

7/1/2016

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1606405

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 6/20/2016 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 #: 1606405

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. #	3ESP160983
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	06/20/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	07/01/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (162924)	Modified TO-15	6.7 "Hg	4.9 psi
02A	D2 (162925)	Modified TO-15	6.1 "Hg	4.9 psi
03A	U1 (162926)	Modified TO-15	7.3 "Hg	5.1 psi
04A	Lab Blank	Modified TO-15	NA	NA
05A	CCV	Modified TO-15	NA	NA
06A	LCS	Modified TO-15	NA	NA
06AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

 Technical Director

DATE: 07/01/16

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# 1606405

Three 6 Liter Summa Canister (100% Certified) samples were received on June 20, 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	$\leq 30\%$ RSD with 2 compounds allowed out to $< 40\%$ RSD	$\leq 30\%$ RSD with 4 compounds allowed out to $< 40\%$ RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

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.

The reported result for 4-Ethyltoluene in sample D2 (162925) may be biased high due to co-elution with a non target compound with similar characteristic ions. Both the primary and secondary ion for 4-Ethyltoluene exhibited potential interference.

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 (162924)

Lab ID#: 1606405-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.43	0.85	2.1
Freon 11	0.17	0.65	0.97	3.6
Ethanol	0.86	16	1.6	29
Acetone	0.86	9.8	2.0	23
2-Propanol	0.86	1.4	2.1	3.4
2-Butanone (Methyl Ethyl Ketone)	0.86	1.3	2.5	3.7
Toluene	0.17	0.36	0.65	1.4

Client Sample ID: D2 (162925)

Lab ID#: 1606405-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.42	0.83	2.1
Freon 11	0.17	0.24	0.94	1.3
Ethanol	0.84	87 E	1.6	160 E
Acetone	0.84	26	2.0	62
2-Propanol	0.84	11	2.1	28
Carbon Disulfide	0.84	18	2.6	56
Methylene Chloride	0.34	0.49	1.2	1.7
Hexane	0.17	0.46	0.59	1.6
2-Butanone (Methyl Ethyl Ketone)	0.84	10	2.5	30
Tetrahydrofuran	0.84	18	2.5	52
Cyclohexane	0.17	0.33	0.58	1.1
Benzene	0.17	0.32	0.54	1.0
Heptane	0.17	0.35	0.69	1.4
1,4-Dioxane	0.17	1.1	0.60	4.1
4-Methyl-2-pentanone	0.17	1.2	0.69	4.7
Toluene	0.17	3.9	0.63	15
Ethyl Benzene	0.17	1.1	0.73	4.7
m,p-Xylene	0.17	1.1	0.73	4.6
o-Xylene	0.17	0.44	0.73	1.9
Styrene	0.17	0.18	0.72	0.78
Cumene	0.17	0.18	0.82	0.88

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

Client Sample ID: D2 (162925)

Lab ID#: 1606405-02A

4-Ethyltoluene	0.17	0.25	0.82	1.2
1,2,4-Trimethylbenzene	0.17	0.25	0.82	1.2

Client Sample ID: U1 (162926)

Lab ID#: 1606405-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.37	0.88	1.8
Freon 11	0.18	0.22	1.0	1.2
Ethanol	0.89	6.2	1.7	12
Acetone	0.89	6.3	2.1	15
Carbon Disulfide	0.89	1.3	2.8	4.0
2-Butanone (Methyl Ethyl Ketone)	0.89	0.94	2.6	2.8
Benzene	0.18	0.18	0.57	0.57
Toluene	0.18	0.20	0.67	0.74



Air Toxics

Client Sample ID: D1 (162924)

Lab ID#: 1606405-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062011	Date of Collection:	6/14/16 1:15:00 PM
Dil. Factor:	1.72	Date of Analysis:	6/20/16 04:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.43	0.85	2.1
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.86	Not Detected	1.8	Not Detected
Vinyl Chloride	0.17	Not Detected	0.44	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.86	Not Detected	3.3	Not Detected
Chloroethane	0.86	Not Detected	2.3	Not Detected
Freon 11	0.17	0.65	0.97	3.6
Ethanol	0.86	16	1.6	29
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	9.8	2.0	23
2-Propanol	0.86	1.4	2.1	3.4
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	Not Detected	0.61	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	1.3	2.5	3.7
cis-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Tetrahydrofuran	0.86	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.84	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Cyclohexane	0.17	Not Detected	0.59	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.86	Not Detected	4.0	Not Detected
Benzene	0.17	Not Detected	0.55	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.70	Not Detected
Heptane	0.17	Not Detected	0.70	Not Detected
Trichloroethene	0.17	Not Detected	0.92	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.79	Not Detected
1,4-Dioxane	0.17	Not Detected	0.62	Not Detected
Bromodichloromethane	0.17	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
4-Methyl-2-pentanone	0.17	Not Detected	0.70	Not Detected
Toluene	0.17	0.36	0.65	1.4
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.94	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.86	Not Detected	3.5	Not Detected



Client Sample ID: D1 (162924)

Lab ID#: 1606405-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062011	Date of Collection:	6/14/16 1:15:00 PM
Dil. Factor:	1.72	Date of Analysis:	6/20/16 04:30 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	0.79	Not Detected
Ethyl Benzene	0.17	Not Detected	0.75	Not Detected
m,p-Xylene	0.17	Not Detected	0.75	Not Detected
o-Xylene	0.17	Not Detected	0.75	Not Detected
Styrene	0.17	Not Detected	0.73	Not Detected
Bromoform	0.17	Not Detected	1.8	Not Detected
Cumene	0.17	Not Detected	0.84	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.84	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.84	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.84	Not Detected
1,3-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.17	Not Detected	0.89	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.4	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.2	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: D2 (162925)

Lab ID#: 1606405-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062012	Date of Collection:	6/14/16 1:25:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/20/16 05:29 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.42	0.83	2.1
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	0.24	0.94	1.3
Ethanol	0.84	87 E	1.6	160 E
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	26	2.0	62
2-Propanol	0.84	11	2.1	28
Carbon Disulfide	0.84	18	2.6	56
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	0.49	1.2	1.7
Methyl tert-butyl ether	0.17	Not Detected	0.60	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Hexane	0.17	0.46	0.59	1.6
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	10	2.5	30
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Tetrahydrofuran	0.84	18	2.5	52
Chloroform	0.17	Not Detected	0.82	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.92	Not Detected
Cyclohexane	0.17	0.33	0.58	1.1
Carbon Tetrachloride	0.17	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.84	Not Detected	3.9	Not Detected
Benzene	0.17	0.32	0.54	1.0
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	0.35	0.69	1.4
Trichloroethene	0.17	Not Detected	0.90	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.78	Not Detected
1,4-Dioxane	0.17	1.1	0.60	4.1
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.76	Not Detected
4-Methyl-2-pentanone	0.17	1.2	0.69	4.7
Toluene	0.17	3.9	0.63	15
trans-1,3-Dichloropropene	0.17	Not Detected	0.76	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	3.4	Not Detected



Client Sample ID: D2 (162925)

Lab ID#: 1606405-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062012	Date of Collection:	6/14/16 1:25:00 PM
Dil. Factor:	1.68	Date of Analysis:	6/20/16 05:29 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	0.77	Not Detected
Ethyl Benzene	0.17	1.1	0.73	4.7
m,p-Xylene	0.17	1.1	0.73	4.6
o-Xylene	0.17	0.44	0.73	1.9
Styrene	0.17	0.18	0.72	0.78
Bromoform	0.17	Not Detected	1.7	Not Detected
Cumene	0.17	0.18	0.82	0.88
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.2	Not Detected
Propylbenzene	0.17	Not Detected	0.82	Not Detected
4-Ethyltoluene	0.17	0.25	0.82	1.2
1,3,5-Trimethylbenzene	0.17	Not Detected	0.82	Not Detected
1,2,4-Trimethylbenzene	0.17	0.25	0.82	1.2
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	6.2	Not Detected
Hexachlorobutadiene	0.84	Not Detected	9.0	Not Detected

E = Exceeds instrument calibration range.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	95	70-130



Air Toxics

Client Sample ID: U1 (162926)

Lab ID#: 1606405-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062013	Date of Collection:	6/14/16 1:30:00 PM
Dil. Factor:	1.78	Date of Analysis:	6/20/16 06:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.37	0.88	1.8
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.89	Not Detected	1.8	Not Detected
Vinyl Chloride	0.18	Not Detected	0.46	Not Detected
1,3-Butadiene	0.18	Not Detected	0.39	Not Detected
Bromomethane	0.89	Not Detected	3.4	Not Detected
Chloroethane	0.89	Not Detected	2.3	Not Detected
Freon 11	0.18	0.22	1.0	1.2
Ethanol	0.89	6.2	1.7	12
Freon 113	0.18	Not Detected	1.4	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Acetone	0.89	6.3	2.1	15
2-Propanol	0.89	Not Detected	2.2	Not Detected
Carbon Disulfide	0.89	1.3	2.8	4.0
3-Chloropropene	0.89	Not Detected	2.8	Not Detected
Methylene Chloride	0.36	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.64	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Hexane	0.18	Not Detected	0.63	Not Detected
1,1-Dichloroethane	0.18	Not Detected	0.72	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.89	0.94	2.6	2.8
cis-1,2-Dichloroethene	0.18	Not Detected	0.70	Not Detected
Tetrahydrofuran	0.89	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.87	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.97	Not Detected
Cyclohexane	0.18	Not Detected	0.61	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.89	Not Detected	4.2	Not Detected
Benzene	0.18	0.18	0.57	0.57
1,2-Dichloroethane	0.18	Not Detected	0.72	Not Detected
Heptane	0.18	Not Detected	0.73	Not Detected
Trichloroethene	0.18	Not Detected	0.96	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.82	Not Detected
1,4-Dioxane	0.18	Not Detected	0.64	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.81	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.73	Not Detected
Toluene	0.18	0.20	0.67	0.74
trans-1,3-Dichloropropene	0.18	Not Detected	0.81	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.97	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.89	Not Detected	3.6	Not Detected



Client Sample ID: U1 (162926)

Lab ID#: 1606405-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062013	Date of Collection:	6/14/16 1:30:00 PM
Dil. Factor:	1.78	Date of Analysis:	6/20/16 06:36 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Dibromochloromethane	0.18	Not Detected	1.5	Not Detected
1,2-Dibromoethane (EDB)	0.18	Not Detected	1.4	Not Detected
Chlorobenzene	0.18	Not Detected	0.82	Not Detected
Ethyl Benzene	0.18	Not Detected	0.77	Not Detected
m,p-Xylene	0.18	Not Detected	0.77	Not Detected
o-Xylene	0.18	Not Detected	0.77	Not Detected
Styrene	0.18	Not Detected	0.76	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.88	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.88	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.88	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.88	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.88	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.92	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.1	Not Detected
1,2,4-Trichlorobenzene	0.89	Not Detected	6.6	Not Detected
Hexachlorobutadiene	0.89	Not Detected	9.5	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1606405-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062008	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/20/16 02:14 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#: 1606405-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062008	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	6/20/16 02:14 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	102	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1606405-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/20/16 09:42 AM

Compound	%Recovery
Freon 12	97
Freon 114	99
Chloromethane	96
Vinyl Chloride	94
1,3-Butadiene	95
Bromomethane	104
Chloroethane	109
Freon 11	96
Ethanol	101
Freon 113	90
1,1-Dichloroethene	90
Acetone	86
2-Propanol	92
Carbon Disulfide	96
3-Chloropropene	126
Methylene Chloride	94
Methyl tert-butyl ether	93
trans-1,2-Dichloroethene	101
Hexane	94
1,1-Dichloroethane	92
2-Butanone (Methyl Ethyl Ketone)	95
cis-1,2-Dichloroethene	94
Tetrahydrofuran	76
Chloroform	91
1,1,1-Trichloroethane	91
Cyclohexane	98
Carbon Tetrachloride	73
2,2,4-Trimethylpentane	101
Benzene	95
1,2-Dichloroethane	95
Heptane	95
Trichloroethene	104
1,2-Dichloropropane	100
1,4-Dioxane	95
Bromodichloromethane	98
cis-1,3-Dichloropropene	99
4-Methyl-2-pentanone	98
Toluene	101
trans-1,3-Dichloropropene	98
1,1,2-Trichloroethane	94
Tetrachloroethene	104
2-Hexanone	97

Client Sample ID: CCV

Lab ID#: 1606405-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/20/16 09:42 AM

Compound	%Recovery
Dibromochloromethane	102
1,2-Dibromoethane (EDB)	102
Chlorobenzene	101
Ethyl Benzene	102
m,p-Xylene	104
o-Xylene	105
Styrene	103
Bromoform	106
Cumene	96
1,1,2,2-Tetrachloroethane	84
Propylbenzene	90
4-Ethyltoluene	89
1,3,5-Trimethylbenzene	90
1,2,4-Trimethylbenzene	83
1,3-Dichlorobenzene	83
1,4-Dichlorobenzene	84
alpha-Chlorotoluene	84
1,2-Dichlorobenzene	90
1,2,4-Trichlorobenzene	104
Hexachlorobutadiene	118

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1606405-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/20/16 11:25 AM

Compound	%Recovery	Method Limits
Freon 12	113	70-130
Freon 114	115	70-130
Chloromethane	107	70-130
Vinyl Chloride	111	70-130
1,3-Butadiene	102	70-130
Bromomethane	119	70-130
Chloroethane	133 Q	70-130
Freon 11	115	70-130
Ethanol	122	70-130
Freon 113	98	70-130
1,1-Dichloroethene	106	70-130
Acetone	98	70-130
2-Propanol	108	70-130
Carbon Disulfide	90	70-130
3-Chloropropene	140 Q	70-130
Methylene Chloride	101	70-130
Methyl tert-butyl ether	104	70-130
trans-1,2-Dichloroethene	113	70-130
Hexane	108	70-130
1,1-Dichloroethane	105	70-130
2-Butanone (Methyl Ethyl Ketone)	108	70-130
cis-1,2-Dichloroethene	105	70-130
Tetrahydrofuran	90	70-130
Chloroform	105	70-130
1,1,1-Trichloroethane	103	70-130
Cyclohexane	114	70-130
Carbon Tetrachloride	107	70-130
2,2,4-Trimethylpentane	115	70-130
Benzene	105	70-130
1,2-Dichloroethane	104	70-130
Heptane	110	70-130
Trichloroethene	118	70-130
1,2-Dichloropropane	109	70-130
1,4-Dioxane	112	70-130
Bromodichloromethane	113	70-130
cis-1,3-Dichloropropene	103	70-130
4-Methyl-2-pentanone	113	70-130
Toluene	110	70-130
trans-1,3-Dichloropropene	109	70-130
1,1,2-Trichloroethane	103	70-130
Tetrachloroethene	115	70-130
2-Hexanone	118	70-130

Client Sample ID: LCS

Lab ID#: 1606405-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/20/16 11:25 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	112	70-130
1,2-Dibromoethane (EDB)	117	70-130
Chlorobenzene	109	70-130
Ethyl Benzene	113	70-130
m,p-Xylene	118	70-130
o-Xylene	117	70-130
Styrene	119	70-130
Bromoform	118	70-130
Cumene	105	70-130
1,1,2,2-Tetrachloroethane	93	70-130
Propylbenzene	102	70-130
4-Ethyltoluene	93	70-130
1,3,5-Trimethylbenzene	99	70-130
1,2,4-Trimethylbenzene	90	70-130
1,3-Dichlorobenzene	93	70-130
1,4-Dichlorobenzene	98	70-130
alpha-Chlorotoluene	104	70-130
1,2-Dichlorobenzene	101	70-130
1,2,4-Trichlorobenzene	131 Q	70-130
Hexachlorobutadiene	118	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	101	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1606405-06AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/20/16 12:07 PM

Compound	%Recovery	Method Limits
Freon 12	110	70-130
Freon 114	118	70-130
Chloromethane	106	70-130
Vinyl Chloride	112	70-130
1,3-Butadiene	105	70-130
Bromomethane	119	70-130
Chloroethane	131 Q	70-130
Freon 11	113	70-130
Ethanol	126	70-130
Freon 113	100	70-130
1,1-Dichloroethene	104	70-130
Acetone	98	70-130
2-Propanol	107	70-130
Carbon Disulfide	97	70-130
3-Chloropropene	135 Q	70-130
Methylene Chloride	101	70-130
Methyl tert-butyl ether	105	70-130
trans-1,2-Dichloroethene	114	70-130
Hexane	107	70-130
1,1-Dichloroethane	105	70-130
2-Butanone (Methyl Ethyl Ketone)	110	70-130
cis-1,2-Dichloroethene	105	70-130
Tetrahydrofuran	86	70-130
Chloroform	103	70-130
1,1,1-Trichloroethane	105	70-130
Cyclohexane	117	70-130
Carbon Tetrachloride	109	70-130
2,2,4-Trimethylpentane	120	70-130
Benzene	106	70-130
1,2-Dichloroethane	105	70-130
Heptane	110	70-130
Trichloroethene	116	70-130
1,2-Dichloropropane	108	70-130
1,4-Dioxane	112	70-130
Bromodichloromethane	113	70-130
cis-1,3-Dichloropropene	100	70-130
4-Methyl-2-pentanone	113	70-130
Toluene	110	70-130
trans-1,3-Dichloropropene	108	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	116	70-130
2-Hexanone	118	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1606405-06AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e062005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 6/20/16 12:07 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	112	70-130
1,2-Dibromoethane (EDB)	111	70-130
Chlorobenzene	110	70-130
Ethyl Benzene	112	70-130
m,p-Xylene	116	70-130
o-Xylene	120	70-130
Styrene	120	70-130
Bromoform	120	70-130
Cumene	106	70-130
1,1,2,2-Tetrachloroethane	92	70-130
Propylbenzene	102	70-130
4-Ethyltoluene	96	70-130
1,3,5-Trimethylbenzene	100	70-130
1,2,4-Trimethylbenzene	90	70-130
1,3-Dichlorobenzene	93	70-130
1,4-Dichlorobenzene	98	70-130
alpha-Chlorotoluene	102	70-130
1,2-Dichlorobenzene	102	70-130
1,2,4-Trichlorobenzene	123	70-130
Hexachlorobutadiene	121	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	98	70-130