

7/29/2016

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

Jefferson City MO 65109

Project Name: Bridgeton Landfill

Project #:

Workorder #: 1607311

Dear Mr. Curt Lueckenhoff

The following report includes the data for the above referenced project for sample(s) received on 7/19/2016 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 #: 1607311

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. #	3ESP161083
FAX:	573-526-3350	PROJECT #	Bridgeton Landfill
DATE RECEIVED:	07/19/2016	CONTACT:	Brian Whittaker
DATE COMPLETED:	07/29/2016		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	D1 (162939)	Modified TO-15	7.6 "Hg	4.9 psi
02A	D2 (162940)	Modified TO-15	6.1 "Hg	5 psi
03A	U1 (162941)	Modified TO-15	6.5 "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: 07/29/16

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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180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
Modified TO-15 Low Level
Missouri Dept. of Natural Resources
Workorder# 1607311

Three 6 Liter Summa Canister (100% Certified) samples were received on July 19, 2016. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
Initial Calibration	</=30% RSD with 2 compounds allowed out to < 40% RSD	</=30% RSD with 4 compounds allowed out to < 40% RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page. 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 (162939)

Lab ID#: 1607311-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.46	0.88	2.3
Freon 11	0.18	0.25	1.0	1.4
Ethanol	0.89	6.3	1.7	12
Acetone	0.89	5.2	2.1	12
Hexane	0.18	0.24	0.63	0.85
2-Butanone (Methyl Ethyl Ketone)	0.89	1.3	2.6	3.9

Client Sample ID: D2 (162940)

Lab ID#: 1607311-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.32	0.83	1.6
Freon 11	0.17	0.23	0.94	1.3
Ethanol	0.84	5.2	1.6	9.9
Acetone	0.84	5.9	2.0	14
2-Butanone (Methyl Ethyl Ketone)	0.84	1.3	2.5	3.8

Client Sample ID: U1 (162941)

Lab ID#: 1607311-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.45	0.85	2.2
Freon 11	0.17	0.26	0.97	1.4
Ethanol	0.86	4.9	1.6	9.2
Acetone	0.86	4.3	2.0	10



Air Toxics

Client Sample ID: D1 (162939)

Lab ID#: 1607311-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072012	Date of Collection:	7/13/16 1:30:00 PM
Dil. Factor:	1.78	Date of Analysis:	7/20/16 05:56 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.18	0.46	0.88	2.3
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	0.25	1.0	1.4
Ethanol	0.89	6.3	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	5.2	2.1	12
2-Propanol	0.89	Not Detected	2.2	Not Detected
Carbon Disulfide	0.89	Not Detected	2.8	Not Detected
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	0.24	0.63	0.85
1,1-Dichloroethane	0.18	Not Detected	0.72	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.89	1.3	2.6	3.9
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	Not Detected	0.57	Not Detected
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	Not Detected	0.67	Not Detected
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: D1 (162939)

Lab ID#: 1607311-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072012	Date of Collection: 7/13/16 1:30:00 PM
Dil. Factor:	1.78	Date of Analysis: 7/20/16 05:56 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	122	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: D2 (162940)

Lab ID#: 1607311-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072013	Date of Collection:	7/13/16 1:35:00 PM
Dil. Factor:	1.68	Date of Analysis:	7/20/16 06:43 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.32	0.83	1.6
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	0.23	0.94	1.3
Ethanol	0.84	5.2	1.6	9.9
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Acetone	0.84	5.9	2.0	14
2-Propanol	0.84	Not Detected	2.1	Not Detected
Carbon Disulfide	0.84	Not Detected	2.6	Not Detected
3-Chloropropene	0.84	Not Detected	2.6	Not Detected
Methylene Chloride	0.34	Not Detected	1.2	Not Detected
Methyl tert-butyl ether	0.17	Not Detected	0.60	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.67	Not Detected
Hexane	0.17	Not Detected	0.59	Not Detected
1,1-Dichloroethane	0.17	Not Detected	0.68	Not Detected
2-Butanone (Methyl Ethyl Ketone)	0.84	1.3	2.5	3.8
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	1.0	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	Not Detected	0.69	Not Detected
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	Not Detected	0.60	Not Detected
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	Not Detected	0.69	Not Detected
Toluene	0.17	Not Detected	0.63	Not Detected
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 (162940)

Lab ID#: 1607311-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072013	Date of Collection: 7/13/16 1:35:00 PM
Dil. Factor:	1.68	Date of Analysis: 7/20/16 06:43 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	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	0.82	Not Detected
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	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	0.87	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

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	107	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	101	70-130



Air Toxics

Client Sample ID: U1 (162941)

Lab ID#: 1607311-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072014	Date of Collection:	7/13/16 1:45:00 PM
Dil. Factor:	1.72	Date of Analysis:	7/20/16 07:28 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Freon 12	0.17	0.45	0.85	2.2
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	0.26	0.97	1.4
Ethanol	0.86	4.9	1.6	9.2
Freon 113	0.17	Not Detected	1.3	Not Detected
1,1-Dichloroethene	0.17	Not Detected	0.68	Not Detected
Acetone	0.86	4.3	2.0	10
2-Propanol	0.86	Not Detected	2.1	Not Detected
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	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	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	Not Detected	0.65	Not Detected
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 (162941)

Lab ID#: 1607311-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072014	Date of Collection: 7/13/16 1:45:00 PM
Dil. Factor:	1.72	Date of Analysis: 7/20/16 07:28 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	97	70-130
4-Bromofluorobenzene	97	70-130



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1607311-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072010	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/20/16 04:19 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#: 1607311-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072010	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/20/16 04:19 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	109	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	96	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 1607311-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/20/16 11:59 AM

Compound	%Recovery
Freon 12	112
Freon 114	116
Chloromethane	104
Vinyl Chloride	107
1,3-Butadiene	105
Bromomethane	118
Chloroethane	124
Freon 11	117
Ethanol	119
Freon 113	101
1,1-Dichloroethene	107
Acetone	96
2-Propanol	100
Carbon Disulfide	114
3-Chloropropene	136 Q
Methylene Chloride	98
Methyl tert-butyl ether	105
trans-1,2-Dichloroethene	104
Hexane	100
1,1-Dichloroethane	107
2-Butanone (Methyl Ethyl Ketone)	100
cis-1,2-Dichloroethene	106
Tetrahydrofuran	79
Chloroform	106
1,1,1-Trichloroethane	106
Cyclohexane	104
Carbon Tetrachloride	111
2,2,4-Trimethylpentane	103
Benzene	97
1,2-Dichloroethane	106
Heptane	100
Trichloroethene	110
1,2-Dichloropropane	96
1,4-Dioxane	103
Bromodichloromethane	110
cis-1,3-Dichloropropene	100
4-Methyl-2-pentanone	102
Toluene	104
trans-1,3-Dichloropropene	104
1,1,2-Trichloroethane	98
Tetrachloroethene	113
2-Hexanone	98



Air Toxics

Client Sample ID: CCV

Lab ID#: 1607311-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072005	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/20/16 11:59 AM

Compound	%Recovery
Dibromochloromethane	110
1,2-Dibromoethane (EDB)	106
Chlorobenzene	108
Ethyl Benzene	104
m,p-Xylene	111
o-Xylene	110
Styrene	109
Bromoform	116
Cumene	101
1,1,2,2-Tetrachloroethane	87
Propylbenzene	92
4-Ethyltoluene	91
1,3,5-Trimethylbenzene	95
1,2,4-Trimethylbenzene	84
1,3-Dichlorobenzene	89
1,4-Dichlorobenzene	91
alpha-Chlorotoluene	92
1,2-Dichlorobenzene	95
1,2,4-Trichlorobenzene	111
Hexachlorobutadiene	120

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	98	70-130



Air Toxics

Client Sample ID: LCS

Lab ID#: 1607311-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072006	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/20/16 12:43 PM

Compound	%Recovery	Method Limits
Freon 12	90	70-130
Freon 114	92	70-130
Chloromethane	77	70-130
Vinyl Chloride	84	70-130
1,3-Butadiene	77	70-130
Bromomethane	92	70-130
Chloroethane	100	70-130
Freon 11	97	70-130
Ethanol	104	70-130
Freon 113	80	70-130
1,1-Dichloroethene	84	70-130
Acetone	80	70-130
2-Propanol	80	70-130
Carbon Disulfide	72	70-130
3-Chloropropene	110	70-130
Methylene Chloride	74	70-130
Methyl tert-butyl ether	79	70-130
trans-1,2-Dichloroethene	90	70-130
Hexane	78	70-130
1,1-Dichloroethane	82	70-130
2-Butanone (Methyl Ethyl Ketone)	83	70-130
cis-1,2-Dichloroethene	79	70-130
Tetrahydrofuran	62 Q	70-130
Chloroform	83	70-130
1,1,1-Trichloroethane	80	70-130
Cyclohexane	86	70-130
Carbon Tetrachloride	87	70-130
2,2,4-Trimethylpentane	81	70-130
Benzene	84	70-130
1,2-Dichloroethane	91	70-130
Heptane	84	70-130
Trichloroethene	93	70-130
1,2-Dichloropropane	81	70-130
1,4-Dioxane	83	70-130
Bromodichloromethane	96	70-130
cis-1,3-Dichloropropene	79	70-130
4-Methyl-2-pentanone	87	70-130
Toluene	86	70-130
trans-1,3-Dichloropropene	89	70-130
1,1,2-Trichloroethane	86	70-130
Tetrachloroethene	97	70-130
2-Hexanone	91	70-130

Client Sample ID: LCS

Lab ID#: 1607311-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072006	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/20/16 12:43 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	98	70-130
1,2-Dibromoethane (EDB)	92	70-130
Chlorobenzene	91	70-130
Ethyl Benzene	92	70-130
m,p-Xylene	96	70-130
o-Xylene	96	70-130
Styrene	94	70-130
Bromoform	100	70-130
Cumene	86	70-130
1,1,2,2-Tetrachloroethane	72	70-130
Propylbenzene	81	70-130
4-Ethyltoluene	77	70-130
1,3,5-Trimethylbenzene	82	70-130
1,2,4-Trimethylbenzene	69 Q	70-130
1,3-Dichlorobenzene	76	70-130
1,4-Dichlorobenzene	78	70-130
alpha-Chlorotoluene	80	70-130
1,2-Dichlorobenzene	82	70-130
1,2,4-Trichlorobenzene	92	70-130
Hexachlorobutadiene	93	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1607311-06AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072007	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	7/20/16 01:31 PM

Compound	%Recovery	Method Limits
Freon 12	85	70-130
Freon 114	88	70-130
Chloromethane	72	70-130
Vinyl Chloride	81	70-130
1,3-Butadiene	76	70-130
Bromomethane	90	70-130
Chloroethane	98	70-130
Freon 11	92	70-130
Ethanol	94	70-130
Freon 113	77	70-130
1,1-Dichloroethene	83	70-130
Acetone	72	70-130
2-Propanol	78	70-130
Carbon Disulfide	69 Q	70-130
3-Chloropropene	98	70-130
Methylene Chloride	78	70-130
Methyl tert-butyl ether	76	70-130
trans-1,2-Dichloroethene	85	70-130
Hexane	74	70-130
1,1-Dichloroethane	78	70-130
2-Butanone (Methyl Ethyl Ketone)	79	70-130
cis-1,2-Dichloroethene	74	70-130
Tetrahydrofuran	61 Q	70-130
Chloroform	79	70-130
1,1,1-Trichloroethane	80	70-130
Cyclohexane	84	70-130
Carbon Tetrachloride	80	70-130
2,2,4-Trimethylpentane	82	70-130
Benzene	82	70-130
1,2-Dichloroethane	91	70-130
Heptane	85	70-130
Trichloroethene	90	70-130
1,2-Dichloropropane	84	70-130
1,4-Dioxane	80	70-130
Bromodichloromethane	93	70-130
cis-1,3-Dichloropropene	79	70-130
4-Methyl-2-pentanone	86	70-130
Toluene	86	70-130
trans-1,3-Dichloropropene	89	70-130
1,1,2-Trichloroethane	84	70-130
Tetrachloroethene	95	70-130
2-Hexanone	85	70-130

Client Sample ID: LCSD

Lab ID#: 1607311-06AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	e072007	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 7/20/16 01:31 PM

Compound	%Recovery	Method Limits
Dibromochloromethane	94	70-130
1,2-Dibromoethane (EDB)	94	70-130
Chlorobenzene	89	70-130
Ethyl Benzene	91	70-130
m,p-Xylene	93	70-130
o-Xylene	92	70-130
Styrene	92	70-130
Bromoform	98	70-130
Cumene	85	70-130
1,1,2,2-Tetrachloroethane	72	70-130
Propylbenzene	79	70-130
4-Ethyltoluene	76	70-130
1,3,5-Trimethylbenzene	78	70-130
1,2,4-Trimethylbenzene	67 Q	70-130
1,3-Dichlorobenzene	76	70-130
1,4-Dichlorobenzene	80	70-130
alpha-Chlorotoluene	84	70-130
1,2-Dichlorobenzene	82	70-130
1,2,4-Trichlorobenzene	103	70-130
Hexachlorobutadiene	106	70-130

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130