

6/24/2016

Mr. Curt Lueckenhoff
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1606302

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 6/14/2016 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 #: 1606302

Work Order Summary

CLIENT:	Mr. Curt Lueckenhoff 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:	573-526-3363	P.O. #	3ESP160938
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	06/14/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/24/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (162502)	Modified TO-15	6.3 "Hg	4.9 psi
02A	D2 (162503)	Modified TO-15	6.7 "Hg	5.1 psi
03A	U1 (162504)	Modified TO-15	5.9 "Hg	4.6 psi
04A	U2 (162505)	Modified TO-15	5.7 "Hg	4.9 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: 06/24/16

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.

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# 1606302

Four 6 Liter Summa Canister (100% Certified) samples were received on June 14, 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 (162502)

Lab ID#: 1606302-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.56	0.84	2.8
Freon 11	0.17	0.25	0.95	1.4
Ethanol	0.84	5.6	1.6	10
Acetone	0.84	9.5	2.0	22
Hexane	0.17	0.17 J	0.60	0.59 J
2-Butanone (Methyl Ethyl Ketone)	0.84	1.8	2.5	5.3
Benzene	0.17	0.19	0.54	0.61
Toluene	0.17	0.26	0.64	0.96

Client Sample ID: D2 (162503)

Lab ID#: 1606302-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.56	0.86	2.8
Freon 11	0.17	0.26	0.98	1.5
Ethanol	0.87	3.5	1.6	6.6
Acetone	0.87	4.8	2.1	11
Methylene Chloride	0.35	0.41	1.2	1.4
Hexane	0.17	0.22	0.61	0.76
2-Butanone (Methyl Ethyl Ketone)	0.87	3.4	2.6	10
Toluene	0.17	0.30	0.66	1.1

Client Sample ID: U1 (162504)

Lab ID#: 1606302-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.55	0.81	2.7
Freon 11	0.16	0.23	0.92	1.3
Ethanol	0.82	55	1.5	100
Acetone	0.82	5.7	1.9	14
2-Propanol	0.82	2.5	2.0	6.1
Methylene Chloride	0.33	1.1	1.1	3.7
Hexane	0.16	0.16 J	0.58	0.56 J

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

Client Sample ID: U1 (162504)

Lab ID#: 1606302-03A

2-Butanone (Methyl Ethyl Ketone)	0.82	0.82	2.4	2.4
Heptane	0.16	0.18	0.67	0.74
Toluene	0.16	0.84	0.62	3.2
m,p-Xylene	0.16	0.16 J	0.71	0.69 J

Client Sample ID: U2 (162505)

Lab ID#: 1606302-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.57	0.82	2.8
Freon 11	0.16	0.25	0.93	1.4
Ethanol	0.82	4.3	1.6	8.1
Acetone	0.82	7.0	2.0	17
Hexane	0.16	0.19	0.58	0.68
2-Butanone (Methyl Ethyl Ketone)	0.82	1.3	2.4	3.8
Toluene	0.16	0.22	0.62	0.82



Air Toxics

Client Sample ID: D1 (162502)

Lab ID#: 1606302-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061610	Date of Collection:	6/8/16 1:40:00 PM
Dil. Factor:	1.69	Date of Analysis:	6/16/16 06:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.56	0.84	2.8
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.84	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.84	Not Detected	3.3	Not Detected
Chloroethane	0.84	Not Detected	2.2	Not Detected
Freon 11	0.17	0.25	0.95	1.4
Ethanol	0.84	5.6	1.6	10
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	9.5	2.0	22
2-Propanol	0.84	Not Detected	2.1	Not Detected
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.61	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Hexane	0.17	0.17 J	0.60	0.59 J
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.8	2.5	5.3
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Tetrahydrofuran	0.84	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.82	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Cyclohexane	0.17	Not Detected	0.58	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.84	Not Detected	3.9	Not Detected
Benzene	0.17	0.19	0.54	0.61
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	Not Detected	0.69	Not Detected
Trichloroethene	0.17	Not Detected	0.91	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
1,4-Dioxane	0.17	Not Detected	0.61	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.69	Not Detected
Toluene	0.17	0.26	0.64	0.96
trans-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.84	Not Detected	3.5	Not Detected



Client Sample ID: D1 (162502)

Lab ID#: 1606302-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061610	Date of Collection:	6/8/16 1:40:00 PM
Dil. Factor:	1.69	Date of Analysis:	6/16/16 06:00 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	0.78	Not Detected
Ethyl Benzene	0.17	Not Detected	0.73	Not Detected
m,p-Xylene	0.17	Not Detected	0.73	Not Detected
o-Xylene	0.17	Not Detected	0.73	Not Detected
Styrene	0.17	Not Detected	0.72	Not Detected
Bromoform	0.17	Not Detected	1.7	Not Detected
Cumene	0.17	Not Detected	0.83	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.83	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.83	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.83	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.83	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	0.17	Not Detected	0.87	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.84	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	Not Detected

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	110	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: D2 (162503)

Lab ID#: 1606302-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061611	Date of Collection:	6/8/16 1:50:00 PM
Dil. Factor:	1.74	Date of Analysis:	6/16/16 06:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.56	0.86	2.8
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.87	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.87	Not Detected	3.4	Not Detected
Chloroethane	0.87	Not Detected	2.3	Not Detected
Freon 11	0.17	0.26	0.98	1.5
Ethanol	0.87	3.5	1.6	6.6
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Acetone	0.87	4.8	2.1	11
2-Propanol	0.87	Not Detected	2.1	Not Detected
Carbon Disulfide	0.87	Not Detected	2.7	Not Detected
3-Chloropropene	0.87	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	0.41	1.2	1.4
Methyl tert-butyl ether	0.17	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Hexane	0.17	0.22	0.61	0.76
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.87	3.4	2.6	10
cis-1,2-Dichloroethene	0.17	Not Detected	0.69	Not Detected
Tetrahydrofuran	0.87	Not Detected	2.6	Not Detected
Chloroform	0.17	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.95	Not Detected
Cyclohexane	0.17	Not Detected	0.60	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.87	Not Detected	4.1	Not Detected
Benzene	0.17	Not Detected	0.56	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	Not Detected	0.71	Not Detected
Trichloroethene	0.17	Not Detected	0.94	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.80	Not Detected
1,4-Dioxane	0.17	Not Detected	0.63	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.71	Not Detected
Toluene	0.17	0.30	0.66	1.1
trans-1,3-Dichloropropene	0.17	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.95	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.87	Not Detected	3.6	Not Detected



Client Sample ID: D2 (162503)

Lab ID#: 1606302-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061611	Date of Collection:	6/8/16 1:50:00 PM
Dil. Factor:	1.74	Date of Analysis:	6/16/16 06:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.17	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.17	Not Detected	1.3	Not Detected
Chlorobenzene	0.17	Not Detected	0.80	Not Detected
Ethyl Benzene	0.17	Not Detected	0.76	Not Detected
m,p-Xylene	0.17	Not Detected	0.76	Not Detected
o-Xylene	0.17	Not Detected	0.76	Not Detected
Styrene	0.17	Not Detected	0.74	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.86	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	0.17	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.87	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.87	Not Detected	9.3	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: U1 (162504)

Lab ID#: 1606302-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061612	Date of Collection:	6/8/16 1:30:00 PM
Dil. Factor:	1.64	Date of Analysis:	6/16/16 07:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.55	0.81	2.7
Freon 114	0.16	Not Detected	1.1	Not Detected
Chloromethane	0.82	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.42	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.82	Not Detected	3.2	Not Detected
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.16	0.23	0.92	1.3
Ethanol	0.82	55	1.5	100
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	5.7	1.9	14
2-Propanol	0.82	2.5	2.0	6.1
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	1.1	1.1	3.7
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Hexane	0.16	0.16 J	0.58	0.56 J
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	0.82	2.4	2.4
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Tetrahydrofuran	0.82	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Cyclohexane	0.16	Not Detected	0.56	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.82	Not Detected	3.8	Not Detected
Benzene	0.16	Not Detected	0.52	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.66	Not Detected
Heptane	0.16	0.18	0.67	0.74
Trichloroethene	0.16	Not Detected	0.88	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.76	Not Detected
1,4-Dioxane	0.16	Not Detected	0.59	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.67	Not Detected
Toluene	0.16	0.84	0.62	3.2
trans-1,3-Dichloropropene	0.16	Not Detected	0.74	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.89	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected



Client Sample ID: U1 (162504)

Lab ID#: 1606302-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061612	Date of Collection:	6/8/16 1:30:00 PM
Dil. Factor:	1.64	Date of Analysis:	6/16/16 07:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	0.16 J	0.71	0.69 J
o-Xylene	0.16	Not Detected	0.71	Not Detected
Styrene	0.16	Not Detected	0.70	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.81	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.81	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.81	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.1	Not Detected
Hexachlorobutadiene	0.82	Not Detected	8.7	Not Detected

J = Estimated value.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: U2 (162505)

Lab ID#: 1606302-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061613	Date of Collection:	6/8/16 2:20:00 PM
Dil. Factor:	1.65	Date of Analysis:	6/16/16 08:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.57	0.82	2.8
Freon 114	0.16	Not Detected	1.2	Not Detected
Chloromethane	0.82	Not Detected	1.7	Not Detected
Vinyl Chloride	0.16	Not Detected	0.42	Not Detected
1,3-Butadiene	0.16	Not Detected	0.36	Not Detected
Bromomethane	0.82	Not Detected	3.2	Not Detected
Chloroethane	0.82	Not Detected	2.2	Not Detected
Freon 11	0.16	0.25	0.93	1.4
Ethanol	0.82	4.3	1.6	8.1
Freon 113	0.16	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	7.0	2.0	17
2-Propanol	0.82	Not Detected	2.0	Not Detected
Carbon Disulfide	0.82	Not Detected	2.6	Not Detected
3-Chloropropene	0.82	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	Not Detected	1.1	Not Detected
Methyl tert-butyl ether	0.16	Not Detected	0.59	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Hexane	0.16	0.19	0.58	0.68
1,1-Dichloroethane	0.16	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	1.3	2.4	3.8
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Tetrahydrofuran	0.82	Not Detected	2.4	Not Detected
Chloroform	0.16	Not Detected	0.80	Not Detected
1,1,1-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Cyclohexane	0.16	Not Detected	0.57	Not Detected
Carbon Tetrachloride	0.16	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.82	Not Detected	3.8	Not Detected
Benzene	0.16	Not Detected	0.53	Not Detected
1,2-Dichloroethane	0.16	Not Detected	0.67	Not Detected
Heptane	0.16	Not Detected	0.68	Not Detected
Trichloroethene	0.16	Not Detected	0.89	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.76	Not Detected
1,4-Dioxane	0.16	Not Detected	0.59	Not Detected
Bromodichloromethane	0.16	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.16	Not Detected	0.75	Not Detected
4-Methyl-2-pentanone	0.16	Not Detected	0.68	Not Detected
Toluene	0.16	0.22	0.62	0.82
trans-1,3-Dichloropropene	0.16	Not Detected	0.75	Not Detected
1,1,2-Trichloroethane	0.16	Not Detected	0.90	Not Detected
Tetrachloroethene	0.16	Not Detected	1.1	Not Detected
2-Hexanone	0.82	Not Detected	3.4	Not Detected

Client Sample ID: U2 (162505)

Lab ID#: 1606302-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061613	Date of Collection:	6/8/16 2:20:00 PM
Dil. Factor:	1.65	Date of Analysis:	6/16/16 08:34 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.16	Not Detected	1.4	Not Detected
1,2-Dibromoethane (EDB)	0.16	Not Detected	1.3	Not Detected
Chlorobenzene	0.16	Not Detected	0.76	Not Detected
Ethyl Benzene	0.16	Not Detected	0.72	Not Detected
m,p-Xylene	0.16	Not Detected	0.72	Not Detected
o-Xylene	0.16	Not Detected	0.72	Not Detected
Styrene	0.16	Not Detected	0.70	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.81	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.81	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.81	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.81	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.85	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.99	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected	6.1	Not Detected
Hexachlorobutadiene	0.82	Not Detected	8.8	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	91	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1606302-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061606	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/16/16 02:07 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#: 1606302-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061606	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/16/16 02:07 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	111	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	92	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1606302-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/16 11:18 AM

Compound	%Recovery
Freon 12	116
Freon 114	106
Chloromethane	110
Vinyl Chloride	110
1,3-Butadiene	106
Bromomethane	120
Chloroethane	110
Freon 11	108
Ethanol	112
Freon 113	99
1,1-Dichloroethene	102
Acetone	101
2-Propanol	103
Carbon Disulfide	108
3-Chloropropene	101
Methylene Chloride	98
Methyl tert-butyl ether	104
trans-1,2-Dichloroethene	103
Hexane	108
1,1-Dichloroethane	109
2-Butanone (Methyl Ethyl Ketone)	107
cis-1,2-Dichloroethene	104
Tetrahydrofuran	111
Chloroform	110
1,1,1-Trichloroethane	105
Cyclohexane	103
Carbon Tetrachloride	126
2,2,4-Trimethylpentane	108
Benzene	107
1,2-Dichloroethane	108
Heptane	108
Trichloroethene	106
1,2-Dichloropropane	109
1,4-Dioxane	106
Bromodichloromethane	108
cis-1,3-Dichloropropene	109
4-Methyl-2-pentanone	112
Toluene	108
trans-1,3-Dichloropropene	113
1,1,2-Trichloroethane	101
Tetrachloroethene	102
2-Hexanone	104

Client Sample ID: CCV

Lab ID#: 1606302-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061602	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/16 11:18 AM

Compound	%Recovery
Dibromochloromethane	107
1,2-Dibromoethane (EDB)	109
Chlorobenzene	108
Ethyl Benzene	104
m,p-Xylene	103
o-Xylene	101
Styrene	97
Bromoform	109
Cumene	104
1,1,2,2-Tetrachloroethane	111
Propylbenzene	97
4-Ethyltoluene	92
1,3,5-Trimethylbenzene	100
1,2,4-Trimethylbenzene	104
1,3-Dichlorobenzene	97
1,4-Dichlorobenzene	91
alpha-Chlorotoluene	109
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	102
Hexachlorobutadiene	90

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1606302-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061603	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/16/16 12:05 PM

Compound	%Recovery	Method Limits
Freon 12	123	70-130
Freon 114	115	70-130
Chloromethane	118	70-130
Vinyl Chloride	118	70-130
1,3-Butadiene	108	70-130
Bromomethane	133 Q	70-130
Chloroethane	121	70-130
Freon 11	117	70-130
Ethanol	120	70-130
Freon 113	102	70-130
1,1-Dichloroethene	106	70-130
Acetone	106	70-130
2-Propanol	112	70-130
Carbon Disulfide	99	70-130
3-Chloropropene	99	70-130
Methylene Chloride	100	70-130
Methyl tert-butyl ether	106	70-130
trans-1,2-Dichloroethene	110	70-130
Hexane	109	70-130
1,1-Dichloroethane	115	70-130
2-Butanone (Methyl Ethyl Ketone)	109	70-130
cis-1,2-Dichloroethene	105	70-130
Tetrahydrofuran	115	70-130
Chloroform	112	70-130
1,1,1-Trichloroethane	108	70-130
Cyclohexane	106	70-130
Carbon Tetrachloride	129	70-130
2,2,4-Trimethylpentane	112	70-130
Benzene	108	70-130
1,2-Dichloroethane	111	70-130
Heptane	112	70-130
Trichloroethene	105	70-130
1,2-Dichloropropane	109	70-130
1,4-Dioxane	103	70-130
Bromodichloromethane	113	70-130
cis-1,3-Dichloropropene	102	70-130
4-Methyl-2-pentanone	114	70-130
Toluene	106	70-130
trans-1,3-Dichloropropene	112	70-130
1,1,2-Trichloroethane	101	70-130
Tetrachloroethene	101	70-130
2-Hexanone	108	70-130

Client Sample ID: LCS

Lab ID#: 1606302-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061603	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/16 12:05 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	110	70-130
1,2-Dibromoethane (EDB)	107	70-130
Chlorobenzene	107	70-130
Ethyl Benzene	103	70-130
m,p-Xylene	103	70-130
o-Xylene	101	70-130
Styrene	98	70-130
Bromoform	113	70-130
Cumene	103	70-130
1,1,2,2-Tetrachloroethane	111	70-130
Propylbenzene	97	70-130
4-Ethyltoluene	90	70-130
1,3,5-Trimethylbenzene	99	70-130
1,2,4-Trimethylbenzene	102	70-130
1,3-Dichlorobenzene	98	70-130
1,4-Dichlorobenzene	91	70-130
alpha-Chlorotoluene	109	70-130
1,2-Dichlorobenzene	96	70-130
1,2,4-Trichlorobenzene	102	70-130
Hexachlorobutadiene	90	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1606302-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061604	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/16/16 12:51 PM

Compound	%Recovery	Method Limits
Freon 12	120	70-130
Freon 114	113	70-130
Chloromethane	115	70-130
Vinyl Chloride	115	70-130
1,3-Butadiene	107	70-130
Bromomethane	132 Q	70-130
Chloroethane	117	70-130
Freon 11	115	70-130
Ethanol	120	70-130
Freon 113	101	70-130
1,1-Dichloroethene	104	70-130
Acetone	104	70-130
2-Propanol	110	70-130
Carbon Disulfide	98	70-130
3-Chloropropene	98	70-130
Methylene Chloride	98	70-130
Methyl tert-butyl ether	104	70-130
trans-1,2-Dichloroethene	107	70-130
Hexane	108	70-130
1,1-Dichloroethane	112	70-130
2-Butanone (Methyl Ethyl Ketone)	105	70-130
cis-1,2-Dichloroethene	103	70-130
Tetrahydrofuran	113	70-130
Chloroform	110	70-130
1,1,1-Trichloroethane	106	70-130
Cyclohexane	105	70-130
Carbon Tetrachloride	128	70-130
2,2,4-Trimethylpentane	111	70-130
Benzene	107	70-130
1,2-Dichloroethane	111	70-130
Heptane	107	70-130
Trichloroethene	104	70-130
1,2-Dichloropropane	109	70-130
1,4-Dioxane	105	70-130
Bromodichloromethane	114	70-130
cis-1,3-Dichloropropene	102	70-130
4-Methyl-2-pentanone	114	70-130
Toluene	106	70-130
trans-1,3-Dichloropropene	112	70-130
1,1,2-Trichloroethane	102	70-130
Tetrachloroethene	102	70-130
2-Hexanone	108	70-130

Client Sample ID: LCSD

Lab ID#: 1606302-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20061604	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/16/16 12:51 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	110	70-130
1,2-Dibromoethane (EDB)	108	70-130
Chlorobenzene	106	70-130
Ethyl Benzene	104	70-130
m,p-Xylene	101	70-130
o-Xylene	102	70-130
Styrene	97	70-130
Bromoform	113	70-130
Cumene	104	70-130
1,1,2,2-Tetrachloroethane	112	70-130
Propylbenzene	96	70-130
4-Ethyltoluene	88	70-130
1,3,5-Trimethylbenzene	97	70-130
1,2,4-Trimethylbenzene	99	70-130
1,3-Dichlorobenzene	97	70-130
1,4-Dichlorobenzene	89	70-130
alpha-Chlorotoluene	110	70-130
1,2-Dichlorobenzene	95	70-130
1,2,4-Trichlorobenzene	101	70-130
Hexachlorobutadiene	89	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	98	70-130