

5/27/2016

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1605362

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 5/17/2016 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 #: 1605362

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. #	3ESP160808
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	05/17/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	05/27/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (162240)	Modified TO-15	6.1 "Hg	5.2 psi
02A	D2 (162241)	Modified TO-15	6.3 "Hg	4.9 psi
03A	U1 (162242)	Modified TO-15	6.7 "Hg	4.9 psi
04A	U2 (162243)	Modified TO-15	5.9 "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: 05/27/16

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# 1605362

Four 6 Liter Summa Canister (100% Certified) samples were received on May 17, 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

Ethanol exceeded the instrument's calibration range for sample U2 (162243) and was flagged accordingly.

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. Target compound non-detects in the samples that are associated with high bias in QC analyses have not been flagged.

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 (162240)

Lab ID#: 1605362-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.63	0.84	3.1
Chloromethane	0.85	0.88	1.8	1.8
Freon 11	0.17	0.37	0.96	2.1
Ethanol	0.85	17	1.6	32
Acetone	0.85	7.1	2.0	17
Methylene Chloride	0.34	0.59	1.2	2.0
Hexane	0.17	0.36	0.60	1.3
Benzene	0.17	0.32	0.54	1.0
Toluene	0.17	0.64	0.64	2.4

Client Sample ID: D2 (162241)

Lab ID#: 1605362-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.58	0.84	2.9
Freon 11	0.17	0.34	0.95	1.9
Ethanol	0.84	7.4	1.6	14
Acetone	0.84	17	2.0	40
Methylene Chloride	0.34	0.53	1.2	1.8
Hexane	0.17	0.26	0.60	0.90
2-Butanone (Methyl Ethyl Ketone)	0.84	1.1	2.5	3.4
Benzene	0.17	0.27	0.54	0.85
Toluene	0.17	0.52	0.64	2.0

Client Sample ID: U1 (162242)

Lab ID#: 1605362-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.61	0.85	3.0
Freon 11	0.17	0.27	0.97	1.5
Ethanol	0.86	28	1.6	53
Acetone	0.86	10	2.0	24
2-Propanol	0.86	1.5	2.1	3.7

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

Client Sample ID: U1 (162242)

Lab ID#: 1605362-03A

Methylene Chloride	0.34	0.55	1.2	1.9
Hexane	0.17	0.30	0.61	1.1
2-Butanone (Methyl Ethyl Ketone)	0.86	1.2	2.5	3.4
Benzene	0.17	0.28	0.55	0.91
Toluene	0.17	0.61	0.65	2.3

Client Sample ID: U2 (162243)

Lab ID#: 1605362-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.66	0.82	3.3
Freon 11	0.17	0.35	0.93	2.0
Ethanol	0.83	180 E	1.6	340 E
Freon 113	0.17	0.20	1.3	1.5
Acetone	0.83	22	2.0	52
2-Propanol	0.83	12	2.0	30
Methylene Chloride	0.33	0.66	1.2	2.3
Hexane	0.17	0.37	0.58	1.3
2-Butanone (Methyl Ethyl Ketone)	0.83	2.0	2.4	5.9
Benzene	0.17	0.25	0.53	0.81
Heptane	0.17	0.20	0.68	0.83
4-Methyl-2-pentanone	0.17	0.17	0.68	0.71
Toluene	0.17	0.86	0.62	3.2
m,p-Xylene	0.17	0.22	0.72	0.94



Air Toxics

Client Sample ID: D1 (162240)

Lab ID#: 1605362-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051909	Date of Collection:	5/11/16 1:15:00 PM
Dil. Factor:	1.70	Date of Analysis:	5/19/16 03:30 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.63	0.84	3.1
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.85	0.88	1.8	1.8
Vinyl Chloride	0.17	Not Detected	0.43	Not Detected
1,3-Butadiene	0.17	Not Detected	0.38	Not Detected
Bromomethane	0.85	Not Detected	3.3	Not Detected
Chloroethane	0.85	Not Detected	2.2	Not Detected
Freon 11	0.17	0.37	0.96	2.1
Ethanol	0.85	17	1.6	32
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.85	7.1	2.0	17
2-Propanol	0.85	Not Detected	2.1	Not Detected
Carbon Disulfide	0.85	Not Detected	2.6	Not Detected
3-Chloropropene	0.85	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	0.59	1.2	2.0
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	0.36	0.60	1.3
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.85	Not Detected	2.5	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Tetrahydrofuran	0.85	Not Detected	2.5	Not Detected
Chloroform	0.17	Not Detected	0.83	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Cyclohexane	0.17	Not Detected	0.58	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.85	Not Detected	4.0	Not Detected
Benzene	0.17	0.32	0.54	1.0
1,2-Dichloroethane	0.17	Not Detected	0.69	Not Detected
Heptane	0.17	Not Detected	0.70	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	0.70	Not Detected
Toluene	0.17	0.64	0.64	2.4
trans-1,3-Dichloropropene	0.17	Not Detected	0.77	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.93	Not Detected
Tetrachloroethene	0.17	Not Detected	1.2	Not Detected
2-Hexanone	0.85	Not Detected	3.5	Not Detected

Client Sample ID: D1 (162240)

Lab ID#: 1605362-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051909	Date of Collection: 5/11/16 1:15:00 PM
Dil. Factor:	1.70	Date of Analysis: 5/19/16 03:30 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	0.74	Not Detected
m,p-Xylene	0.17	Not Detected	0.74	Not Detected
o-Xylene	0.17	Not Detected	0.74	Not Detected
Styrene	0.17	Not Detected	0.72	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	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.85	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.85	Not Detected	9.1	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130



Air Toxics

Client Sample ID: D2 (162241)

Lab ID#: 1605362-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051910	Date of Collection:	5/11/16 1:20:00 PM
Dil. Factor:	1.69	Date of Analysis:	5/19/16 04:10 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.58	0.84	2.9
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	0.34	0.95	1.9
Ethanol	0.84	7.4	1.6	14
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	17	2.0	40
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	0.53	1.2	1.8
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	0.26	0.60	0.90
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.1	2.5	3.4
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	0.27	0.54	0.85
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	0.52	0.64	2.0
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: D2 (162241)

Lab ID#: 1605362-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051910	Date of Collection:	5/11/16 1:20:00 PM
Dil. Factor:	1.69	Date of Analysis:	5/19/16 04:10 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

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: U1 (162242)

Lab ID#: 1605362-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051911	Date of Collection:	5/11/16 1:25:00 PM
Dil. Factor:	1.72	Date of Analysis:	5/19/16 04:50 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.61	0.85	3.0
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	0.27	0.97	1.5
Ethanol	0.86	28	1.6	53
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	10	2.0	24
2-Propanol	0.86	1.5	2.1	3.7
Carbon Disulfide	0.86	Not Detected	2.7	Not Detected
3-Chloropropene	0.86	Not Detected	2.7	Not Detected
Methylene Chloride	0.34	0.55	1.2	1.9
Methyl tert-butyl ether	0.17	Not Detected	0.62	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Hexane	0.17	0.30	0.61	1.1
1,1-Dichloroethane	0.17	Not Detected	0.70	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	1.2	2.5	3.4
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	0.28	0.55	0.91
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	0.61	0.65	2.3
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: U1 (162242)

Lab ID#: 1605362-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051911	Date of Collection:	5/11/16 1:25:00 PM
Dil. Factor:	1.72	Date of Analysis:	5/19/16 04:50 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	119	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: U2 (162243)

Lab ID#: 1605362-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051912	Date of Collection:	5/11/16 1:30:00 PM
Dil. Factor:	1.66	Date of Analysis:	5/19/16 05:49 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.66	0.82	3.3
Freon 114	0.17	Not Detected	1.2	Not Detected
Chloromethane	0.83	Not Detected	1.7	Not Detected
Vinyl Chloride	0.17	Not Detected	0.42	Not Detected
1,3-Butadiene	0.17	Not Detected	0.37	Not Detected
Bromomethane	0.83	Not Detected	3.2	Not Detected
Chloroethane	0.83	Not Detected	2.2	Not Detected
Freon 11	0.17	0.35	0.93	2.0
Ethanol	0.83	180 E	1.6	340 E
Freon 113	0.17	0.20	1.3	1.5
1,1-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Acetone	0.83	22	2.0	52
2-Propanol	0.83	12	2.0	30
Carbon Disulfide	0.83	Not Detected	2.6	Not Detected
3-Chloropropene	0.83	Not Detected	2.6	Not Detected
Methylene Chloride	0.33	0.66	1.2	2.3
Methyl tert-butyl ether	0.17	Not Detected	0.60	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Hexane	0.17	0.37	0.58	1.3
1,1-Dichloroethane	0.17	Not Detected	0.67	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.83	2.0	2.4	5.9
cis-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Tetrahydrofuran	0.83	Not Detected	2.4	Not Detected
Chloroform	0.17	Not Detected	0.81	Not Detected
1,1,1-Trichloroethane	0.17	Not Detected	0.90	Not Detected
Cyclohexane	0.17	Not Detected	0.57	Not Detected
Carbon Tetrachloride	0.17	Not Detected	1.0	Not Detected
2,2,4-Trimethylpentane	0.83	Not Detected	3.9	Not Detected
Benzene	0.17	0.25	0.53	0.81
1,2-Dichloroethane	0.17	Not Detected	0.67	Not Detected
Heptane	0.17	0.20	0.68	0.83
Trichloroethene	0.17	Not Detected	0.89	Not Detected
1,2-Dichloropropane	0.17	Not Detected	0.77	Not Detected
1,4-Dioxane	0.17	Not Detected	0.60	Not Detected
Bromodichloromethane	0.17	Not Detected	1.1	Not Detected
cis-1,3-Dichloropropene	0.17	Not Detected	0.75	Not Detected
4-Methyl-2-pentanone	0.17	0.17	0.68	0.71
Toluene	0.17	0.86	0.62	3.2
trans-1,3-Dichloropropene	0.17	Not Detected	0.75	Not Detected
1,1,2-Trichloroethane	0.17	Not Detected	0.90	Not Detected
Tetrachloroethene	0.17	Not Detected	1.1	Not Detected
2-Hexanone	0.83	Not Detected	3.4	Not Detected



Client Sample ID: U2 (162243)

Lab ID#: 1605362-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051912	Date of Collection:	5/11/16 1:30:00 PM
Dil. Factor:	1.66	Date of Analysis:	5/19/16 05:49 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	0.76	Not Detected
Ethyl Benzene	0.17	Not Detected	0.72	Not Detected
m,p-Xylene	0.17	0.22	0.72	0.94
o-Xylene	0.17	Not Detected	0.72	Not Detected
Styrene	0.17	Not Detected	0.71	Not Detected
Bromoform	0.17	Not Detected	1.7	Not Detected
Cumene	0.17	Not Detected	0.82	Not Detected
1,1,2,2-Tetrachloroethane	0.17	Not Detected	1.1	Not Detected
Propylbenzene	0.17	Not Detected	0.82	Not Detected
4-Ethyltoluene	0.17	Not Detected	0.82	Not Detected
1,3,5-Trimethylbenzene	0.17	Not Detected	0.82	Not Detected
1,2,4-Trimethylbenzene	0.17	Not Detected	0.82	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	0.86	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.83	Not Detected	6.2	Not Detected
Hexachlorobutadiene	0.83	Not Detected	8.8	Not Detected

E = Exceeds instrument calibration range.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	126	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1605362-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051906	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/19/16 11:39 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#: 1605362-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051906	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/19/16 11:39 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	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	103	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1605362-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/19/16 08:37 AM

Compound	%Recovery
Freon 12	112
Freon 114	111
Chloromethane	107
Vinyl Chloride	117
1,3-Butadiene	115
Bromomethane	119
Chloroethane	117
Freon 11	111
Ethanol	121
Freon 113	115
1,1-Dichloroethene	107
Acetone	106
2-Propanol	99
Carbon Disulfide	113
3-Chloropropene	106
Methylene Chloride	108
Methyl tert-butyl ether	115
trans-1,2-Dichloroethene	109
Hexane	108
1,1-Dichloroethane	110
2-Butanone (Methyl Ethyl Ketone)	110
cis-1,2-Dichloroethene	113
Tetrahydrofuran	111
Chloroform	114
1,1,1-Trichloroethane	117
Cyclohexane	110
Carbon Tetrachloride	120
2,2,4-Trimethylpentane	112
Benzene	119
1,2-Dichloroethane	126
Heptane	124
Trichloroethene	115
1,2-Dichloropropane	115
1,4-Dioxane	121
Bromodichloromethane	125
cis-1,3-Dichloropropene	116
4-Methyl-2-pentanone	121
Toluene	118
trans-1,3-Dichloropropene	123
1,1,2-Trichloroethane	115
Tetrachloroethene	126
2-Hexanone	113



Air Toxics

Client Sample ID: CCV

Lab ID#: 1605362-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051902	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/19/16 08:37 AM

Compound	%Recovery
Dibromochloromethane	137 Q
1,2-Dibromoethane (EDB)	128
Chlorobenzene	120
Ethyl Benzene	123
m,p-Xylene	119
o-Xylene	121
Styrene	124
Bromoform	136 Q
Cumene	125
1,1,2,2-Tetrachloroethane	123
Propylbenzene	114
4-Ethyltoluene	107
1,3,5-Trimethylbenzene	127
1,2,4-Trimethylbenzene	121
1,3-Dichlorobenzene	112
1,4-Dichlorobenzene	109
alpha-Chlorotoluene	123
1,2-Dichlorobenzene	112
1,2,4-Trichlorobenzene	115
Hexachlorobutadiene	114

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1605362-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051903	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/19/16 09:22 AM

Compound	%Recovery	Method Limits
Freon 12	114	70-130
Freon 114	117	70-130
Chloromethane	104	70-130
Vinyl Chloride	121	70-130
1,3-Butadiene	114	70-130
Bromomethane	115	70-130
Chloroethane	113	70-130
Freon 11	119	70-130
Ethanol	109	70-130
Freon 113	113	70-130
1,1-Dichloroethene	112	70-130
Acetone	113	70-130
2-Propanol	100	70-130
Carbon Disulfide	99	70-130
3-Chloropropene	96	70-130
Methylene Chloride	108	70-130
Methyl tert-butyl ether	109	70-130
trans-1,2-Dichloroethene	114	70-130
Hexane	108	70-130
1,1-Dichloroethane	109	70-130
2-Butanone (Methyl Ethyl Ketone)	108	70-130
cis-1,2-Dichloroethene	106	70-130
Tetrahydrofuran	108	70-130
Chloroform	113	70-130
1,1,1-Trichloroethane	114	70-130
Cyclohexane	110	70-130
Carbon Tetrachloride	130	70-130
2,2,4-Trimethylpentane	112	70-130
Benzene	117	70-130
1,2-Dichloroethane	125	70-130
Heptane	123	70-130
Trichloroethene	115	70-130
1,2-Dichloropropane	113	70-130
1,4-Dioxane	117	70-130
Bromodichloromethane	128	70-130
cis-1,3-Dichloropropene	109	70-130
4-Methyl-2-pentanone	119	70-130
Toluene	116	70-130
trans-1,3-Dichloropropene	122	70-130
1,1,2-Trichloroethane	115	70-130
Tetrachloroethene	128	70-130
2-Hexanone	107	70-130

Client Sample ID: LCS

Lab ID#: 1605362-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051903	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/19/16 09:22 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	138 Q	70-130
1,2-Dibromoethane (EDB)	128	70-130
Chlorobenzene	116	70-130
Ethyl Benzene	122	70-130
m,p-Xylene	120	70-130
o-Xylene	119	70-130
Styrene	123	70-130
Bromoform	145 Q	70-130
Cumene	123	70-130
1,1,2,2-Tetrachloroethane	125	70-130
Propylbenzene	111	70-130
4-Ethyltoluene	102	70-130
1,3,5-Trimethylbenzene	120	70-130
1,2,4-Trimethylbenzene	116	70-130
1,3-Dichlorobenzene	110	70-130
1,4-Dichlorobenzene	107	70-130
alpha-Chlorotoluene	125	70-130
1,2-Dichlorobenzene	111	70-130
1,2,4-Trichlorobenzene	116	70-130
Hexachlorobutadiene	115	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	106	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1605362-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051904	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/19/16 10:06 AM

Compound	%Recovery	Method Limits
Freon 12	114	70-130
Freon 114	116	70-130
Chloromethane	103	70-130
Vinyl Chloride	120	70-130
1,3-Butadiene	113	70-130
Bromomethane	125	70-130
Chloroethane	120	70-130
Freon 11	115	70-130
Ethanol	122	70-130
Freon 113	114	70-130
1,1-Dichloroethene	121	70-130
Acetone	125	70-130
2-Propanol	108	70-130
Carbon Disulfide	108	70-130
3-Chloropropene	106	70-130
Methylene Chloride	108	70-130
Methyl tert-butyl ether	109	70-130
trans-1,2-Dichloroethene	113	70-130
Hexane	109	70-130
1,1-Dichloroethane	109	70-130
2-Butanone (Methyl Ethyl Ketone)	110	70-130
cis-1,2-Dichloroethene	107	70-130
Tetrahydrofuran	110	70-130
Chloroform	115	70-130
1,1,1-Trichloroethane	115	70-130
Cyclohexane	111	70-130
Carbon Tetrachloride	130	70-130
2,2,4-Trimethylpentane	113	70-130
Benzene	119	70-130
1,2-Dichloroethane	123	70-130
Heptane	122	70-130
Trichloroethene	116	70-130
1,2-Dichloropropane	114	70-130
1,4-Dioxane	114	70-130
Bromodichloromethane	128	70-130
cis-1,3-Dichloropropene	108	70-130
4-Methyl-2-pentanone	121	70-130
Toluene	118	70-130
trans-1,3-Dichloropropene	122	70-130
1,1,2-Trichloroethane	118	70-130
Tetrachloroethene	125	70-130
2-Hexanone	110	70-130

Client Sample ID: LCSD

Lab ID#: 1605362-07AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20051904	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/19/16 10:06 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	137 Q	70-130
1,2-Dibromoethane (EDB)	128	70-130
Chlorobenzene	116	70-130
Ethyl Benzene	124	70-130
m,p-Xylene	117	70-130
o-Xylene	121	70-130
Styrene	127	70-130
Bromoform	145 Q	70-130
Cumene	125	70-130
1,1,2,2-Tetrachloroethane	122	70-130
Propylbenzene	112	70-130
4-Ethyltoluene	107	70-130
1,3,5-Trimethylbenzene	121	70-130
1,2,4-Trimethylbenzene	119	70-130
1,3-Dichlorobenzene	111	70-130
1,4-Dichlorobenzene	110	70-130
alpha-Chlorotoluene	125	70-130
1,2-Dichlorobenzene	110	70-130
1,2,4-Trichlorobenzene	120	70-130
Hexachlorobutadiene	118	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	106	70-130
4-Bromofluorobenzene	104	70-130