

6/3/2015

Mr. Dennis Schroeder
Missouri Dept. of Natural Resources
2710 West Main

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1505354

Dear Mr. Dennis Schroeder

The following report includes the data for the above referenced project for sample(s) received on 5/20/2015 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 Air Toxics Ltd. for your air analysis needs. Air Toxics Ltd. 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 #: 1505354

Work Order Summary

CLIENT:	Mr. Dennis Schroeder Missouri Dept. of Natural Resources 2710 West Main Jefferson City, MO 65109	BILL TO:	Accounts Payable Missouri Dept. of Natural Resources P.O Box 176 Jefferson City, MO 65102
PHONE:	573-526-4428	P.O. #	3ESP400007
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	05/20/2015	CONTACT:	Brian Whittaker
DATE COMPLETED:	06/03/2015		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (152213)	Modified TO-15	5.5 "Hg	4.9 psi
02A	U1 (152214)	Modified TO-15	7.1 "Hg	4.9 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: 06/03/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified TO-15
Missouri Dept. of Natural Resources
Workorder# 1505354

Two 6 Liter Summa Canister (100% Certified) samples were received on May 20, 2015. 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

Due to the linear calibration range of the instrument, the reporting limit for Ethanol was raised from 0.50 ppbv to 1.0 ppbv.

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 (152213)

Lab ID#: 1505354-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.51	0.81	2.5
Freon 11	0.16	0.22	0.92	1.2
Ethanol	1.6	8.2	3.1	15
Acetone	0.82	2.7	1.9	6.3
Toluene	0.16	0.21	0.61	0.80

Client Sample ID: U1 (152214)

Lab ID#: 1505354-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.51	0.86	2.5
Freon 11	0.18	0.22	0.98	1.2
Ethanol	1.8	7.7	3.3	14
Acetone	0.88	3.6	2.1	8.6
Toluene	0.18	0.20	0.66	0.74



Air Toxics

Client Sample ID: D1 (152213)

Lab ID#: 1505354-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052211	Date of Collection:	5/14/15 4:00:00 PM
Dil. Factor:	1.63	Date of Analysis:	5/22/15 06:21 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.16	0.51	0.81	2.5
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	0.22	0.92	1.2
Ethanol	1.6	8.2	3.1	15
Freon 113	0.16	Not Detected	1.2	Not Detected
1,1-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Acetone	0.82	2.7	1.9	6.3
2-Propanol	0.82	Not Detected	2.0	Not Detected
Carbon Disulfide	0.82	Not Detected	2.5	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	Not Detected	0.57	Not Detected
1,1-Dichloroethane	0.16	Not Detected	0.66	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.82	Not Detected	2.4	Not Detected
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	Not Detected	0.67	Not Detected
Trichloroethene	0.16	Not Detected	0.88	Not Detected
1,2-Dichloropropane	0.16	Not Detected	0.75	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	0.21	0.61	0.80
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	3.3	Not Detected



Client Sample ID: D1 (152213)

Lab ID#: 1505354-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052211	Date of Collection:	5/14/15 4:00:00 PM
Dil. Factor:	1.63	Date of Analysis:	5/22/15 06:21 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	1.2	Not Detected
Chlorobenzene	0.16	Not Detected	0.75	Not Detected
Ethyl Benzene	0.16	Not Detected	0.71	Not Detected
m,p-Xylene	0.16	Not Detected	0.71	Not Detected
o-Xylene	0.16	Not Detected	0.71	Not Detected
Styrene	0.16	Not Detected	0.69	Not Detected
Bromoform	0.16	Not Detected	1.7	Not Detected
Cumene	0.16	Not Detected	0.80	Not Detected
1,1,2,2-Tetrachloroethane	0.16	Not Detected	1.1	Not Detected
Propylbenzene	0.16	Not Detected	0.80	Not Detected
4-Ethyltoluene	0.16	Not Detected	0.80	Not Detected
1,3,5-Trimethylbenzene	0.16	Not Detected	0.80	Not Detected
1,2,4-Trimethylbenzene	0.16	Not Detected	0.80	Not Detected
1,3-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
1,4-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
alpha-Chlorotoluene	0.16	Not Detected	0.84	Not Detected
1,2-Dichlorobenzene	0.16	Not Detected	0.98	Not Detected
1,2,4-Trichlorobenzene	0.82	Not Detected UJ	6.0	Not Detected UJ
Hexachlorobutadiene	0.82	Not Detected UJ	8.7	Not Detected UJ

UJ = Analyte associated with low bias in the CCV and/or LCS.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	85	70-130



Air Toxics

Client Sample ID: U1 (152214)

Lab ID#: 1505354-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052212	Date of Collection:	5/14/15 3:25:00 PM
Dil. Factor:	1.75	Date of Analysis:	5/22/15 07:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.51	0.86	2.5
Freon 114	0.18	Not Detected	1.2	Not Detected
Chloromethane	0.88	Not Detected	1.8	Not Detected
Vinyl Chloride	0.18	Not Detected	0.45	Not Detected
1,3-Butadiene	0.18	Not Detected	0.39	Not Detected
Bromomethane	0.88	Not Detected	3.4	Not Detected
Chloroethane	0.88	Not Detected	2.3	Not Detected
Freon 11	0.18	0.22	0.98	1.2
Ethanol	1.8	7.7	3.3	14
Freon 113	0.18	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Acetone	0.88	3.6	2.1	8.6
2-Propanol	0.88	Not Detected	2.2	Not Detected
Carbon Disulfide	0.88	Not Detected	2.7	Not Detected
3-Chloropropene	0.88	Not Detected	2.7	Not Detected
Methylene Chloride	0.35	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.18	Not Detected	0.63	Not Detected
trans-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Hexane	0.18	Not Detected	0.62	Not Detected
1,1-Dichloroethane	0.18	Not Detected	0.71	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.88	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	0.18	Not Detected	0.69	Not Detected
Tetrahydrofuran	0.88	Not Detected	2.6	Not Detected
Chloroform	0.18	Not Detected	0.85	Not Detected
1,1,1-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Cyclohexane	0.18	Not Detected	0.60	Not Detected
Carbon Tetrachloride	0.18	Not Detected	1.1	Not Detected
2,2,4-Trimethylpentane	0.88	Not Detected	4.1	Not Detected
Benzene	0.18	Not Detected	0.56	Not Detected
1,2-Dichloroethane	0.18	Not Detected	0.71	Not Detected
Heptane	0.18	Not Detected	0.72	Not Detected
Trichloroethene	0.18	Not Detected	0.94	Not Detected
1,2-Dichloropropane	0.18	Not Detected	0.81	Not Detected
1,4-Dioxane	0.18	Not Detected	0.63	Not Detected
Bromodichloromethane	0.18	Not Detected	1.2	Not Detected
cis-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
4-Methyl-2-pentanone	0.18	Not Detected	0.72	Not Detected
Toluene	0.18	0.20	0.66	0.74
trans-1,3-Dichloropropene	0.18	Not Detected	0.79	Not Detected
1,1,2-Trichloroethane	0.18	Not Detected	0.95	Not Detected
Tetrachloroethene	0.18	Not Detected	1.2	Not Detected
2-Hexanone	0.88	Not Detected	3.6	Not Detected



Client Sample ID: U1 (152214)

Lab ID#: 1505354-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052212	Date of Collection:	5/14/15 3:25:00 PM
Dil. Factor:	1.75	Date of Analysis:	5/22/15 07:28 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	1.3	Not Detected
Chlorobenzene	0.18	Not Detected	0.80	Not Detected
Ethyl Benzene	0.18	Not Detected	0.76	Not Detected
m,p-Xylene	0.18	Not Detected	0.76	Not Detected
o-Xylene	0.18	Not Detected	0.76	Not Detected
Styrene	0.18	Not Detected	0.74	Not Detected
Bromoform	0.18	Not Detected	1.8	Not Detected
Cumene	0.18	Not Detected	0.86	Not Detected
1,1,2,2-Tetrachloroethane	0.18	Not Detected	1.2	Not Detected
Propylbenzene	0.18	Not Detected	0.86	Not Detected
4-Ethyltoluene	0.18	Not Detected	0.86	Not Detected
1,3,5-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,2,4-Trimethylbenzene	0.18	Not Detected	0.86	Not Detected
1,3-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,4-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
alpha-Chlorotoluene	0.18	Not Detected	0.90	Not Detected
1,2-Dichlorobenzene	0.18	Not Detected	1.0	Not Detected
1,2,4-Trichlorobenzene	0.88	Not Detected UJ	6.5	Not Detected UJ
Hexachlorobutadiene	0.88	Not Detected UJ	9.3	Not Detected UJ

UJ = Analyte associated with low bias in the CCV and/or LCS.

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	104	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	87	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1505354-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052207a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/22/15 01:47 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	1.0	Not Detected	1.9	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#: 1505354-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052207a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/22/15 01:47 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 UJ	3.7	Not Detected UJ
Hexachlorobutadiene	0.50	Not Detected UJ	5.3	Not Detected UJ

UJ = Analyte associated with low bias in the CCV and/or LCS.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	106	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	88	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1505354-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/22/15 10:14 AM

Compound	%Recovery
Freon 12	101
Freon 114	96
Chloromethane	107
Vinyl Chloride	103
1,3-Butadiene	110
Bromomethane	93
Chloroethane	98
Freon 11	89
Ethanol	95
Freon 113	90
1,1-Dichloroethene	96
Acetone	85
2-Propanol	99
Carbon Disulfide	95
3-Chloropropene	98
Methylene Chloride	94
Methyl tert-butyl ether	107
trans-1,2-Dichloroethene	114
Hexane	120
1,1-Dichloroethane	110
2-Butanone (Methyl Ethyl Ketone)	107
cis-1,2-Dichloroethene	98
Tetrahydrofuran	113
Chloroform	102
1,1,1-Trichloroethane	102
Cyclohexane	105
Carbon Tetrachloride	96
2,2,4-Trimethylpentane	114
Benzene	92
1,2-Dichloroethane	98
Heptane	104
Trichloroethene	84
1,2-Dichloropropane	91
1,4-Dioxane	86
Bromodichloromethane	89
cis-1,3-Dichloropropene	88
4-Methyl-2-pentanone	104
Toluene	96
trans-1,3-Dichloropropene	97
1,1,2-Trichloroethane	91
Tetrachloroethene	89
2-Hexanone	101



Air Toxics

Client Sample ID: CCV

Lab ID#: 1505354-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052202	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/22/15 10:14 AM

Compound	%Recovery
Dibromochloromethane	92
1,2-Dibromoethane (EDB)	94
Chlorobenzene	90
Ethyl Benzene	91
m,p-Xylene	94
o-Xylene	97
Styrene	101
Bromoform	83
Cumene	98
1,1,2,2-Tetrachloroethane	90
Propylbenzene	92
4-Ethyltoluene	96
1,3,5-Trimethylbenzene	97
1,2,4-Trimethylbenzene	94
1,3-Dichlorobenzene	86
1,4-Dichlorobenzene	92
alpha-Chlorotoluene	99
1,2-Dichlorobenzene	90
1,2,4-Trichlorobenzene	66 Q
Hexachlorobutadiene	65 Q

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	108	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	90	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1505354-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/22/15 10:59 AM

Compound	%Recovery	Method Limits
Freon 12	100	67-126
Freon 114	97	72-124
Chloromethane	105	53-146
Vinyl Chloride	104	63-134
1,3-Butadiene	105	57-141
Bromomethane	86	68-132
Chloroethane	95	63-136
Freon 11	88	67-126
Ethanol	103	26-180
Freon 113	82	73-140
1,1-Dichloroethene	92	71-137
Acetone	94	48-133
2-Propanol	100	60-145
Carbon Disulfide	78	52-121
3-Chloropropene	80	58-134
Methylene Chloride	84	63-139
Methyl tert-butyl ether	94	69-128
trans-1,2-Dichloroethene	87	67-111
Hexane	118	64-135
1,1-Dichloroethane	106	66-133
2-Butanone (Methyl Ethyl Ketone)	106	68-133
cis-1,2-Dichloroethene	105	71-143
Tetrahydrofuran	112	53-146
Chloroform	99	65-123
1,1,1-Trichloroethane	97	69-121
Cyclohexane	105	70-130
Carbon Tetrachloride	99	20-147
2,2,4-Trimethylpentane	105	58-142
Benzene	94	58-121
1,2-Dichloroethane	96	62-132
Heptane	106	68-132
Trichloroethene	84	65-121
1,2-Dichloropropane	90	67-125
1,4-Dioxane	86	70-128
Bromodichloromethane	89	66-131
cis-1,3-Dichloropropene	82	70-138
4-Methyl-2-pentanone	106	59-152
Toluene	92	70-118
trans-1,3-Dichloropropene	98	68-122
1,1,2-Trichloroethane	91	70-121
Tetrachloroethene	88	68-122
2-Hexanone	105	70-136

Client Sample ID: LCS

Lab ID#: 1505354-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/22/15 10:59 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	96	66-134
1,2-Dibromoethane (EDB)	98	72-126
Chlorobenzene	92	70-116
Ethyl Benzene	94	76-121
m,p-Xylene	95	75-127
o-Xylene	100	76-126
Styrene	106	77-130
Bromoform	88	66-134
Cumene	102	77-129
1,1,2,2-Tetrachloroethane	94	58-127
Propylbenzene	101	77-127
4-Ethyltoluene	100	72-133
1,3,5-Trimethylbenzene	100	73-142
1,2,4-Trimethylbenzene	101	65-147
1,3-Dichlorobenzene	92	77-125
1,4-Dichlorobenzene	97	68-124
alpha-Chlorotoluene	107	48-180
1,2-Dichlorobenzene	96	74-123
1,2,4-Trichlorobenzene	79	43-159
Hexachlorobutadiene	74	50-145

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	93	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1505354-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052204	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	5/22/15 11:40 AM

Compound	%Recovery	Method Limits
Freon 12	104	67-126
Freon 114	102	72-124
Chloromethane	112	53-146
Vinyl Chloride	107	63-134
1,3-Butadiene	107	57-141
Bromomethane	90	68-132
Chloroethane	108	63-136
Freon 11	92	67-126
Ethanol	112	26-180
Freon 113	86	73-140
1,1-Dichloroethene	95	71-137
Acetone	93	48-133
2-Propanol	106	60-145
Carbon Disulfide	81	52-121
3-Chloropropene	91	58-134
Methylene Chloride	92	63-139
Methyl tert-butyl ether	99	69-128
trans-1,2-Dichloroethene	94	67-111
Hexane	119	64-135
1,1-Dichloroethane	107	66-133
2-Butanone (Methyl Ethyl Ketone)	100	68-133
cis-1,2-Dichloroethene	104	71-143
Tetrahydrofuran	116	53-146
Chloroform	100	65-123
1,1,1-Trichloroethane	102	69-121
Cyclohexane	110	70-130
Carbon Tetrachloride	104	20-147
2,2,4-Trimethylpentane	113	58-142
Benzene	92	58-121
1,2-Dichloroethane	98	62-132
Heptane	102	68-132
Trichloroethene	84	65-121
1,2-Dichloropropane	89	67-125
1,4-Dioxane	83	70-128
Bromodichloromethane	89	66-131
cis-1,3-Dichloropropene	79	70-138
4-Methyl-2-pentanone	106	59-152
Toluene	96	70-118
trans-1,3-Dichloropropene	100	68-122
1,1,2-Trichloroethane	92	70-121
Tetrachloroethene	94	68-122
2-Hexanone	104	70-136



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1505354-05AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e052204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 5/22/15 11:40 AM

Compound	%Recovery	Method Limits
Dibromochloromethane	98	66-134
1,2-Dibromoethane (EDB)	100	72-126
Chlorobenzene	93	70-116
Ethyl Benzene	97	76-121
m,p-Xylene	100	75-127
o-Xylene	103	76-126
Styrene	106	77-130
Bromoform	88	66-134
Cumene	105	77-129
1,1,2,2-Tetrachloroethane	97	58-127
Propylbenzene	100	77-127
4-Ethyltoluene	103	72-133
1,3,5-Trimethylbenzene	103	73-142
1,2,4-Trimethylbenzene	98	65-147
1,3-Dichlorobenzene	93	77-125
1,4-Dichlorobenzene	99	68-124
alpha-Chlorotoluene	106	48-180
1,2-Dichlorobenzene	100	74-123
1,2,4-Trichlorobenzene	80	43-159
Hexachlorobutadiene	74	50-145

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	92	70-130