	70-130
Bromoform	105	70-130
Cumene	98	70-130
1,1,2,2-Tetrachloroethane	91	70-130
Propylbenzene	94	70-130
4-Ethyltoluene	94	70-130
1,3,5-Trimethylbenzene	90	70-130
1,2,4-Trimethylbenzene	88	70-130
1,3-Dichlorobenzene	88	70-130
1,4-Dichlorobenzene	87	70-130
alpha-Chlorotoluene	103	70-130
1,2-Dichlorobenzene	88	70-130
1,2,4-Trichlorobenzene	82	70-130
Hexachlorobutadiene	88	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1401175-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/17/14 10:09 AM

Compound	%Recovery	Method Limits
Freon 12	94	70-130
Freon 114	96	70-130
Chloromethane	83	70-130
Vinyl Chloride	95	70-130
1,3-Butadiene	91	70-130
Bromomethane	111	70-130
Chloroethane	96	70-130
Freon 11	93	70-130
Ethanol	96	70-130
Freon 113	109	70-130
1,1-Dichloroethene	108	70-130
Acetone	96	70-130
2-Propanol	96	70-130
Carbon Disulfide	89	70-130
3-Chloropropene	96	70-130
Methylene Chloride	105	70-130
Methyl tert-butyl ether	93	70-130
trans-1,2-Dichloroethene	82	70-130
Hexane	92	70-130
1,1-Dichloroethane	94	70-130
2-Butanone (Methyl Ethyl Ketone)	100	70-130
cis-1,2-Dichloroethene	105	70-130
Tetrahydrofuran	94	70-130
Chloroform	92	70-130
1,1,1-Trichloroethane	89	70-130
Cyclohexane	95	70-130
Carbon Tetrachloride	90	70-130
2,2,4-Trimethylpentane	91	70-130
Benzene	92	70-130
1,2-Dichloroethane	91	70-130
Heptane	91	70-130
Trichloroethene	93	70-130
1,2-Dichloropropane	93	70-130
1,4-Dioxane	97	70-130
Bromodichloromethane	95	70-130
cis-1,3-Dichloropropene	98	70-130
4-Methyl-2-pentanone	96	70-130
Toluene	89	70-130
trans-1,3-Dichloropropene	92	70-130
1,1,2-Trichloroethane	93	70-130
Tetrachloroethene	91	70-130
2-Hexanone	100	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1401175-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	v011704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/17/14 10:09 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	98	70-130
1,2-Dibromoethane (EDB)	93	70-130
Chlorobenzene	89	70-130
Ethyl Benzene	89	70-130
m,p-Xylene	93	70-130
o-Xylene	90	70-130
Styrene	89	70-130
Bromoform	103	70-130
Cumene	97	70-130
1,1,2,2-Tetrachloroethane	95	70-130
Propylbenzene	92	70-130
4-Ethyltoluene	91	70-130
1,3,5-Trimethylbenzene	87	70-130
1,2,4-Trimethylbenzene	83	70-130
1,3-Dichlorobenzene	86	70-130
1,4-Dichlorobenzene	81	70-130
alpha-Chlorotoluene	100	70-130
1,2-Dichlorobenzene	84	70-130
1,2,4-Trichlorobenzene	75	70-130
Hexachlorobutadiene	86	70-130

Container Type: NA - Not Applicable

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