

10/16/2017

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1710059

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 10/3/2017 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 to contact 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 #: 1710059

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. #	3ESP180178
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	10/03/2017	CONTACT:	Brian Whittaker
DATE COMPLETED:	10/16/2017		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (172975)	Modified TO-15	6.3 "Hg	5.1 psi
02A	U1 (172976)	Modified TO-15	6.1 "Hg	5.1 psi
03A	Lab Blank	Modified TO-15	NA	NA
04A	CCV	Modified TO-15	NA	NA
05A	LCS	Modified TO-15	NA	NA
05AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 
 Technical Director

DATE: 10/16/17

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704434-16-11, UT NELAP CA0093332016-7, VA NELAP - 8113, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2016, Expiration date: 10/17/2017.

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# 1710059**

Two 6 Liter Summa Canister (100% Certified) samples were received on October 03, 2017. 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. 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 (172975)

Lab ID#: 1710059-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.54	0.84	2.6
Freon 11	0.17	0.22	0.96	1.2
Ethanol	0.86	9.9	1.6	19
Acetone	0.86	7.4	2.0	18
2-Propanol	0.86	38	2.1	93
Heptane	0.17	0.18	0.70	0.74

Client Sample ID: U1 (172976)

Lab ID#: 1710059-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	1.1	0.84	5.2
Freon 11	0.17	0.22	0.95	1.3
Ethanol	0.84	59	1.6	110
Acetone	0.84	54	2.0	130
2-Propanol	0.84	710 E	2.1	1700 E
Methylene Chloride	0.34	0.83	1.2	2.9
Hexane	0.17	1.8	0.60	6.4
2-Butanone (Methyl Ethyl Ketone)	0.84	1.7	2.5	5.0
Tetrahydrofuran	0.84	0.94	2.5	2.8
Heptane	0.17	2.8	0.69	12
Toluene	0.17	1.6	0.64	6.0
Ethyl Benzene	0.17	0.33	0.73	1.4
m,p-Xylene	0.17	1.1	0.73	4.7
o-Xylene	0.17	0.33	0.73	1.4
4-Ethyltoluene	0.17	0.30	0.83	1.5
1,2,4-Trimethylbenzene	0.17	0.32	0.83	1.6



Air Toxics

Client Sample ID: D1 (172975)

Lab ID#: 1710059-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101025	Date of Collection:	9/27/17 1:40:00 PM
Dil. Factor:	1.71	Date of Analysis:	10/11/17 06:45 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.54	0.84	2.6
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	2.2	Not Detected
Freon 11	0.17	0.22	0.96	1.2
Ethanol	0.86	9.9	1.6	19
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	7.4	2.0	18
2-Propanol	0.86	38	2.1	93
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	0.60	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.69	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.86	Not Detected	2.5	Not Detected
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 UJ	0.83	Not Detected UJ
1,1,1-Trichloroethane	0.17	Not Detected	0.93	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	0.69	Not Detected
Heptane	0.17	0.18	0.70	0.74
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	1.1	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	Not Detected	0.64	Not Detected
trans-1,3-Dichloropropene	0.17	Not Detected	0.78	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	0.86	Not Detected	3.5	Not Detected



Client Sample ID: D1 (172975)

Lab ID#: 1710059-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101025	Date of Collection:	9/27/17 1:40:00 PM
Dil. Factor:	1.71	Date of Analysis:	10/11/17 06:45 AM

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	0.79	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	0.73	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	0.88	Not Detected
1,2-Dichlorobenzene	0.17	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.86	Not Detected	6.3	Not Detected
Hexachlorobutadiene	0.86	Not Detected	9.1	Not Detected

UJ = Analyte associated with low bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	119	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	90	70-130



Air Toxics

Client Sample ID: U1 (172976)

Lab ID#: 1710059-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101026	Date of Collection:	9/27/17 1:30:00 PM
Dil. Factor:	1.69	Date of Analysis:	10/11/17 07:24 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	1.1	0.84	5.2
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	0.22	0.95	1.3
Ethanol	0.84	59	1.6	110
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	54	2.0	130
2-Propanol	0.84	710 E	2.1	1700 E
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	0.83	1.2	2.9
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	1.8	0.60	6.4
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.7	2.5	5.0
cis-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Tetrahydrofuran	0.84	0.94	2.5	2.8
Chloroform	0.17	Not Detected UJ	0.82	Not Detected UJ
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	Not Detected	0.54	Not Detected
1,2-Dichloroethane	0.17	Not Detected	0.68	Not Detected
Heptane	0.17	2.8	0.69	12
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	1.6	0.64	6.0
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: U1 (172976)

Lab ID#: 1710059-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101026	Date of Collection:	9/27/17 1:30:00 PM
Dil. Factor:	1.69	Date of Analysis:	10/11/17 07:24 AM

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	0.33	0.73	1.4
m,p-Xylene	0.17	1.1	0.73	4.7
o-Xylene	0.17	0.33	0.73	1.4
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	0.30	0.83	1.5
1,3,5-Trimethylbenzene	0.17	Not Detected	0.83	Not Detected
1,2,4-Trimethylbenzene	0.17	0.32	0.83	1.6
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

E = Exceeds instrument calibration range.

UJ = Analyte associated with low bias in the CCV.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	113	70-130
Toluene-d8	104	70-130
4-Bromofluorobenzene	87	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1710059-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101006	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	10/10/17 12:55 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 UJ	0.49	Not Detected UJ
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#: 1710059-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101006	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	10/10/17 12:55 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

UJ = Analyte associated with low bias in the CCV.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	123	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	88	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1710059-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/10/17 09:40 AM

Compound	%Recovery
Freon 12	115
Freon 114	106
Chloromethane	120
Vinyl Chloride	125
1,3-Butadiene	114
Bromomethane	131 Q
Chloroethane	124
Freon 11	116
Ethanol	129
Freon 113	105
1,1-Dichloroethene	112
Acetone	104
2-Propanol	118
Carbon Disulfide	121
3-Chloropropene	111
Methylene Chloride	111
Methyl tert-butyl ether	113
trans-1,2-Dichloroethene	110
Hexane	112
1,1-Dichloroethane	120
2-Butanone (Methyl Ethyl Ketone)	115
cis-1,2-Dichloroethene	114
Tetrahydrofuran	125
Chloroform	66 Q
1,1,1-Trichloroethane	107
Cyclohexane	112
Carbon Tetrachloride	122
2,2,4-Trimethylpentane	179 Q
Benzene	108
1,2-Dichloroethane	106
Heptane	105
Trichloroethene	98
1,2-Dichloropropane	112
1,4-Dioxane	102
Bromodichloromethane	103
cis-1,3-Dichloropropene	106
4-Methyl-2-pentanone	108
Toluene	105
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	103
Tetrachloroethene	92
2-Hexanone	105



Client Sample ID: CCV

Lab ID#: 1710059-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101002	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/10/17 09:40 AM

Compound	%Recovery
Dibromochloromethane	98
1,2-Dibromoethane (EDB)	102
Chlorobenzene	101
Ethyl Benzene	97
m,p-Xylene	98
o-Xylene	100
Styrene	98
Bromoform	99
Cumene	101
1,1,2,2-Tetrachloroethane	105
Propylbenzene	103
4-Ethyltoluene	104
1,3,5-Trimethylbenzene	98
1,2,4-Trimethylbenzene	102
1,3-Dichlorobenzene	96
1,4-Dichlorobenzene	97
alpha-Chlorotoluene	105
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	99
Hexachlorobutadiene	96

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

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: LCS

Lab ID#: 1710059-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/10/17 10:41 AM

Compound	%Recovery	Method Limits
Freon 12	116	70-130
Freon 114	109	70-130
Chloromethane	118	70-130
Vinyl Chloride	127	70-130
1,3-Butadiene	112	70-130
Bromomethane	123	70-130
Chloroethane	120	70-130
Freon 11	116	70-130
Ethanol	138 Q	70-130
Freon 113	101	70-130
1,1-Dichloroethene	110	70-130
Acetone	100	70-130
2-Propanol	120	70-130
Carbon Disulfide	104	70-130
3-Chloropropene	100	70-130
Methylene Chloride	109	70-130
Methyl tert-butyl ether	108	70-130
trans-1,2-Dichloroethene	93	70-130
Hexane	109	70-130
1,1-Dichloroethane	117	70-130
2-Butanone (Methyl Ethyl Ketone)	110	70-130
cis-1,2-Dichloroethene	121	70-130
Tetrahydrofuran	122	70-130
Chloroform	82	70-130
1,1,1-Trichloroethane	102	70-130
Cyclohexane	110	70-130
Carbon Tetrachloride	111	70-130
2,2,4-Trimethylpentane	170 Q	70-130
Benzene	112	70-130
1,2-Dichloroethane	111	70-130
Heptane	113	70-130
Trichloroethene	101	70-130
1,2-Dichloropropane	115	70-130
1,4-Dioxane	107	70-130
Bromodichloromethane	109	70-130
cis-1,3-Dichloropropene	104	70-130
4-Methyl-2-pentanone	114	70-130
Toluene	111	70-130
trans-1,3-Dichloropropene	107	70-130
1,1,2-Trichloroethane	108	70-130
Tetrachloroethene	96	70-130
2-Hexanone	113	70-130

Client Sample ID: LCS

Lab ID#: 1710059-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101003	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/10/17 10:41 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	102	70-130
1,2-Dibromoethane (EDB)	105	70-130
Chlorobenzene	106	70-130
Ethyl Benzene	104	70-130
m,p-Xylene	105	70-130
o-Xylene	109	70-130
Styrene	107	70-130
Bromoform	106	70-130
Cumene	107	70-130
1,1,2,2-Tetrachloroethane	112	70-130
Propylbenzene	114	70-130
4-Ethyltoluene	114	70-130
1,3,5-Trimethylbenzene	108	70-130
1,2,4-Trimethylbenzene	112	70-130
1,3-Dichlorobenzene	105	70-130
1,4-Dichlorobenzene	106	70-130
alpha-Chlorotoluene	119	70-130
1,2-Dichlorobenzene	103	70-130
1,2,4-Trichlorobenzene	110	70-130
Hexachlorobutadiene	97	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	103	70-130
4-Bromofluorobenzene	94	70-130



Air Toxics

Client Sample ID: LCS D

Lab ID#: 1710059-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101004	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	10/10/17 11:35 AM

Compound	%Recovery	Method Limits
Freon 12	113	70-130
Freon 114	106	70-130
Chloromethane	115	70-130
Vinyl Chloride	124	70-130
1,3-Butadiene	108	70-130
Bromomethane	126	70-130
Chloroethane	122	70-130
Freon 11	112	70-130
Ethanol	134 Q	70-130
Freon 113	100	70-130
1,1-Dichloroethene	108	70-130
Acetone	98	70-130
2-Propanol	118	70-130
Carbon Disulfide	102	70-130
3-Chloropropene	101	70-130
Methylene Chloride	107	70-130
Methyl tert-butyl ether	106	70-130
trans-1,2-Dichloroethene	93	70-130
Hexane	108	70-130
1,1-Dichloroethane	114	70-130
2-Butanone (Methyl Ethyl Ketone)	110	70-130
cis-1,2-Dichloroethene	119	70-130
Tetrahydrofuran	119	70-130
Chloroform	88	70-130
1,1,1-Trichloroethane	102	70-130
Cyclohexane	107	70-130
Carbon Tetrachloride	111	70-130
2,2,4-Trimethylpentane	170 Q	70-130
Benzene	112	70-130
1,2-Dichloroethane	110	70-130
Heptane	111	70-130
Trichloroethene	101	70-130
1,2-Dichloropropane	116	70-130
1,4-Dioxane	105	70-130
Bromodichloromethane	105	70-130
cis-1,3-Dichloropropene	103	70-130
4-Methyl-2-pentanone	112	70-130
Toluene	111	70-130
trans-1,3-Dichloropropene	103	70-130
1,1,2-Trichloroethane	104	70-130
Tetrachloroethene	93	70-130
2-Hexanone	111	70-130

Client Sample ID: LCSD

Lab ID#: 1710059-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20101004	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 10/10/17 11:35 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	99	70-130
1,2-Dibromoethane (EDB)	101	70-130
Chlorobenzene	102	70-130
Ethyl Benzene	100	70-130
m,p-Xylene	103	70-130
o-Xylene	105	70-130
Styrene	104	70-130
Bromoform	102	70-130
Cumene	104	70-130
1,1,2,2-Tetrachloroethane	107	70-130
Propylbenzene	110	70-130
4-Ethyltoluene	109	70-130
1,3,5-Trimethylbenzene	105	70-130
1,2,4-Trimethylbenzene	108	70-130
1,3-Dichlorobenzene	103	70-130
1,4-Dichlorobenzene	103	70-130
alpha-Chlorotoluene	116	70-130
1,2-Dichlorobenzene	100	70-130
1,2,4-Trichlorobenzene	102	70-130
Hexachlorobutadiene	93	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	93	70-130