

1/14/2016
Mr. Dennis Schroeder
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill
Project #:
Workorder #: 1601057

Dear Mr. Dennis Schroeder

The following report includes the data for the above referenced project for sample(s) received on 1/7/2016 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 #: 1601057

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. #	3ESP160487
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	01/07/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	01/14/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1(154695)	Modified TO-15	3.5 "Hg	4.8 psi
02A	D2(154694)	Modified TO-15	3.3 "Hg	4.9 psi
03A	U1(154693)	Modified TO-15	2 "Hg	5 psi
04A	U2(154692)	Modified TO-15	3.1 "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: 01/14/16

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# 1601057

Four 6 Liter Summa Canister (100% Certified) samples were received on January 07, 2016. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Initial Calibration	</=30% RSD with 2 compounds allowed out to < 40% RSD	</=30% RSD with 4 compounds allowed out to < 40% RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

Client Sample ID: D1(154695)

Lab ID#: 1601057-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.56	0.74	2.8
Freon 11	0.15	0.24	0.84	1.4
Ethanol	0.75	2.1	1.4	3.9
Acetone	0.75	3.4	1.8	8.0
Benzene	0.15	0.20	0.48	0.64
Toluene	0.15	0.19	0.56	0.71

Client Sample ID: D2(154694)

Lab ID#: 1601057-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.52	0.74	2.6
Freon 11	0.15	0.24	0.84	1.3
Ethanol	0.75	1.5	1.4	2.8
Acetone	0.75	1.6	1.8	3.8
Benzene	0.15	0.25	0.48	0.79
Toluene	0.15	0.20	0.56	0.75

Client Sample ID: U1(154693)

Lab ID#: 1601057-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.14	0.54	0.71	2.7
Freon 11	0.14	0.26	0.81	1.4
Ethanol	0.72	5.7	1.4	11
Acetone	0.72	12	1.7	27
2-Propanol	0.72	1.2	1.8	2.9
Methylene Chloride	0.29	0.60	1.0	2.1
Hexane	0.14	1.6	0.51	5.8
1,1-Dichloroethane	0.14	0.16	0.58	0.67
Cyclohexane	0.14	0.57	0.50	2.0
2,2,4-Trimethylpentane	0.72	1.7	3.4	7.9
Benzene	0.14	0.43	0.46	1.4

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

Client Sample ID: U1(154693)

Lab ID#: 1601057-03A

Heptane	0.14	1.0	0.59	4.3
Trichloroethene	0.14	4.7	0.77	25
1,2-Dichloropropane	0.14	0.23	0.66	1.0
Toluene	0.14	3.4	0.54	13
Tetrachloroethene	0.14	0.33	0.98	2.2
Ethyl Benzene	0.14	0.58	0.62	2.5
m,p-Xylene	0.14	1.6	0.62	7.0
o-Xylene	0.14	0.55	0.62	2.4
4-Ethyltoluene	0.14	0.28	0.71	1.4
1,2,4-Trimethylbenzene	0.14	0.24	0.71	1.2

Client Sample ID: U2(154692)

Lab ID#: 1601057-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.49	0.74	2.4
Freon 11	0.15	0.24	0.84	1.3
Ethanol	0.75	1.2	1.4	2.3
Acetone	0.75	1.5	1.8	3.5
Hexane	0.15	0.15 J	0.53	0.52 J
Benzene	0.15	0.18	0.48	0.59
Toluene	0.15	0.20	0.56	0.74



Air Toxics

Client Sample ID: D1(154695)

Lab ID#: 1601057-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010712	Date of Collection:	12/30/15 1:13:00 PM
Dil. Factor:	1.50	Date of Analysis:	1/7/16 03:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.56	0.74	2.8
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.75	Not Detected	1.5	Not Detected
Vinyl Chloride	0.15	Not Detected	0.38	Not Detected
1,3-Butadiene	0.15	Not Detected	0.33	Not Detected
Bromomethane	0.75	Not Detected	2.9	Not Detected
Chloroethane	0.75	Not Detected	2.0	Not Detected
Freon 11	0.15	0.24	0.84	1.4
Ethanol	0.75	2.1	1.4	3.9
Freon 113	0.15	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Acetone	0.75	3.4	1.8	8.0
2-Propanol	0.75	Not Detected	1.8	Not Detected
Carbon Disulfide	0.75	Not Detected	2.3	Not Detected
3-Chloropropene	0.75	Not Detected	2.3	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.54	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Hexane	0.15	Not Detected	0.53	Not Detected
1,1-Dichloroethane	0.15	Not Detected	0.61	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.75	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Tetrahydrofuran	0.75	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.73	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.82	Not Detected
Cyclohexane	0.15	Not Detected	0.52	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.94	Not Detected
2,2,4-Trimethylpentane	0.75	Not Detected	3.5	Not Detected
Benzene	0.15	0.20	0.48	0.64
1,2-Dichloroethane	0.15	Not Detected	0.61	Not Detected
Heptane	0.15	Not Detected	0.61	Not Detected
Trichloroethene	0.15	Not Detected	0.81	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.69	Not Detected
1,4-Dioxane	0.15	Not Detected	0.54	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.61	Not Detected
Toluene	0.15	0.19	0.56	0.71
trans-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.82	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.75	Not Detected	3.1	Not Detected

Client Sample ID: D1(154695)

Lab ID#: 1601057-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010712	Date of Collection:	12/30/15 1:13:00 PM
Dil. Factor:	1.50	Date of Analysis:	1/7/16 03:47 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.2	Not Detected
Chlorobenzene	0.15	Not Detected	0.69	Not Detected
Ethyl Benzene	0.15	Not Detected	0.65	Not Detected
m,p-Xylene	0.15	Not Detected	0.65	Not Detected
o-Xylene	0.15	Not Detected	0.65	Not Detected
Styrene	0.15	Not Detected	0.64	Not Detected
Bromoform	0.15	Not Detected	1.6	Not Detected
Cumene	0.15	Not Detected	0.74	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.74	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.74	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.74	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
alpha-Chlorotoluene	0.15	Not Detected UJ	0.78	Not Detected UJ
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,2,4-Trichlorobenzene	0.75	Not Detected	5.6	Not Detected
Hexachlorobutadiene	0.75	Not Detected	8.0	Not Detected

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	104	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: D2(154694)

Lab ID#: 1601057-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010713	Date of Collection:	12/30/15 1:36:00 PM
Dil. Factor:	1.50	Date of Analysis:	1/7/16 04:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.52	0.74	2.6
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.75	Not Detected	1.5	Not Detected
Vinyl Chloride	0.15	Not Detected	0.38	Not Detected
1,3-Butadiene	0.15	Not Detected	0.33	Not Detected
Bromomethane	0.75	Not Detected	2.9	Not Detected
Chloroethane	0.75	Not Detected	2.0	Not Detected
Freon 11	0.15	0.24	0.84	1.3
Ethanol	0.75	1.5	1.4	2.8
Freon 113	0.15	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Acetone	0.75	1.6	1.8	3.8
2-Propanol	0.75	Not Detected	1.8	Not Detected
Carbon Disulfide	0.75	Not Detected	2.3	Not Detected
3-Chloropropene	0.75	Not Detected	2.3	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.54	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Hexane	0.15	Not Detected	0.53	Not Detected
1,1-Dichloroethane	0.15	Not Detected	0.61	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.75	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Tetrahydrofuran	0.75	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.73	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.82	Not Detected
Cyclohexane	0.15	Not Detected	0.52	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.94	Not Detected
2,2,4-Trimethylpentane	0.75	Not Detected	3.5	Not Detected
Benzene	0.15	0.25	0.48	0.79
1,2-Dichloroethane	0.15	Not Detected	0.61	Not Detected
Heptane	0.15	Not Detected	0.61	Not Detected
Trichloroethene	0.15	Not Detected	0.81	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.69	Not Detected
1,4-Dioxane	0.15	Not Detected	0.54	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.61	Not Detected
Toluene	0.15	0.20	0.56	0.75
trans-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.82	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.75	Not Detected	3.1	Not Detected



Client Sample ID: D2(154694)

Lab ID#: 1601057-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010713	Date of Collection:	12/30/15 1:36:00 PM
Dil. Factor:	1.50	Date of Analysis:	1/7/16 04:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.2	Not Detected
Chlorobenzene	0.15	Not Detected	0.69	Not Detected
Ethyl Benzene	0.15	Not Detected	0.65	Not Detected
m,p-Xylene	0.15	Not Detected	0.65	Not Detected
o-Xylene	0.15	Not Detected	0.65	Not Detected
Styrene	0.15	Not Detected	0.64	Not Detected
Bromoform	0.15	Not Detected	1.6	Not Detected
Cumene	0.15	Not Detected	0.74	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.74	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.74	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.74	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
alpha-Chlorotoluene	0.15	Not Detected UJ	0.78	Not Detected UJ
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,2,4-Trichlorobenzene	0.75	Not Detected	5.6	Not Detected
Hexachlorobutadiene	0.75	Not Detected	8.0	Not Detected

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	104	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: U1(154693)

Lab ID#: 1601057-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010714	Date of Collection:	12/30/15 1:58:00 PM
Dil. Factor:	1.44	Date of Analysis:	1/7/16 05:53 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.14	0.54	0.71	2.7
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	0.26	0.81	1.4
Ethanol	0.72	5.7	1.4	11
Freon 113	0.14	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.14	Not Detected	0.57	Not Detected
Acetone	0.72	12	1.7	27
2-Propanol	0.72	1.2	1.8	2.9
Carbon Disulfide	0.72	Not Detected	2.2	Not Detected
3-Chloropropene	0.72	Not Detected	2.2	Not Detected
Methylene Chloride	0.29	0.60	1.0	2.1
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	1.6	0.51	5.8
1,1-Dichloroethane	0.14	0.16	0.58	0.67
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	0.57	0.50	2.0
Carbon Tetrachloride	0.14	Not Detected	0.91	Not Detected
2,2,4-Trimethylpentane	0.72	1.7	3.4	7.9
Benzene	0.14	0.43	0.46	1.4
1,2-Dichloroethane	0.14	Not Detected	0.58	Not Detected
Heptane	0.14	1.0	0.59	4.3
Trichloroethene	0.14	4.7	0.77	25
1,2-Dichloropropane	0.14	0.23	0.66	1.0
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	3.4	0.54	13
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	0.33	0.98	2.2
2-Hexanone	0.72	Not Detected	2.9	Not Detected

Client Sample ID: U1(154693)

Lab ID#: 1601057-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010714	Date of Collection:	12/30/15 1:58:00 PM
Dil. Factor:	1.44	Date of Analysis:	1/7/16 05:53 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	0.58	0.62	2.5
m,p-Xylene	0.14	1.6	0.62	7.0
o-Xylene	0.14	0.55	0.62	2.4
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	0.28	0.71	1.4
1,3,5-Trimethylbenzene	0.14	Not Detected	0.71	Not Detected
1,2,4-Trimethylbenzene	0.14	0.24	0.71	1.2
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 UJ	0.74	Not Detected UJ
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

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	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: U2(154692)

Lab ID#: 1601057-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010715	Date of Collection:	12/30/15 2:12:00 PM
Dil. Factor:	1.50	Date of Analysis:	1/7/16 06:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.15	0.49	0.74	2.4
Freon 114	0.15	Not Detected	1.0	Not Detected
Chloromethane	0.75	Not Detected	1.5	Not Detected
Vinyl Chloride	0.15	Not Detected	0.38	Not Detected
1,3-Butadiene	0.15	Not Detected	0.33	Not Detected
Bromomethane	0.75	Not Detected	2.9	Not Detected
Chloroethane	0.75	Not Detected	2.0	Not Detected
Freon 11	0.15	0.24	0.84	1.3
Ethanol	0.75	1.2	1.4	2.3
Freon 113	0.15	Not Detected	1.1	Not Detected
1,1-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Acetone	0.75	1.5	1.8	3.5
2-Propanol	0.75	Not Detected	1.8	Not Detected
Carbon Disulfide	0.75	Not Detected	2.3	Not Detected
3-Chloropropene	0.75	Not Detected	2.3	Not Detected
Methylene Chloride	0.30	Not Detected	1.0	Not Detected
Methyl tert-butyl ether	0.15	Not Detected	0.54	Not Detected
trans-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Hexane	0.15	0.15 J	0.53	0.52 J
1,1-Dichloroethane	0.15	Not Detected	0.61	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.75	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.15	Not Detected	0.59	Not Detected
Tetrahydrofuran	0.75	Not Detected	2.2	Not Detected
Chloroform	0.15	Not Detected	0.73	Not Detected
1,1,1-Trichloroethane	0.15	Not Detected	0.82	Not Detected
Cyclohexane	0.15	Not Detected	0.52	Not Detected
Carbon Tetrachloride	0.15	Not Detected	0.94	Not Detected
2,2,4-Trimethylpentane	0.75	Not Detected	3.5	Not Detected
Benzene	0.15	0.18	0.48	0.59
1,2-Dichloroethane	0.15	Not Detected	0.61	Not Detected
Heptane	0.15	Not Detected	0.61	Not Detected
Trichloroethene	0.15	Not Detected	0.81	Not Detected
1,2-Dichloropropane	0.15	Not Detected	0.69	Not Detected
1,4-Dioxane	0.15	Not Detected	0.54	Not Detected
Bromodichloromethane	0.15	Not Detected	1.0	Not Detected
cis-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
4-Methyl-2-pentanone	0.15	Not Detected	0.61	Not Detected
Toluene	0.15	0.20	0.56	0.74
trans-1,3-Dichloropropene	0.15	Not Detected	0.68	Not Detected
1,1,2-Trichloroethane	0.15	Not Detected	0.82	Not Detected
Tetrachloroethene	0.15	Not Detected	1.0	Not Detected
2-Hexanone	0.75	Not Detected	3.1	Not Detected



Client Sample ID: U2(154692)

Lab ID#: 1601057-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010715	Date of Collection:	12/30/15 2:12:00 PM
Dil. Factor:	1.50	Date of Analysis:	1/7/16 06:37 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.15	Not Detected	1.3	Not Detected
1,2-Dibromoethane (EDB)	0.15	Not Detected	1.2	Not Detected
Chlorobenzene	0.15	Not Detected	0.69	Not Detected
Ethyl Benzene	0.15	Not Detected	0.65	Not Detected
m,p-Xylene	0.15	Not Detected	0.65	Not Detected
o-Xylene	0.15	Not Detected	0.65	Not Detected
Styrene	0.15	Not Detected	0.64	Not Detected
Bromoform	0.15	Not Detected	1.6	Not Detected
Cumene	0.15	Not Detected	0.74	Not Detected
1,1,2,2-Tetrachloroethane	0.15	Not Detected	1.0	Not Detected
Propylbenzene	0.15	Not Detected	0.74	Not Detected
4-Ethyltoluene	0.15	Not Detected	0.74	Not Detected
1,3,5-Trimethylbenzene	0.15	Not Detected	0.74	Not Detected
1,2,4-Trimethylbenzene	0.15	Not Detected	0.74	Not Detected
1,3-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,4-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
alpha-Chlorotoluene	0.15	Not Detected UJ	0.78	Not Detected UJ
1,2-Dichlorobenzene	0.15	Not Detected	0.90	Not Detected
1,2,4-Trichlorobenzene	0.75	Not Detected	5.6	Not Detected
Hexachlorobutadiene	0.75	Not Detected	8.0	Not Detected

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	103	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130

Client Sample ID: Lab Blank

Lab ID#: 1601057-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010706	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/7/16 09:00 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#: 1601057-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010706	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/7/16 09:00 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	0.10	Not Detected UJ	0.52	Not Detected UJ
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

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	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1601057-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/7/16 05:45 AM

Compound	%Recovery
Freon 12	97
Freon 114	101
Chloromethane	92
Vinyl Chloride	100
1,3-Butadiene	100
Bromomethane	129
Chloroethane	101
Freon 11	98
Ethanol	104
Freon 113	96
1,1-Dichloroethene	106
Acetone	101
2-Propanol	91
Carbon Disulfide	103
3-Chloropropene	100
Methylene Chloride	100
Methyl tert-butyl ether	105
trans-1,2-Dichloroethene	102
Hexane	104
1,1-Dichloroethane	97
2-Butanone (Methyl Ethyl Ketone)	101
cis-1,2-Dichloroethene	104
Tetrahydrofuran	104
Chloroform	98
1,1,1-Trichloroethane	97
Cyclohexane	105
Carbon Tetrachloride	86
2,2,4-Trimethylpentane	106
Benzene	96
1,2-Dichloroethane	95
Heptane	100
Trichloroethene	98
1,2-Dichloropropane	96
1,4-Dioxane	90
Bromodichloromethane	100
cis-1,3-Dichloropropene	103
4-Methyl-2-pentanone	99
Toluene	100
trans-1,3-Dichloropropene	103
1,1,2-Trichloroethane	96
Tetrachloroethene	101
2-Hexanone	84

Client Sample ID: CCV

Lab ID#: 1601057-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010702	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/7/16 05:45 AM

Compound	%Recovery
Dibromochloromethane	104
1,2-Dibromoethane (EDB)	101
Chlorobenzene	98
Ethyl Benzene	104
m,p-Xylene	107
o-Xylene	107
Styrene	103
Bromoform	102
Cumene	104
1,1,2,2-Tetrachloroethane	96
Propylbenzene	94
4-Ethyltoluene	98
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	106
1,3-Dichlorobenzene	88
1,4-Dichlorobenzene	88
alpha-Chlorotoluene	64 Q
1,2-Dichlorobenzene	90
1,2,4-Trichlorobenzene	81
Hexachlorobutadiene	83

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130



Client Sample ID: LCS

Lab ID#: 1601057-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/7/16 06:26 AM

Compound	%Recovery	Method Limits
Freon 12	100	70-130
Freon 114	112	70-130
Chloromethane	93	70-130
Vinyl Chloride	104	70-130
1,3-Butadiene	100	70-130
Bromomethane	140 Q	70-130
Chloroethane	104	70-130
Freon 11	104	70-130
Ethanol	111	70-130
Freon 113	101	70-130
1,1-Dichloroethene	110	70-130
Acetone	102	70-130
2-Propanol	96	70-130
Carbon Disulfide	94	70-130
3-Chloropropene	99	70-130
Methylene Chloride	102	70-130
Methyl tert-butyl ether	108	70-130
trans-1,2-Dichloroethene	108	70-130
Hexane	106	70-130
1,1-Dichloroethane	101	70-130
2-Butanone (Methyl Ethyl Ketone)	102	70-130
cis-1,2-Dichloroethene	105	70-130
Tetrahydrofuran	103	70-130
Chloroform	100	70-130
1,1,1-Trichloroethane	98	70-130
Cyclohexane	109	70-130
Carbon Tetrachloride	75	70-130
2,2,4-Trimethylpentane	109	70-130
Benzene	101	70-130
1,2-Dichloroethane	97	70-130
Heptane	103	70-130
Trichloroethene	106	70-130
1,2-Dichloropropane	102	70-130
1,4-Dioxane	106	70-130
Bromodichloromethane	108	70-130
cis-1,3-Dichloropropene	103	70-130
4-Methyl-2-pentanone	106	70-130
Toluene	105	70-130
trans-1,3-Dichloropropene	112	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	111	70-130
2-Hexanone	106	70-130

Client Sample ID: LCS

Lab ID#: 1601057-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010703	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/7/16 06:26 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	111	70-130
1,2-Dibromoethane (EDB)	111	70-130
Chlorobenzene	105	70-130
Ethyl Benzene	110	70-130
m,p-Xylene	109	70-130
o-Xylene	116	70-130
Styrene	107	70-130
Bromoform	115	70-130
Cumene	112	70-130
1,1,2,2-Tetrachloroethane	103	70-130
Propylbenzene	102	70-130
4-Ethyltoluene	101	70-130
1,3,5-Trimethylbenzene	106	70-130
1,2,4-Trimethylbenzene	108	70-130
1,3-Dichlorobenzene	97	70-130
1,4-Dichlorobenzene	95	70-130
alpha-Chlorotoluene	122	70-130
1,2-Dichlorobenzene	97	70-130
1,2,4-Trichlorobenzene	104	70-130
Hexachlorobutadiene	98	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	98	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1601057-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010704	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	1/7/16 07:07 AM

Compound	%Recovery	Method Limits
Freon 12	99	70-130
Freon 114	110	70-130
Chloromethane	93	70-130
Vinyl Chloride	103	70-130
1,3-Butadiene	98	70-130
Bromomethane	140 Q	70-130
Chloroethane	102	70-130
Freon 11	104	70-130
Ethanol	110	70-130
Freon 113	99	70-130
1,1-Dichloroethene	109	70-130
Acetone	100	70-130
2-Propanol	96	70-130
Carbon Disulfide	94	70-130
3-Chloropropene	100	70-130
Methylene Chloride	101	70-130
Methyl tert-butyl ether	108	70-130
trans-1,2-Dichloroethene	106	70-130
Hexane	107	70-130
1,1-Dichloroethane	100	70-130
2-Butanone (Methyl Ethyl Ketone)	104	70-130
cis-1,2-Dichloroethene	104	70-130
Tetrahydrofuran	103	70-130
Chloroform	100	70-130
1,1,1-Trichloroethane	98	70-130
Cyclohexane	109	70-130
Carbon Tetrachloride	74	70-130
2,2,4-Trimethylpentane	107	70-130
Benzene	100	70-130
1,2-Dichloroethane	95	70-130
Heptane	103	70-130
Trichloroethene	104	70-130
1,2-Dichloropropane	101	70-130
1,4-Dioxane	103	70-130
Bromodichloromethane	105	70-130
cis-1,3-Dichloropropene	100	70-130
4-Methyl-2-pentanone	105	70-130
Toluene	103	70-130
trans-1,3-Dichloropropene	109	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	105	70-130
2-Hexanone	105	70-130

Client Sample ID: LCSD

Lab ID#: 1601057-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20010704	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 1/7/16 07:07 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	106	70-130
1,2-Dibromoethane (EDB)	108	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	107	70-130
m,p-Xylene	108	70-130
o-Xylene	111	70-130
Styrene	104	70-130
Bromoform	111	70-130
Cumene	108	70-130
1,1,2,2-Tetrachloroethane	101	70-130
Propylbenzene	100	70-130
4-Ethyltoluene	96	70-130
1,3,5-Trimethylbenzene	102	70-130
1,2,4-Trimethylbenzene	104	70-130
1,3-Dichlorobenzene	95	70-130
1,4-Dichlorobenzene	93	70-130
alpha-Chlorotoluene	119	70-130
1,2-Dichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	105	70-130
Hexachlorobutadiene	95	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	98	70-130
4-Bromofluorobenzene	96	70-130