

02/28/2023  
Wausau Area Property Management  
C/O: Brougan Milbradt  
1010 Grand Avenue  
Schofield, WI 54476

SUBJECT: Vapor Sampling Results - Contaminants Not Detected  
PROPERTY: 127 East Thomas Street, Wausau, WI 54401; BRRTS #0237000273

Dear Brougan Milbradt,

Included are the findings of a recent investigation completed by Arcadis U.S. Inc. (Arcadis) on your property located at 127 East Thomas Street, Wausau, WI 54401.

As you are aware, this investigation was conducted because of the potential for contaminant vapors to be generated from groundwater leaving the nearby Former Wausau Motor property and the potential for these vapors to migrate through soil, accumulate beneath the foundation of your home, and possibly enter your indoor air. The contaminant of concern at the former Wausau Motor property was trichloroethylene or TCE. The history of this site and the potential concerns to neighboring residents were described in detail in the original letter sent to your home. The former Wausau Motors site is currently used by 3M as a parking lot and rail car storage.

On 02/06/2023, Arcadis, hired by 3M, started collecting an indoor air sample and a duplicate indoor air sample in the basement of your building. These indoor air samples were collected the next day (02/07/2023) after 24 hours of sampling. On 02/07/2023 after collecting the indoor air samples, Arcadis collected a sub-slab vapor sample from the sub-slab sampling port. The sub-slab sample port was installed into the floor of your foundation during the first sampling event on 6/9/2022. The indoor air and sub-slab vapor samples were submitted to Eurofins Air Toxics LLC for laboratory analysis of four contaminants including TCE, cis-1,2-dichloroethylene, trans-1,2-dichloroethylene and vinyl chloride.

**Your Test Results:**

Attached is a copy of the laboratory report for your sub-slab vapor and indoor air samples. The results of this round of sampling show that TCE and/or by-products were not detected in the indoor air or sub-slab vapor, confirming the results of the previous sampling events conducted in June and August 2022. Based on the cumulative data, there does not appear to be a current or potential future risk of TCE vapor entering your home from beneath the foundation.

We will be submitting a recommendation of no further indoor air or sub-slab vapor sampling at your property to the Wisconsin Department of Natural Resources (WDNR). Once the WDNR confirms that there is no risk of TCE vapor entering your home from beneath the foundation, we will contact you to schedule a time to remove the sub-slab vapor sampling port from the basement that is convenient for you.

Please feel free to contact me at 651-381-2583 if you have any questions about these results.

Sincerely,

Kevin Madson,  
3M Center, Bldg 224-5-W-17  
Maplewood, MN 55114  
651-381-2583

Copy: Matt Thompson; Phone: 715-492-2304

Brougan Milbradt, Wausau Area Property Management



Wisconsin Department of Natural Resources  
P.O. Box 7921, Madison, WI 53707  
dnr.wi.gov, search "brownfield"



**Table 1**  
**Summary of Indoor Air and Sub-Slab Analytical Results**  
**127 East Thomas Street**  
**Wausau, WI**

	Location ID	North ROW Thomas Street <sup>^</sup>	North ROW Thomas Street <sup>^</sup>	North ROW Thomas Street <sup>^</sup>	127 East Thomas Street	127 East Thomas Street	127 East Thomas Street	127 East Thomas Street	127 East Thomas Street	127 East Thomas Street
	Sample ID	OA-1 (06082022)	OA-1 (08292022)	OA-1 (02062023)	IA-02B	IA-DUP	IA-02B	IA-DUP	IA-02B	IA-DUP
	Sample Date	6/9/2022	8/30/2022	2/7/2023	6/9/2022	6/9/2022	8/30/2022	8/30/2022	2/7/2023	2/7/2023
Chemical Name	Indoor Air VALs* (µg/m <sup>3</sup> )									
cis-1,2-Dichloroethene	42	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,2-Dichloroethene	42	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	2.1	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl chloride	1.7	ND	ND	ND	ND	ND	ND	ND	ND	ND

	Location ID	127 East Thomas Street	127 East Thomas Street	127 East Thomas Street
	Sample ID	SS-02	SS-02	SS-02
	Sample Date	6/9/2022	8/30/2022	2/7/2023
Chemical Name	Sub-Slab RSLs** (µg/m <sup>3</sup> )			
cis-1,2-Dichloroethene	1,400	ND	ND	ND
trans-1,2-Dichloroethene	1,400	ND	ND	ND
Trichloroethene	70	ND	ND	ND
Vinyl chloride	56	ND	ND	ND

**Acronyms and Abbreviations:**

DUP - duplicate sample  
 ID - Identification  
 ND - Not Detected  
 RL - Reporting Limit  
 ROW - Right-of-way  
 RSL - Risk Screening Level  
 µg/m<sup>3</sup> - microgram per cubic meter  
 VAL - Vapor Action Levels

\*Wisconsin Remediation and Redevelopment Residential Indoor Air Vapor Action Levels - August 2022

\*\*Wisconsin Remediation and Redevelopment Residential Sub-Slab Risk Screening Levels - August 2022

<sup>^</sup>North ROW of Thomas Street, Across from 127/129 East Thomas Street

2/21/2023

Amir Roghani  
Arcadis U.S., Inc.  
2464 Fortune Drive #170

Lexington KY 40509

Project Name: 3M Wausau  
Project #: 30130403  
Workorder #: 2302224A

Dear Amir Roghani

The following report includes the data for the above referenced project for sample(s) received on 2/8/2023 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by Modified TO-15 SIM 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 LLC. 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 #: 2302224A**

Work Order Summary

<b>CLIENT:</b>	Amir Roghani Arcadis U.S., Inc. 2464 Fortune Drive #170 Lexington, KY 40509	<b>BILL TO:</b>	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
<b>PHONE:</b>	859-253-9036	<b>P.O. #</b>	30130403
<b>FAX:</b>	(859) 253-9136	<b>PROJECT #</b>	30130403 3M Wausau
<b>DATE RECEIVED:</b>	02/08/2023	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	02/21/2023		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	OA-1 (020623)	Modified TO-15 SIM	5.3 "Hg	1.6 psi
02A	IA-02B (020623)	Modified TO-15 SIM	5.3 "Hg	1.9 psi
03A	IA-DUP (020623)	Modified TO-15 SIM	5.3 "Hg	1.9 psi
04A	Lab Blank	Modified TO-15 SIM	NA	NA
05A	CCV	Modified TO-15 SIM	NA	NA
06A	LCS	Modified TO-15 SIM	NA	NA
06AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 02/21/23

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005-017, Effective date: 10/18/2022, Expiration date: 10/17/2023.

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

*This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.*

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

**LABORATORY NARRATIVE**  
**Modified TO-15 SIM**  
**Arcadis U.S., Inc.**  
**Workorder# 2302224A**

Three 6 Liter Summa Canister (100% SIM Ambient) samples were received on February 08, 2023. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

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

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
ICAL %RSD acceptance criteria	<math>\leq 30\%</math> RSD with 2 compounds allowed out to <math>< 40\%</math> RSD	Project specific; default criteria is <math>\leq 30\%</math> RSD with 10% of compounds allowed out to <math>< 40\%</math> RSD
Daily Calibration	+/- 30% Difference	Project specific; default criteria is <math>\leq 30\%</math> Difference with 10% of compounds allowed out up to <math>\leq 40\%</math>; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

**Definition of Data Qualifying Flags**

The following qualifiers may have been used on the data analysis sheets and indicate 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.

CN- See Case Narrative.

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 SIM**

**Client Sample ID: OA-1 (020623)**

**Lab ID#: 2302224A-01A**

No Detections Were Found.

**Client Sample ID: IA-02B (020623)**

**Lab ID#: 2302224A-02A**

No Detections Were Found.

**Client Sample ID: IA-DUP (020623)**

**Lab ID#: 2302224A-03A**

No Detections Were Found.

Client Sample ID: OA-1 (020623)

Lab ID#: 2302224A-01A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	20021408sim	<b>Date of Collection:</b> 2/7/23 12:00:00 PM
<b>Dil. Factor:</b>	1.35	<b>Date of Analysis:</b> 2/14/23 02:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.034	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
Trichloroethene	0.027	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	87	70-130
4-Bromofluorobenzene	109	70-130



Client Sample ID: IA-02B (020623)

Lab ID#: 2302224A-02A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	20021411sim	<b>Date of Collection:</b> 2/7/23 1:15:00 PM
<b>Dil. Factor:</b>	1.37	<b>Date of Analysis:</b> 2/14/23 04:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.035	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
Trichloroethene	0.027	Not Detected	0.15	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected

**Container Type: 6 Liter Summa Canister (100% SIM Ambient)**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	87	70-130
4-Bromofluorobenzene	111	70-130

Client Sample ID: IA-DUP (020623)

Lab ID#: 2302224A-03A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	20021410sim	<b>Date of Collection:</b> 2/7/23
<b>Dil. Factor:</b>	1.37	<b>Date of Analysis:</b> 2/14/23 03:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.035	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
Trichloroethene	0.027	Not Detected	0.15	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	86	70-130
4-Bromofluorobenzene	112	70-130

Client Sample ID: Lab Blank

Lab ID#: 2302224A-04A

MODIFIED EPA METHOD TO-15 GC/MS SIM

File Name:	20021406sim	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/14/23 11:02 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	86	70-130
4-Bromofluorobenzene	104	70-130

Client Sample ID: CCV

Lab ID#: 2302224A-05A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	20021402sim	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	1.00	<b>Date of Analysis:</b> 2/14/23 08:22 AM

Compound	%Recovery
Vinyl Chloride	82
cis-1,2-Dichloroethene	97
Trichloroethene	124
trans-1,2-Dichloroethene	95

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	119	70-130

Client Sample ID: LCS

Lab ID#: 2302224A-06A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	20021403sim	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	1.00	<b>Date of Analysis:</b> 2/14/23 09:03 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Vinyl Chloride	83	70-130
cis-1,2-Dichloroethene	97	70-130
Trichloroethene	122	70-130
trans-1,2-Dichloroethene	97	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	89	70-130
4-Bromofluorobenzene	118	70-130

Client Sample ID: LCSD

Lab ID#: 2302224A-06AA

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	<b>20021404sim</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 2/14/23 09:41 AM</b>

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Vinyl Chloride	82	70-130
cis-1,2-Dichloroethene	97	70-130
Trichloroethene	118	70-130
trans-1,2-Dichloroethene	96	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	116	70-130

2/21/2023

Amir Roghani  
Arcadis U.S., Inc.  
2464 Fortune Drive #170

Lexington KY 40509

Project Name: 3M Wausau  
Project #: 30130403  
Workorder #: 2302224B

Dear Amir Roghani

The following report includes the data for the above referenced project for sample(s) received on 2/8/2023 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by 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 LLC. 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 #: 2302224B**

Work Order Summary

<b>CLIENT:</b>	Amir Roghani Arcadis U.S., Inc. 2464 Fortune Drive #170 Lexington, KY 40509	<b>BILL TO:</b>	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
<b>PHONE:</b>	859-253-9036	<b>P.O. #</b>	30130403
<b>FAX:</b>	(859) 253-9136	<b>PROJECT #</b>	30130403 3M Wausau
<b>DATE RECEIVED:</b>	02/08/2023	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	02/21/2023		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
04A	SS-02 (020723)	TO-15	5.3 "Hg	10.1 psi
05A	Lab Blank	TO-15	NA	NA
06A	CCV	TO-15	NA	NA
07A	LCS	TO-15	NA	NA
07AA	LCSD	TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 02/21/23

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)  
 Accreditation number: CA300005-017, Effective date: 10/18/2022, Expiration date: 10/17/2023.

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

*This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, LLC.*

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630  
 (916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279



**LABORATORY NARRATIVE**  
**EPA Method TO-15**  
**Arcadis U.S., Inc.**  
**Workorder# 2302224B**

One 1 Liter Summa Canister sample was received on February 08, 2023. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

**Definition of Data Qualifying Flags**

Ten 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.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

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



Air Toxics

**Summary of Detected Compounds  
EPA METHOD TO-15 GC/MS**

**Client Sample ID: SS-02 (020723)**

**Lab ID#: 2302224B-04A**

No Detections Were Found.

Client Sample ID: SS-02 (020723)

Lab ID#: 2302224B-04A

EPA METHOD TO-15 GC/MS

File Name:	a021322	Date of Collection:	2/7/23 1:50:00 PM
Dil. Factor:	2.05	Date of Analysis:	2/13/23 11:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Trichloroethene	1.0	Not Detected	5.5	Not Detected
trans-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: Lab Blank

Lab ID#: 230224B-05A

EPA METHOD TO-15 GC/MS

File Name:	a021307f	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/13/23 02:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: CCV

Lab ID#: 2302224B-06A

EPA METHOD TO-15 GC/MS

File Name:	a021302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/13/23 09:40 AM

Compound	%Recovery
Vinyl Chloride	106
cis-1,2-Dichloroethene	101
Trichloroethene	102
trans-1,2-Dichloroethene	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCS

Lab ID#: 2302224B-07A

EPA METHOD TO-15 GC/MS

File Name:	a021303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/13/23 10:04 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	103	70-130
cis-1,2-Dichloroethene	96	70-130
Trichloroethene	100	70-130
trans-1,2-Dichloroethene	100	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCSD

Lab ID#: 2302224B-07AA

EPA METHOD TO-15 GC/MS

File Name:	a021304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/13/23 10:28 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	103	70-130
cis-1,2-Dichloroethene	97	70-130
Trichloroethene	99	70-130
trans-1,2-Dichloroethene	100	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130

2/21/2023

Amir Roghani  
Arcadis U.S., Inc.  
2464 Fortune Drive #170

Lexington KY 40509

Project Name: 3M Wausau  
Project #: 30130403  
Workorder #: 2302224A

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Regards,



Brian Whittaker  
Project Manager



**WORK ORDER #: 2302224A**

Work Order Summary

<b>CLIENT:</b>	Amir Roghani Arcadis U.S., Inc. 2464 Fortune Drive #170 Lexington, KY 40509	<b>BILL TO:</b>	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
<b>PHONE:</b>	859-253-9036	<b>P.O. #</b>	30130403
<b>FAX:</b>	(859) 253-9136	<b>PROJECT #</b>	30130403 3M Wausau
<b>DATE RECEIVED:</b>	02/08/2023	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	02/21/2023		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	OA-1 (020623)	Modified TO-15 SIM	5.3 "Hg	1.6 psi
02A	IA-02B (020623)	Modified TO-15 SIM	5.3 "Hg	1.9 psi
03A	IA-DUP (020623)	Modified TO-15 SIM	5.3 "Hg	1.9 psi
04A	Lab Blank	Modified TO-15 SIM	NA	NA
05A	CCV	Modified TO-15 SIM	NA	NA
06A	LCS	Modified TO-15 SIM	NA	NA
06AA	LCSD	Modified TO-15 SIM	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 02/21/23

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005-017, Effective date: 10/18/2022, Expiration date: 10/17/2023.

Eurofins Air Toxics, LLC 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) 351-8279

**LABORATORY NARRATIVE**  
**Modified TO-15 SIM**  
**Arcadis U.S., Inc.**  
**Workorder# 2302224A**

Three 6 Liter Summa Canister (100% SIM Ambient) samples were received on February 08, 2023. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the SIM acquisition mode.

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

<i>Requirement</i>	<i>TO-15</i>	<i>ATL Modifications</i>
ICAL %RSD acceptance criteria	<math>\leq 30\%</math> RSD with 2 compounds allowed out to <math>< 40\%</math> RSD	Project specific; default criteria is <math>\leq 30\%</math> RSD with 10% of compounds allowed out to <math>< 40\%</math> RSD
Daily Calibration	+/- 30% Difference	Project specific; default criteria is <math>\leq 30\%</math> Difference with 10% of compounds allowed out up to <math>\leq 40\%</math>; flag and narrate outliers
Blank and standards	Zero air	Nitrogen
Method Detection Limit	Follow 40CFR Pt.136 App. B	The MDL met all relevant requirements in Method TO-15 (statistical MDL less than the LOQ). The concentration of the spiked replicate may have exceeded 10X the calculated MDL in some cases

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

**Definition of Data Qualifying Flags**

The following qualifiers may have been used on the data analysis sheets and indicate 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.

CN- See Case Narrative.

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 SIM**

**Client Sample ID: OA-1 (020623)**

**Lab ID#: 2302224A-01A**

No Detections Were Found.

**Client Sample ID: IA-02B (020623)**

**Lab ID#: 2302224A-02A**

No Detections Were Found.

**Client Sample ID: IA-DUP (020623)**

**Lab ID#: 2302224A-03A**

No Detections Were Found.

Client Sample ID: OA-1 (020623)

Lab ID#: 2302224A-01A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	20021408sim	<b>Date of Collection:</b> 2/7/23 12:00:00 PM
<b>Dil. Factor:</b>	1.35	<b>Date of Analysis:</b> 2/14/23 02:02 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.034	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
Trichloroethene	0.027	Not Detected	0.14	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	87	70-130
4-Bromofluorobenzene	109	70-130

Client Sample ID: IA-02B (020623)

Lab ID#: 2302224A-02A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	20021411sim	<b>Date of Collection:</b> 2/7/23 1:15:00 PM
<b>Dil. Factor:</b>	1.37	<b>Date of Analysis:</b> 2/14/23 04:24 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.035	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
Trichloroethene	0.027	Not Detected	0.15	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected

**Container Type: 6 Liter Summa Canister (100% SIM Ambient)**

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	84	70-130
Toluene-d8	87	70-130
4-Bromofluorobenzene	111	70-130

Client Sample ID: IA-DUP (020623)

Lab ID#: 2302224A-03A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	20021410sim	<b>Date of Collection:</b> 2/7/23
<b>Dil. Factor:</b>	1.37	<b>Date of Analysis:</b> 2/14/23 03:45 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.014	Not Detected	0.035	Not Detected
cis-1,2-Dichloroethene	0.027	Not Detected	0.11	Not Detected
Trichloroethene	0.027	Not Detected	0.15	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.54	Not Detected

Container Type: 6 Liter Summa Canister (100% SIM Ambient)

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	83	70-130
Toluene-d8	86	70-130
4-Bromofluorobenzene	112	70-130

Client Sample ID: Lab Blank

Lab ID#: 2302224A-04A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	20021406sim	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	1.00	<b>Date of Analysis:</b> 2/14/23 11:02 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.010	Not Detected	0.026	Not Detected
cis-1,2-Dichloroethene	0.020	Not Detected	0.079	Not Detected
Trichloroethene	0.020	Not Detected	0.11	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	86	70-130
4-Bromofluorobenzene	104	70-130



Client Sample ID: CCV

Lab ID#: 2302224A-05A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	20021402sim	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	1.00	<b>Date of Analysis:</b> 2/14/23 08:22 AM

Compound	%Recovery
Vinyl Chloride	82
cis-1,2-Dichloroethene	97
Trichloroethene	124
trans-1,2-Dichloroethene	95

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	90	70-130
4-Bromofluorobenzene	119	70-130

Client Sample ID: LCS

Lab ID#: 2302224A-06A

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	20021403sim	<b>Date of Collection:</b> NA
<b>Dil. Factor:</b>	1.00	<b>Date of Analysis:</b> 2/14/23 09:03 AM

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Vinyl Chloride	83	70-130
cis-1,2-Dichloroethene	97	70-130
Trichloroethene	122	70-130
trans-1,2-Dichloroethene	97	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	81	70-130
Toluene-d8	89	70-130
4-Bromofluorobenzene	118	70-130

Client Sample ID: LCSD

Lab ID#: 2302224A-06AA

**MODIFIED EPA METHOD TO-15 GC/MS SIM**

<b>File Name:</b>	<b>20021404sim</b>	<b>Date of Collection: NA</b>
<b>Dil. Factor:</b>	<b>1.00</b>	<b>Date of Analysis: 2/14/23 09:41 AM</b>

<b>Compound</b>	<b>%Recovery</b>	<b>Method Limits</b>
Vinyl Chloride	82	70-130
cis-1,2-Dichloroethene	97	70-130
Trichloroethene	118	70-130
trans-1,2-Dichloroethene	96	70-130

**Container Type: NA - Not Applicable**

<b>Surrogates</b>	<b>%Recovery</b>	<b>Method Limits</b>
1,2-Dichloroethane-d4	80	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	116	70-130

2/21/2023

Amir Roghani  
Arcadis U.S., Inc.  
2464 Fortune Drive #170

Lexington KY 40509

Project Name: 3M Wausau  
Project #: 30130403  
Workorder #: 2302224B

Dear Amir Roghani

The following report includes the data for the above referenced project for sample(s) received on 2/8/2023 at Eurofins Air Toxics LLC.

The data and associated QC analyzed by 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 LLC. 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 #: 2302224B**

Work Order Summary

<b>CLIENT:</b>	Amir Roghani Arcadis U.S., Inc. 2464 Fortune Drive #170 Lexington, KY 40509	<b>BILL TO:</b>	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
<b>PHONE:</b>	859-253-9036	<b>P.O. #</b>	30130403
<b>FAX:</b>	(859) 253-9136	<b>PROJECT #</b>	30130403 3M Wausau
<b>DATE RECEIVED:</b>	02/08/2023	<b>CONTACT:</b>	Brian Whittaker
<b>DATE COMPLETED:</b>	02/21/2023		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
04A	SS-02 (020723)	TO-15	5.3 "Hg	10.1 psi
05A	Lab Blank	TO-15	NA	NA
06A	CCV	TO-15	NA	NA
07A	LCS	TO-15	NA	NA
07AA	LCSD	TO-15	NA	NA

CERTIFIED BY:   
 \_\_\_\_\_  
 Technical Director

DATE: 02/21/23

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP – 209222, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP – T104704434-22-18, UT NELAP – CA009332022-14, VA NELAP - 12240, WA NELAP - C935

Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)

Accreditation number: CA300005-017, Effective date: 10/18/2022, Expiration date: 10/17/2023.

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

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 (916) 985-1000 . (800) 985-5955 . FAX (916) 351-8279

**LABORATORY NARRATIVE**  
**EPA Method TO-15**  
**Arcadis U.S., Inc.**  
**Workorder# 2302224B**

One 1 Liter Summa Canister sample was received on February 08, 2023. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

**Receiving Notes**

There were no receiving discrepancies.

**Analytical Notes**

There were no analytical discrepancies.

**Definition of Data Qualifying Flags**

Ten 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.

M - Reported value may be biased due to apparent matrix interferences.

CN - See Case Narrative.

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



Air Toxics

**Summary of Detected Compounds  
EPA METHOD TO-15 GC/MS**

**Client Sample ID: SS-02 (020723)**

**Lab ID#: 2302224B-04A**

No Detections Were Found.

Client Sample ID: SS-02 (020723)

Lab ID#: 2302224B-04A

EPA METHOD TO-15 GC/MS

File Name:	a021322	Date of Collection:	2/7/23 1:50:00 PM
Dil. Factor:	2.05	Date of Analysis:	2/13/23 11:48 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.0	Not Detected	2.6	Not Detected
cis-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected
Trichloroethene	1.0	Not Detected	5.5	Not Detected
trans-1,2-Dichloroethene	1.0	Not Detected	4.1	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	102	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	97	70-130



Client Sample ID: Lab Blank

Lab ID#: 230224B-05A

EPA METHOD TO-15 GC/MS

File Name:	a021307f	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/13/23 02:20 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	101	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	97	70-130

Client Sample ID: CCV

Lab ID#: 2302224B-06A

EPA METHOD TO-15 GC/MS

File Name:	a021302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/13/23 09:40 AM

Compound	%Recovery
Vinyl Chloride	106
cis-1,2-Dichloroethene	101
Trichloroethene	102
trans-1,2-Dichloroethene	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCS

Lab ID#: 230224B-07A

EPA METHOD TO-15 GC/MS

File Name:	a021303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/13/23 10:04 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	103	70-130
cis-1,2-Dichloroethene	96	70-130
Trichloroethene	100	70-130
trans-1,2-Dichloroethene	100	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

Client Sample ID: LCSD

Lab ID#: 2302224B-07AA

EPA METHOD TO-15 GC/MS

File Name:	a021304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/13/23 10:28 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	103	70-130
cis-1,2-Dichloroethene	97	70-130
Trichloroethene	99	70-130
trans-1,2-Dichloroethene	100	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	101	70-130