

ANALYTICAL REPORT

Eurofins Chicago
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University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-212253-1
Client Project/Site: 3M Wausau, WI - 30106487

For:
ARCADIS U.S., Inc.
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Suite 400
Milwaukee, Wisconsin 53202

Attn: Trena Seilheimer



Authorized for release by:
2/24/2022 12:02:18 PM

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	5
Sample Summary	6
Client Sample Results	7
Definitions	18
Surrogate Summary	19
QC Sample Results	20
Chronicle	23
Certification Summary	25
Chain of Custody	26
Receipt Checklists	27

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Job ID: 500-212253-1

Laboratory: Eurofins Chicago

Narrative

Job Narrative 500-212253-1

Comments

No additional comments.

Receipt

The samples were received on 2/12/2022 11:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.1° C.

Receipt Exceptions

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC). Added to COC and logged in.

GC/MS VOA

Method 8260B: The matrix spike/ matrix spike duplicate (MS/MSD) for the following sample was analyzed outside the 12 hour tune window. No further action was taken. W18 (500-212253-4)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W72

Lab Sample ID: 500-212253-1

No Detections.

Client Sample ID: W71

Lab Sample ID: 500-212253-2

No Detections.

Client Sample ID: W08

Lab Sample ID: 500-212253-3

No Detections.

Client Sample ID: W18

Lab Sample ID: 500-212253-4

No Detections.

Client Sample ID: W13

Lab Sample ID: 500-212253-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.18	J	0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W10A

Lab Sample ID: 500-212253-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.47	J	1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	1.5		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W29R

Lab Sample ID: 500-212253-7

No Detections.

Client Sample ID: W22

Lab Sample ID: 500-212253-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.65	J	1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	4.2		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W40R

Lab Sample ID: 500-212253-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.6		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	8.8		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W26R

Lab Sample ID: 500-212253-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.2		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: Trip Blank

Lab Sample ID: 500-212253-11

No Detections.

This Detection Summary does not include radiochemical test results.

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Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-212253-1	W72	Water	02/09/22 14:55	02/12/22 11:10
500-212253-2	W71	Water	02/09/22 15:50	02/12/22 11:10
500-212253-3	W08	Water	02/09/22 17:00	02/12/22 11:10
500-212253-4	W18	Water	02/10/22 10:00	02/12/22 11:10
500-212253-5	W13	Water	02/10/22 11:25	02/12/22 11:10
500-212253-6	W10A	Water	02/10/22 11:30	02/12/22 11:10
500-212253-7	W29R	Water	02/10/22 12:30	02/12/22 11:10
500-212253-8	W22	Water	02/10/22 12:55	02/12/22 11:10
500-212253-9	W40R	Water	02/10/22 13:25	02/12/22 11:10
500-212253-10	W26R	Water	02/10/22 13:50	02/12/22 11:10
500-212253-11	Trip Blank	Water	02/09/22 00:00	02/12/22 11:10

- 1
- 2
- 3
- 4
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- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W72

Lab Sample ID: 500-212253-1

Date Collected: 02/09/22 14:55

Matrix: Water

Date Received: 02/12/22 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/15/22 20:40	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/15/22 20:40	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/15/22 20:40	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/15/22 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		72 - 124		02/15/22 20:40	1
Dibromofluoromethane (Surr)	105		75 - 120		02/15/22 20:40	1
1,2-Dichloroethane-d4 (Surr)	106		75 - 126		02/15/22 20:40	1
Toluene-d8 (Surr)	102		75 - 120		02/15/22 20:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W71

Lab Sample ID: 500-212253-2

Date Collected: 02/09/22 15:50

Matrix: Water

Date Received: 02/12/22 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/15/22 21:06	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/15/22 21:06	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/15/22 21:06	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/15/22 21:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		72 - 124		02/15/22 21:06	1
Dibromofluoromethane (Surr)	107		75 - 120		02/15/22 21:06	1
1,2-Dichloroethane-d4 (Surr)	109		75 - 126		02/15/22 21:06	1
Toluene-d8 (Surr)	101		75 - 120		02/15/22 21:06	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W08

Lab Sample ID: 500-212253-3

Date Collected: 02/09/22 17:00

Matrix: Water

Date Received: 02/12/22 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/15/22 21:32	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/15/22 21:32	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/15/22 21:32	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/15/22 21:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		72 - 124		02/15/22 21:32	1
Dibromofluoromethane (Surr)	106		75 - 120		02/15/22 21:32	1
1,2-Dichloroethane-d4 (Surr)	106		75 - 126		02/15/22 21:32	1
Toluene-d8 (Surr)	104		75 - 120		02/15/22 21:32	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W18

Lab Sample ID: 500-212253-4

Date Collected: 02/10/22 10:00

Matrix: Water

Date Received: 02/12/22 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/15/22 21:58	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/15/22 21:58	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/15/22 21:58	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/15/22 21:58	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		72 - 124		02/15/22 21:58	1
Dibromofluoromethane (Surr)	102		75 - 120		02/15/22 21:58	1
1,2-Dichloroethane-d4 (Surr)	105		75 - 126		02/15/22 21:58	1
Toluene-d8 (Surr)	104		75 - 120		02/15/22 21:58	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W13

Lab Sample ID: 500-212253-5

Date Collected: 02/10/22 11:25

Matrix: Water

Date Received: 02/12/22 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/16/22 19:22	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/16/22 19:22	1
Trichloroethene	0.18	J	0.50	0.16	ug/L			02/16/22 19:22	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/16/22 19:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		72 - 124		02/16/22 19:22	1
Dibromofluoromethane (Surr)	103		75 - 120		02/16/22 19:22	1
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		02/16/22 19:22	1
Toluene-d8 (Surr)	104		75 - 120		02/16/22 19:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W10A
Date Collected: 02/10/22 11:30
Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-6
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.47	J	1.0	0.41	ug/L			02/16/22 19:48	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/16/22 19:48	1
Trichloroethene	1.5		0.50	0.16	ug/L			02/16/22 19:48	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/16/22 19:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		72 - 124		02/16/22 19:48	1
Dibromofluoromethane (Surr)	102		75 - 120		02/16/22 19:48	1
1,2-Dichloroethane-d4 (Surr)	105		75 - 126		02/16/22 19:48	1
Toluene-d8 (Surr)	102		75 - 120		02/16/22 19:48	1



Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W29R

Lab Sample ID: 500-212253-7

Date Collected: 02/10/22 12:30

Matrix: Water

Date Received: 02/12/22 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/16/22 20:14	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/16/22 20:14	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/16/22 20:14	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/16/22 20:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		72 - 124		02/16/22 20:14	1
Dibromofluoromethane (Surr)	106		75 - 120		02/16/22 20:14	1
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		02/16/22 20:14	1
Toluene-d8 (Surr)	103		75 - 120		02/16/22 20:14	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W22

Lab Sample ID: 500-212253-8

Date Collected: 02/10/22 12:55

Matrix: Water

Date Received: 02/12/22 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	0.65	J	1.0	0.41	ug/L			02/16/22 20:40	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/16/22 20:40	1
Trichloroethene	4.2		0.50	0.16	ug/L			02/16/22 20:40	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/16/22 20:40	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		72 - 124		02/16/22 20:40	1
Dibromofluoromethane (Surr)	103		75 - 120		02/16/22 20:40	1
1,2-Dichloroethane-d4 (Surr)	105		75 - 126		02/16/22 20:40	1
Toluene-d8 (Surr)	101		75 - 120		02/16/22 20:40	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W40R

Lab Sample ID: 500-212253-9

Date Collected: 02/10/22 13:25

Matrix: Water

Date Received: 02/12/22 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.6		1.0	0.41	ug/L			02/16/22 21:06	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/16/22 21:06	1
Trichloroethene	8.8		0.50	0.16	ug/L			02/16/22 21:06	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/16/22 21:06	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		72 - 124		02/16/22 21:06	1
Dibromofluoromethane (Surr)	104		75 - 120		02/16/22 21:06	1
1,2-Dichloroethane-d4 (Surr)	107		75 - 126		02/16/22 21:06	1
Toluene-d8 (Surr)	104		75 - 120		02/16/22 21:06	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W26R

Lab Sample ID: 500-212253-10

Date Collected: 02/10/22 13:50

Matrix: Water

Date Received: 02/12/22 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/16/22 21:33	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/16/22 21:33	1
Trichloroethene	1.2		0.50	0.16	ug/L			02/16/22 21:33	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/16/22 21:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	101		72 - 124		02/16/22 21:33	1
Dibromofluoromethane (Surr)	105		75 - 120		02/16/22 21:33	1
1,2-Dichloroethane-d4 (Surr)	111		75 - 126		02/16/22 21:33	1
Toluene-d8 (Surr)	105		75 - 120		02/16/22 21:33	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: Trip Blank

Lab Sample ID: 500-212253-11

Date Collected: 02/09/22 00:00

Matrix: Water

Date Received: 02/12/22 11:10

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/17/22 15:24	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/17/22 15:24	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/17/22 15:24	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/17/22 15:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		72 - 124		02/17/22 15:24	1
Dibromofluoromethane (Surr)	104		75 - 120		02/17/22 15:24	1
1,2-Dichloroethane-d4 (Surr)	121		75 - 126		02/17/22 15:24	1
Toluene-d8 (Surr)	88		75 - 120		02/17/22 15:24	1

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	DCA	TOL
		(72-124)	(75-120)	(75-126)	(75-120)
500-212253-1	W72	102	105	106	102
500-212253-2	W71	102	107	109	101
500-212253-3	W08	101	106	106	104
500-212253-4	W18	101	102	105	104
500-212253-4 MS	W18	104	108	104	103
500-212253-4 MSD	W18	103	107	106	104
500-212253-5	W13	98	103	104	104
500-212253-6	W10A	100	102	105	102
500-212253-7	W29R	100	106	104	103
500-212253-8	W22	99	103	105	101
500-212253-9	W40R	96	104	107	104
500-212253-10	W26R	101	105	111	105
500-212253-11	Trip Blank	107	104	121	88
LCS 500-642495/5	Lab Control Sample	98	108	106	105
LCS 500-642734/4	Lab Control Sample	98	108	105	107
LCS 500-642970/33	Lab Control Sample	105	102	114	96
MB 500-642495/7	Method Blank	98	112	109	100
MB 500-642734/6	Method Blank	100	106	105	103
MB 500-642970/32	Method Blank	111	105	120	95

Surrogate Legend

- BFB = 4-Bromofluorobenzene (Surr)
- DBFM = Dibromofluoromethane (Surr)
- DCA = 1,2-Dichloroethane-d4 (Surr)
- TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-642495/7
Matrix: Water
Analysis Batch: 642495

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/15/22 13:14	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/15/22 13:14	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/15/22 13:14	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/15/22 13:14	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	98		72 - 124		02/15/22 13:14	1
Dibromofluoromethane (Surr)	112		75 - 120		02/15/22 13:14	1
1,2-Dichloroethane-d4 (Surr)	109		75 - 126		02/15/22 13:14	1
Toluene-d8 (Surr)	100		75 - 120		02/15/22 13:14	1

Lab Sample ID: LCS 500-642495/5
Matrix: Water
Analysis Batch: 642495

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
cis-1,2-Dichloroethene	50.0	47.3		ug/L		95	70 - 125
trans-1,2-Dichloroethene	50.0	47.9		ug/L		96	70 - 125
Trichloroethene	50.0	46.5		ug/L		93	70 - 125
Vinyl chloride	50.0	47.5		ug/L		95	64 - 126

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	98		72 - 124
Dibromofluoromethane (Surr)	108		75 - 120
1,2-Dichloroethane-d4 (Surr)	106		75 - 126
Toluene-d8 (Surr)	105		75 - 120

Lab Sample ID: 500-212253-4 MS
Matrix: Water
Analysis Batch: 642495

Client Sample ID: W18
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
cis-1,2-Dichloroethene	<0.41		50.0	49.5		ug/L		99	70 - 125
trans-1,2-Dichloroethene	<0.35		50.0	49.7		ug/L		99	70 - 125
Trichloroethene	<0.16		50.0	49.9		ug/L		100	70 - 125
Vinyl chloride	<0.20		50.0	46.4		ug/L		93	64 - 126

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	104		72 - 124
Dibromofluoromethane (Surr)	108		75 - 120
1,2-Dichloroethane-d4 (Surr)	104		75 - 126
Toluene-d8 (Surr)	103		75 - 120

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-212253-4 MSD
Matrix: Water
Analysis Batch: 642495

Client Sample ID: W18
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	<0.41		50.0	52.6		ug/L		105	70 - 125	6	20
trans-1,2-Dichloroethene	<0.35		50.0	51.4		ug/L		103	70 - 125	3	20
Trichloroethene	<0.16		50.0	51.9		ug/L		104	70 - 125	4	20
Vinyl chloride	<0.20		50.0	47.5		ug/L		95	64 - 126	2	20

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	103		72 - 124
Dibromofluoromethane (Surr)	107		75 - 120
1,2-Dichloroethane-d4 (Surr)	106		75 - 126
Toluene-d8 (Surr)	104		75 - 120

Lab Sample ID: MB 500-642734/6
Matrix: Water
Analysis Batch: 642734

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/16/22 13:15	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/16/22 13:15	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/16/22 13:15	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/16/22 13:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	100		72 - 124		02/16/22 13:15	1
Dibromofluoromethane (Surr)	106		75 - 120		02/16/22 13:15	1
1,2-Dichloroethane-d4 (Surr)	105		75 - 126		02/16/22 13:15	1
Toluene-d8 (Surr)	103		75 - 120		02/16/22 13:15	1

Lab Sample ID: LCS 500-642734/4
Matrix: Water
Analysis Batch: 642734

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	50.0	48.4		ug/L		97	70 - 125
trans-1,2-Dichloroethene	50.0	48.2		ug/L		96	70 - 125
Trichloroethene	50.0	47.0		ug/L		94	70 - 125
Vinyl chloride	50.0	39.1		ug/L		78	64 - 126

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	98		72 - 124
Dibromofluoromethane (Surr)	108		75 - 120
1,2-Dichloroethane-d4 (Surr)	105		75 - 126
Toluene-d8 (Surr)	107		75 - 120

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 500-642970/32
Matrix: Water
Analysis Batch: 642970

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/17/22 14:57	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/17/22 14:57	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/17/22 14:57	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/17/22 14:57	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	111		72 - 124		02/17/22 14:57	1
Dibromofluoromethane (Surr)	105		75 - 120		02/17/22 14:57	1
1,2-Dichloroethane-d4 (Surr)	120		75 - 126		02/17/22 14:57	1
Toluene-d8 (Surr)	95		75 - 120		02/17/22 14:57	1

Lab Sample ID: LCS 500-642970/33
Matrix: Water
Analysis Batch: 642970

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
cis-1,2-Dichloroethene	50.0	49.1		ug/L		98	70 - 125
trans-1,2-Dichloroethene	50.0	49.2		ug/L		98	70 - 125
Trichloroethene	50.0	52.8		ug/L		106	70 - 125
Vinyl chloride	50.0	43.2		ug/L		86	64 - 126

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	105		72 - 124
Dibromofluoromethane (Surr)	102		75 - 120
1,2-Dichloroethane-d4 (Surr)	114		75 - 126
Toluene-d8 (Surr)	96		75 - 120

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W72

Date Collected: 02/09/22 14:55

Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642495	02/15/22 20:40	PSP	TAL CHI

Client Sample ID: W71

Date Collected: 02/09/22 15:50

Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642495	02/15/22 21:06	PSP	TAL CHI

Client Sample ID: W08

Date Collected: 02/09/22 17:00

Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-3

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642495	02/15/22 21:32	PSP	TAL CHI

Client Sample ID: W18

Date Collected: 02/10/22 10:00

Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-4

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642495	02/15/22 21:58	PSP	TAL CHI

Client Sample ID: W13

Date Collected: 02/10/22 11:25

Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-5

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642734	02/16/22 19:22	PSP	TAL CHI

Client Sample ID: W10A

Date Collected: 02/10/22 11:30

Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-6

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642734	02/16/22 19:48	PSP	TAL CHI

Client Sample ID: W29R

Date Collected: 02/10/22 12:30

Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642734	02/16/22 20:14	PSP	TAL CHI

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Client Sample ID: W22

Date Collected: 02/10/22 12:55

Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642734	02/16/22 20:40	PSP	TAL CHI

Client Sample ID: W40R

Date Collected: 02/10/22 13:25

Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642734	02/16/22 21:06	PSP	TAL CHI

Client Sample ID: W26R

Date Collected: 02/10/22 13:50

Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642734	02/16/22 21:33	PSP	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 02/09/22 00:00

Date Received: 02/12/22 11:10

Lab Sample ID: 500-212253-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642970	02/17/22 15:24	PSP	TAL CHI

Laboratory References:

TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI - 30106487

Job ID: 500-212253-1

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-22

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Eurofins Chicago

2417 Bond Street
University Park IL 60484
Phone 708-534-5200 Fax 708-534-5211

Chain of Custody Record



Eurofins
An

Client Information		Sampler <u>CR</u>		Lab PM Fredrick Sandie		Carrier Tracking No(s)		COC No. 500-98460-43203 2					
Client Contact Trenna Seilheimer		Phone		E-Mail sandra.fredrick@eurofinset.com		State of Origin		Page Page 2 1 of 1					
Company ARCADIS U S Inc		PWSID		Analysis Requested				Job # <u>500-212253</u>					
Address 126 North Jefferson Street Suite 400 City Milwaukee State Zip WI 53202		Due Date Requested		Field Filtered Sample (Yes or No) Perform MS/MSD (Yes or No) 8280B - TOC, cis-1,2-DCE, trans-1,2-DCE & VC				Preservation Codes					
 500-212253 COC		TAT Requested (days) <u>Standard</u>						A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I Ice U Acetone J DI Water v MCAA K EDTA W pH 4-5 L EDA Z other (specify)		Other			
Phone 414-276-7742(Tel) Email trenna.seilheimer@arcadis.com		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No						PC # 30106487		WO #			
Project Name 3M Wausau WI 30106487		Project # 50018062						SSOW#					
Site													
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)					
						Preservation Code		Total Number of Containers					
								Special Instructions/Note					
1 W72		2/9/22		1455		G		Water					
2 W71		↓		1550				Water					
3 W08		↓		1700				Water					
4 W18		2/10/22		1000				Water					
5 W13		↓		1125				Water					
6 W10A		↓		1130				Water					
7 W29R		↓		1230				Water					
8 W22		↓		1255				Water					
9 W40R		↓		1325				Water					
10 W26R		↓		1350				Water					
11 Trip Blanks								Water					
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)								
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months								
Deliverable Requested I II III IV Other (specify)					Special Instructions/QC Requirements								
Empty Kit Relinquished by		Date		Time		Method of Shipment:							
Relinquished by <u>[Signature]</u>		Date/Time <u>2/11/22 1000</u>		Company <u>Arcadis</u>		Received by <u>[Signature]</u>		Date/Time <u>2/11/22 1000</u>					
Relinquished by <u>[Signature]</u>		Date/Time <u>2/11/22 1300</u>		Company <u>Eurofins</u>		Received by <u>[Signature]</u>		Date/Time <u>2/10/22 1110</u>					
Relinquished by		Date/Time		Company		Received by		Date/Time					
Custody Seals Intact		Custody Seal No		Cooler Temperature(s) °C and Other Remarks <u>5.1 → 4.1</u>									
<input type="checkbox"/> Yes <input type="checkbox"/> No													

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-212253-1

Login Number: 212253

List Number: 1

Creator: Scott, Sherri L

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received Trip Blank(s) not listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



ANALYTICAL REPORT

Eurofins Chicago
2417 Bond Street
University Park, IL 60484
Tel: (708)534-5200

Laboratory Job ID: 500-212128-1
Client Project/Site: 3M Wausau, WI 30106487

For:
ARCADIS U.S., Inc.
126 North Jefferson Street
Suite 400
Milwaukee, Wisconsin 53202

Attn: Trenna Seilheimer



Authorized for release by:
2/18/2022 4:36:31 PM
Jim Knapp, Project Manager II
(630)758-0262

Jim.Knapp@Eurofinset.com

Designee for

Sandie Fredrick, Project Manager II
(920)261-1660

sandra.fredrick@eurofinset.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.



Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Detection Summary	4
Method Summary	5
Sample Summary	6
Client Sample Results	7
Definitions	19
Surrogate Summary	20
QC Sample Results	21
Chronicle	23
Certification Summary	25
Chain of Custody	26
Receipt Checklists	27

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Job ID: 500-212128-1

Laboratory: Eurofins Chicago

Narrative

**Job Narrative
500-212128-1**

Comments

No additional comments.

Receipt

The samples were received on 2/10/2022 10:15 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.1° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W25

Lab Sample ID: 500-212128-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.0		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	5.8		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W06R

Lab Sample ID: 500-212128-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	2.2		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W03A

Lab Sample ID: 500-212128-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.8		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	1.2		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W17

Lab Sample ID: 500-212128-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.2		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	3.3		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: DUP-01

Lab Sample ID: 500-212128-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.2		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	0.95		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W11

Lab Sample ID: 500-212128-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.1		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W21

Lab Sample ID: 500-212128-7

No Detections.

Client Sample ID: W27

Lab Sample ID: 500-212128-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.2		0.50	0.16	ug/L	1		8260B	Total/NA

Client Sample ID: W41

Lab Sample ID: 500-212128-9

No Detections.

Client Sample ID: W74

Lab Sample ID: 500-212128-10

No Detections.

Client Sample ID: W73

Lab Sample ID: 500-212128-11

No Detections.

Client Sample ID: Trip Blank

Lab Sample ID: 500-212128-12

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CHI
5030B	Purge and Trap	SW846	TAL CHI

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

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Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-212128-1	W25	Water	02/08/22 12:00	02/10/22 10:15
500-212128-2	W06R	Water	02/08/22 13:35	02/10/22 10:15
500-212128-3	W03A	Water	02/08/22 14:55	02/10/22 10:15
500-212128-4	W17	Water	02/08/22 16:10	02/10/22 10:15
500-212128-5	DUP-01	Water	02/08/22 00:00	02/10/22 10:15
500-212128-6	W11	Water	02/09/22 10:40	02/10/22 10:15
500-212128-7	W21	Water	02/09/22 09:25	02/10/22 10:15
500-212128-8	W27	Water	02/09/22 11:25	02/10/22 10:15
500-212128-9	W41	Water	02/09/22 12:15	02/10/22 10:15
500-212128-10	W74	Water	02/09/22 13:10	02/10/22 10:15
500-212128-11	W73	Water	02/09/22 13:55	02/10/22 10:15
500-212128-12	Trip Blank	Water	02/09/22 00:00	02/10/22 10:15

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Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W25

Lab Sample ID: 500-212128-1

Date Collected: 02/08/22 12:00

Matrix: Water

Date Received: 02/10/22 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	2.0		1.0	0.41	ug/L			02/14/22 12:15	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 12:15	1
Trichloroethene	5.8		0.50	0.16	ug/L			02/14/22 12:15	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 12:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		72 - 124		02/14/22 12:15	1
Dibromofluoromethane (Surr)	101		75 - 120		02/14/22 12:15	1
1,2-Dichloroethane-d4 (Surr)	97		75 - 126		02/14/22 12:15	1
Toluene-d8 (Surr)	98		75 - 120		02/14/22 12:15	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W06R

Lab Sample ID: 500-212128-2

Date Collected: 02/08/22 13:35

Matrix: Water

Date Received: 02/10/22 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.7		1.0	0.41	ug/L			02/14/22 12:38	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 12:38	1
Trichloroethene	2.2		0.50	0.16	ug/L			02/14/22 12:38	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 12:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		72 - 124		02/14/22 12:38	1
Dibromofluoromethane (Surr)	99		75 - 120		02/14/22 12:38	1
1,2-Dichloroethane-d4 (Surr)	97		75 - 126		02/14/22 12:38	1
Toluene-d8 (Surr)	99		75 - 120		02/14/22 12:38	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W03A

Lab Sample ID: 500-212128-3

Date Collected: 02/08/22 14:55

Matrix: Water

Date Received: 02/10/22 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	2.8		1.0	0.41	ug/L			02/14/22 13:01	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 13:01	1
Trichloroethene	1.2		0.50	0.16	ug/L			02/14/22 13:01	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 13:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		72 - 124		02/14/22 13:01	1
Dibromofluoromethane (Surr)	102		75 - 120		02/14/22 13:01	1
1,2-Dichloroethane-d4 (Surr)	95		75 - 126		02/14/22 13:01	1
Toluene-d8 (Surr)	99		75 - 120		02/14/22 13:01	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W17

Lab Sample ID: 500-212128-4

Date Collected: 02/08/22 16:10

Matrix: Water

Date Received: 02/10/22 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.2		1.0	0.41	ug/L			02/14/22 13:24	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 13:24	1
Trichloroethene	3.3		0.50	0.16	ug/L			02/14/22 13:24	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 13:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		72 - 124		02/14/22 13:24	1
Dibromofluoromethane (Surr)	104		75 - 120		02/14/22 13:24	1
1,2-Dichloroethane-d4 (Surr)	93		75 - 126		02/14/22 13:24	1
Toluene-d8 (Surr)	97		75 - 120		02/14/22 13:24	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: DUP-01
Date Collected: 02/08/22 00:00
Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	1.2		1.0	0.41	ug/L			02/14/22 13:47	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 13:47	1
Trichloroethene	0.95		0.50	0.16	ug/L			02/14/22 13:47	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 13:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		72 - 124		02/14/22 13:47	1
Dibromofluoromethane (Surr)	100		75 - 120		02/14/22 13:47	1
1,2-Dichloroethane-d4 (Surr)	93		75 - 126		02/14/22 13:47	1
Toluene-d8 (Surr)	97		75 - 120		02/14/22 13:47	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W11

Lab Sample ID: 500-212128-6

Date Collected: 02/09/22 10:40

Matrix: Water

Date Received: 02/10/22 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/14/22 14:10	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 14:10	1
Trichloroethene	1.1		0.50	0.16	ug/L			02/14/22 14:10	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 14:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		72 - 124		02/14/22 14:10	1
Dibromofluoromethane (Surr)	101		75 - 120		02/14/22 14:10	1
1,2-Dichloroethane-d4 (Surr)	94		75 - 126		02/14/22 14:10	1
Toluene-d8 (Surr)	100		75 - 120		02/14/22 14:10	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W21

Lab Sample ID: 500-212128-7

Date Collected: 02/09/22 09:25

Matrix: Water

Date Received: 02/10/22 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/14/22 14:33	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 14:33	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/14/22 14:33	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 14:33	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	90		72 - 124		02/14/22 14:33	1
Dibromofluoromethane (Surr)	103		75 - 120		02/14/22 14:33	1
1,2-Dichloroethane-d4 (Surr)	96		75 - 126		02/14/22 14:33	1
Toluene-d8 (Surr)	98		75 - 120		02/14/22 14:33	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W27

Lab Sample ID: 500-212128-8

Date Collected: 02/09/22 11:25

Matrix: Water

Date Received: 02/10/22 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/14/22 14:56	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 14:56	1
Trichloroethene	1.2		0.50	0.16	ug/L			02/14/22 14:56	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 14:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		72 - 124		02/14/22 14:56	1
Dibromofluoromethane (Surr)	99		75 - 120		02/14/22 14:56	1
1,2-Dichloroethane-d4 (Surr)	94		75 - 126		02/14/22 14:56	1
Toluene-d8 (Surr)	101		75 - 120		02/14/22 14:56	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W41

Lab Sample ID: 500-212128-9

Date Collected: 02/09/22 12:15

Matrix: Water

Date Received: 02/10/22 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/14/22 15:19	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 15:19	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/14/22 15:19	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 15:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	94		72 - 124		02/14/22 15:19	1
Dibromofluoromethane (Surr)	102		75 - 120		02/14/22 15:19	1
1,2-Dichloroethane-d4 (Surr)	97		75 - 126		02/14/22 15:19	1
Toluene-d8 (Surr)	97		75 - 120		02/14/22 15:19	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W74

Lab Sample ID: 500-212128-10

Date Collected: 02/09/22 13:10

Matrix: Water

Date Received: 02/10/22 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/14/22 15:42	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 15:42	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/14/22 15:42	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 15:42	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		72 - 124		02/14/22 15:42	1
Dibromofluoromethane (Surr)	103		75 - 120		02/14/22 15:42	1
1,2-Dichloroethane-d4 (Surr)	99		75 - 126		02/14/22 15:42	1
Toluene-d8 (Surr)	98		75 - 120		02/14/22 15:42	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W73

Lab Sample ID: 500-212128-11

Date Collected: 02/09/22 13:55

Matrix: Water

Date Received: 02/10/22 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/14/22 16:05	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 16:05	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/14/22 16:05	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 16:05	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		72 - 124		02/14/22 16:05	1
Dibromofluoromethane (Surr)	104		75 - 120		02/14/22 16:05	1
1,2-Dichloroethane-d4 (Surr)	98		75 - 126		02/14/22 16:05	1
Toluene-d8 (Surr)	96		75 - 120		02/14/22 16:05	1

Client Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: Trip Blank

Lab Sample ID: 500-212128-12

Date Collected: 02/09/22 00:00

Matrix: Water

Date Received: 02/10/22 10:15

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/14/22 16:28	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 16:28	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/14/22 16:28	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 16:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		72 - 124		02/14/22 16:28	1
Dibromofluoromethane (Surr)	105		75 - 120		02/14/22 16:28	1
1,2-Dichloroethane-d4 (Surr)	100		75 - 126		02/14/22 16:28	1
Toluene-d8 (Surr)	97		75 - 120		02/14/22 16:28	1

Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DBFM	DCA	TOL
		(72-124)	(75-120)	(75-126)	(75-120)
500-212128-1	W25	90	101	97	98
500-212128-2	W06R	91	99	97	99
500-212128-3	W03A	93	102	95	99
500-212128-4	W17	93	104	93	97
500-212128-5	DUP-01	91	100	93	97
500-212128-6	W11	92	101	94	100
500-212128-7	W21	90	103	96	98
500-212128-8	W27	93	99	94	101
500-212128-9	W41	94	102	97	97
500-212128-9 MS	W41	95	104	99	97
500-212128-9 MSD	W41	95	106	99	96
500-212128-10	W74	93	103	99	98
500-212128-11	W73	89	104	98	96
500-212128-12	Trip Blank	92	105	100	97
LCS 500-642293/4	Lab Control Sample	92	100	90	99
MB 500-642293/6	Method Blank	91	102	96	98

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 500-642293/6
Matrix: Water
Analysis Batch: 642293

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			02/14/22 11:52	1
trans-1,2-Dichloroethene	<0.35		1.0	0.35	ug/L			02/14/22 11:52	1
Trichloroethene	<0.16		0.50	0.16	ug/L			02/14/22 11:52	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			02/14/22 11:52	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
4-Bromofluorobenzene (Surr)	91		72 - 124		02/14/22 11:52	1
Dibromofluoromethane (Surr)	102		75 - 120		02/14/22 11:52	1
1,2-Dichloroethane-d4 (Surr)	96		75 - 126		02/14/22 11:52	1
Toluene-d8 (Surr)	98		75 - 120		02/14/22 11:52	1

Lab Sample ID: LCS 500-642293/4
Matrix: Water
Analysis Batch: 642293

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
cis-1,2-Dichloroethene	50.0	40.5		ug/L		81	70 - 125
trans-1,2-Dichloroethene	50.0	39.3		ug/L		79	70 - 125
Trichloroethene	50.0	39.7		ug/L		79	70 - 125
Vinyl chloride	50.0	44.5		ug/L		89	64 - 126

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	92		72 - 124
Dibromofluoromethane (Surr)	100		75 - 120
1,2-Dichloroethane-d4 (Surr)	90		75 - 126
Toluene-d8 (Surr)	99		75 - 120

Lab Sample ID: 500-212128-9 MS
Matrix: Water
Analysis Batch: 642293

Client Sample ID: W41
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS MS		Unit	D	%Rec	%Rec. Limits
				Result	Qualifier				
cis-1,2-Dichloroethene	<0.41		50.0	44.6		ug/L		89	70 - 125
trans-1,2-Dichloroethene	<0.35		50.0	43.5		ug/L		87	70 - 125
Trichloroethene	<0.16		50.0	43.6		ug/L		87	70 - 125
Vinyl chloride	<0.20		50.0	42.9		ug/L		86	64 - 126

Surrogate	MS MS		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene (Surr)	95		72 - 124
Dibromofluoromethane (Surr)	104		75 - 120
1,2-Dichloroethane-d4 (Surr)	99		75 - 126
Toluene-d8 (Surr)	97		75 - 120

QC Sample Results

Client: ARCADIS U.S., Inc.
 Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 500-212128-9 MSD
Matrix: Water
Analysis Batch: 642293

Client Sample ID: W41
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,2-Dichloroethene	<0.41		50.0	49.0		ug/L		98	70 - 125	9	20
trans-1,2-Dichloroethene	<0.35		50.0	46.4		ug/L		93	70 - 125	7	20
Trichloroethene	<0.16		50.0	46.4		ug/L		93	70 - 125	6	20
Vinyl chloride	<0.20		50.0	39.3		ug/L		79	64 - 126	9	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
4-Bromofluorobenzene (Surr)	95		72 - 124
Dibromofluoromethane (Surr)	106		75 - 120
1,2-Dichloroethane-d4 (Surr)	99		75 - 126
Toluene-d8 (Surr)	96		75 - 120



Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W25
Date Collected: 02/08/22 12:00
Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 12:15	PSP	TAL CHI

Client Sample ID: W06R
Date Collected: 02/08/22 13:35
Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 12:38	PSP	TAL CHI

Client Sample ID: W03A
Date Collected: 02/08/22 14:55
Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 13:01	PSP	TAL CHI

Client Sample ID: W17
Date Collected: 02/08/22 16:10
Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 13:24	PSP	TAL CHI

Client Sample ID: DUP-01
Date Collected: 02/08/22 00:00
Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 13:47	PSP	TAL CHI

Client Sample ID: W11
Date Collected: 02/09/22 10:40
Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 14:10	PSP	TAL CHI

Client Sample ID: W21
Date Collected: 02/09/22 09:25
Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 14:33	PSP	TAL CHI

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Client Sample ID: W27

Date Collected: 02/09/22 11:25

Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 14:56	PSP	TAL CHI

Client Sample ID: W41

Date Collected: 02/09/22 12:15

Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-9

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 15:19	PSP	TAL CHI

Client Sample ID: W74

Date Collected: 02/09/22 13:10

Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-10

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 15:42	PSP	TAL CHI

Client Sample ID: W73

Date Collected: 02/09/22 13:55

Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-11

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 16:05	PSP	TAL CHI

Client Sample ID: Trip Blank

Date Collected: 02/09/22 00:00

Date Received: 02/10/22 10:15

Lab Sample ID: 500-212128-12

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	642293	02/14/22 16:28	PSP	TAL CHI

Laboratory References:

TAL CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: 3M Wausau, WI 30106487

Job ID: 500-212128-1

Laboratory: Eurofins Chicago

The accreditations/certifications listed below are applicable to this report.

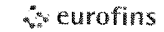
Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-22

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Eurofins Chicago

2417 Bond Street
University Park IL 60484
Phone 708-534-5200 Fax 708-534-5211

Chain of Custody Record



Environment Testing
Eurofins

Client Information		Sampler <i>UR</i>	Lab PM Fredrick, Sandie	Carrier Tracking No(s)	COC No 500-98460-43203 1					
Client Contact Trenna Seilheimer		Phone	E-Mail sandra.fredrick@eurofinset.com	State of Origin	Page Page 1 of 1					
Company ARCADIS U S Inc		PWS#	Analysis Requested		Job # <i>500-212178</i>					
Address 126 North Jefferson Street Suite 400		Due Date Requested	 500-212128 COC		Preservation Codes A HCL M Hexane B NaOH N None C Zn Acetate O AsNaO2 D Nitric Acid P Na2O4S E NaHSO4 Q Na2SO3 F MeOH R Na2S2O3 G Amchlor S H2SO4 H Ascorbic Acid T TSP Dodecahydrate I .ce U Acetone J DI Water V MCAA K EDTA W pH 4-5 L EDA Z other (specify)					
City Milwaukee		TAT Requested (days)								
State Zip WI 53202		Compliance Project <input type="checkbox"/> Yes <input type="checkbox"/> No								
Phone 414-276-7742(Tel)		PO #: 30106487								
Email trenna.seilheimer@arcadis.com		WO #:								
Project Name 3M Wausau WI 30106487		Project # 50018062								
Site		SSOW#								
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/soil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Performs MS/MSD (Yes or No)	8260B - TOE, cis-1,2-DCE, trans-1,2-DCE & VC	Total Number of Containers	Special Instructions/Note
				Preservation Code						
1	W25	2/8/22	1200	G	Water	N	N	X		
2	W06R		1335		Water					
3	W03A		1455		Water					
4	W17		1610		Water					
5	DUP-01				Water					Duplicate
6	W11	2/9/22	1040		Water					
7	W21		925		Water					
8	W27		1125		Water					
9	W41		1215		Water					MS/MSD
10	W74		1310		Water					
11	W73		1355		Water					
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Deliverable Requested I II III IV Other (specify)					Special Instructions/QC Requirements					
Empty Kit Relinquished by		Date	Time	Method of Shipment						
Relinquished by <i>[Signature]</i>		Date/Time	Company	Received by <i>[Signature]</i>		Date/Time	Company			
		Date/Time	Company			Date/Time	Company			
		Date/Time	Company			Date/Time	Company			
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No		Cooler Temperature(s) °C and Other Remarks						
				3.1						

Login Sample Receipt Checklist

Client: ARCADIS U.S., Inc.

Job Number: 500-212128-1

Login Number: 212128

List Source: Eurofins Chicago

List Number: 1

Creator: Hernandez, Stephanie

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Received Trip Blank(s) not listed on COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



3/4/2022

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

Lexington KY 40509

Project Name: 3M Wausau, WI
Project #: 30106487
Workorder #: 2202415AR1

Dear Amir Roghani

The following report includes the data for the above referenced project for sample(s) received on 2/15/2022 at Eurofins Air Toxics LLC.

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 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 #: 2202415AR1

Work Order Summary

CLIENT:	Amir Roghani Arcadis U.S., Inc. 2464 Fortune Drive #170 Lexington, KY 40509	BILL TO:	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	859-253-9036	P.O. #	30106487
FAX:	(859) 253-9136	PROJECT #	30106487 3M Wausau, WI
DATE RECEIVED:	02/15/2022	CONTACT:	Brian Whittaker
DATE COMPLETED:	02/28/2022		
DATE REISSUED:	03/04/2022		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
01A	VS-SB1	Modified TO-15	17.3 "Hg	1.9 psi
02A	VS-SB2	Modified TO-15	9.6 "Hg	1.9 psi
03A	VS-TB	Modified TO-15	9.4 "Hg	1.9 psi
04A	VS-UP	Modified TO-15	6.5 "Hg	1.9 psi
05A	DUP-01 (020922)	Modified TO-15	17.3 "Hg	1.9 psi
06A	Lab Blank	Modified TO-15	NA	NA
07A	CCV	Modified TO-15	NA	NA
08A	LCS	Modified TO-15	NA	NA
08AA	LCSD	Modified TO-15	NA	NA

CERTIFIED BY: 

 Technical Director

DATE: 03/04/22

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209221, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-21-17, UT NELAP – CA009332021-13, VA NELAP - 10615, WA NELAP - C935

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

Accreditation number: CA300005-015, Effective date: 10/18/2021, Expiration date: 10/17/2022.

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
Arcadis U.S., Inc.
Workorder# 2202415AR1

Five 6 Liter Summa Canister (100% Cert Ambient) samples were received on February 15, 2022. The laboratory performed analysis via modified EPA Method TO-15 using GC/MS in the full scan 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>
Initial Calibration	$\leq 30\%$ RSD with 2 compounds allowed out to <math>< 40\%</math> RSD	$\leq 30\%$ RSD with 4 compounds allowed out to <math>< 40\%</math> RSD
Blank and standards	Zero Air	UHP Nitrogen provides a higher purity gas matrix than zero air

Receiving Notes

Samples VS-SB1 and DUP-01 (020922) were received with significant vacuum remaining in the canister. The residual canister vacuum resulted in elevated reporting limits.

Analytical Notes

There were no analytical discrepancies.

Per project specifications, the workorder was reissued on 03/04/22 to amend the analyte list by removing Tetrachloroethene for all samples in the final report. Changing the compound list caused some previously reported Tetrachloroethene detections to become not reported.

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: VS-SB1

Lab ID#: 2202415AR1-01A

No Detections Were Found.

Client Sample ID: VS-SB2

Lab ID#: 2202415AR1-02A

No Detections Were Found.

Client Sample ID: VS-TB

Lab ID#: 2202415AR1-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.16	0.80	0.88	4.3

Client Sample ID: VS-UP

Lab ID#: 2202415AR1-04A

No Detections Were Found.

Client Sample ID: DUP-01 (020922)

Lab ID#: 2202415AR1-05A

No Detections Were Found.

Client Sample ID: VS-SB1

Lab ID#: 2202415AR1-01A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20022212	Date of Collection: 2/9/22 3:40:00 PM
Dil. Factor:	2.68	Date of Analysis: 2/22/22 04:33 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.27	Not Detected	0.68	Not Detected
trans-1,2-Dichloroethene	0.27	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.27	Not Detected	1.1	Not Detected
Trichloroethene	0.27	Not Detected	1.4	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: VS-SB2

Lab ID#: 2202415AR1-02A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20022210	Date of Collection: 2/9/22 3:40:00 PM
Dil. Factor:	1.66	Date of Analysis: 2/22/22 03:15 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.17	Not Detected	0.42	Not Detected
trans-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
cis-1,2-Dichloroethene	0.17	Not Detected	0.66	Not Detected
Trichloroethene	0.17	Not Detected	0.89	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	111	70-130
Toluene-d8	91	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: VS-TB

Lab ID#: 2202415AR1-03A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20022211	Date of Collection: 2/9/22 3:40:00 PM
Dil. Factor:	1.64	Date of Analysis: 2/22/22 03:54 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.16	Not Detected	0.42	Not Detected
trans-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
cis-1,2-Dichloroethene	0.16	Not Detected	0.65	Not Detected
Trichloroethene	0.16	0.80	0.88	4.3

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	118	70-130

Client Sample ID: VS-UP

Lab ID#: 2202415AR1-04A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20022213	Date of Collection: 2/9/22 3:40:00 PM
Dil. Factor:	1.44	Date of Analysis: 2/22/22 05:13 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.14	Not Detected	0.37	Not Detected
trans-1,2-Dichloroethene	0.14	Not Detected	0.57	Not Detected
cis-1,2-Dichloroethene	0.14	Not Detected	0.57	Not Detected
Trichloroethene	0.14	Not Detected	0.77	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: DUP-01 (020922)

Lab ID#: 2202415AR1-05A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20022214	Date of Collection:	2/9/22
Dil. Factor:	2.68	Date of Analysis:	2/22/22 05:52 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.27	Not Detected	0.68	Not Detected
trans-1,2-Dichloroethene	0.27	Not Detected	1.1	Not Detected
cis-1,2-Dichloroethene	0.27	Not Detected	1.1	Not Detected
Trichloroethene	0.27	Not Detected	1.4	Not Detected

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

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	92	70-130
4-Bromofluorobenzene	90	70-130

Client Sample ID: Lab Blank

Lab ID#: 2202415AR1-06A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20022207	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/22/22 01:00 PM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.10	Not Detected	0.26	Not Detected
trans-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
cis-1,2-Dichloroethene	0.10	Not Detected	0.40	Not Detected
Trichloroethene	0.10	Not Detected	0.54	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	122	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	89	70-130



Air Toxics

Client Sample ID: CCV

Lab ID#: 2202415AR1-07A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20022203	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/22/22 09:55 AM

Compound	%Recovery
Vinyl Chloride	78
trans-1,2-Dichloroethene	88
cis-1,2-Dichloroethene	91
Trichloroethene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	122	70-130

Client Sample ID: LCS

Lab ID#: 2202415AR1-08A

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20022204	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/22/22 10:44 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	80	70-130
trans-1,2-Dichloroethene	89	70-130
cis-1,2-Dichloroethene	93	70-130
Trichloroethene	106	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	123	70-130

Client Sample ID: LCSD

Lab ID#: 2202415AR1-08AA

MODIFIED EPA METHOD TO-15 GC/MS FULL SCAN

File Name:	20022205	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/22/22 11:23 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	84	70-130
trans-1,2-Dichloroethene	94	70-130
cis-1,2-Dichloroethene	95	70-130
Trichloroethene	108	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	103	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	120	70-130

3/4/2022

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

Lexington KY 40509

Project Name: 3M Wausau, WI
Project #: 30106487
Workorder #: 2202415BR1

Dear Amir Roghani

The following report includes the data for the above referenced project for sample(s) received on 2/15/2022 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 #: 2202415BR1

Work Order Summary

CLIENT:	Amir Roghani Arcadis U.S., Inc. 2464 Fortune Drive #170 Lexington, KY 40509	BILL TO:	Accounts Payable Arcadis U.S., Inc. 630 Plaza Drive Suite 600 Highlands Ranch, CO 80129
PHONE:	859-253-9036	P.O. #	30106487
FAX:	(859) 253-9136	PROJECT #	30106487 3M Wausau, WI
DATE RECEIVED:	02/15/2022	CONTACT:	Brian Whittaker
DATE COMPLETED:	02/28/2022		
DATE REISSUED:	03/04/2022		

<u>FRACTION #</u>	<u>NAME</u>	<u>TEST</u>	<u>RECEIPT VAC./PRES.</u>	<u>FINAL PRESSURE</u>
06A	VP-SB1	TO-15	5.3 "Hg	9.9 psi
07A	VP-SB2	TO-15	4.9 "Hg	9.9 psi
08A	VP-TB	TO-15	6.3 "Hg	9.9 psi
09A	Lab Blank	TO-15	NA	NA
09B	Lab Blank	TO-15	NA	NA
10A	CCV	TO-15	NA	NA
10B	CCV	TO-15	NA	NA
11A	LCS	TO-15	NA	NA
11AA	LCSD	TO-15	NA	NA
11B	LCS	TO-15	NA	NA
11BB	LCSD	TO-15	NA	NA

CERTIFIED BY: 

 Technical Director

DATE: 03/04/22

Certification numbers: AZ Licensure AZ0775, FL NELAP – E87680, LA NELAP – 02089, NH NELAP - 209221, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-21-17, UT NELAP – CA009332021-13, VA NELAP - 10615, WA NELAP - C935

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

Accreditation number: CA300005-015, Effective date: 10/18/2021, Expiration date: 10/17/2022.

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# 2202415BR1

Three 1 Liter Summa Canister samples were received on February 15, 2022. 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.

Per project specifications, the workorder was reissued on 03/04/22 to amend the analyte list by removing Tetrachloroethene for all samples in the final report. Changing the compound list caused some previously reported Tetrachloroethene detections to become not reported.

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

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

Client Sample ID: VP-SB1

Lab ID#: 2202415BR1-06A

No Detections Were Found.

Client Sample ID: VP-SB2

Lab ID#: 2202415BR1-07A

No Detections Were Found.

Client Sample ID: VP-TB

Lab ID#: 2202415BR1-08A

No Detections Were Found.

Client Sample ID: VP-SB1

Lab ID#: 2202415BR1-06A

EPA METHOD TO-15 GC/MS

File Name:	j022306	Date of Collection:	2/10/22 7:51:00 AM
Dil. Factor:	2.03	Date of Analysis:	2/23/22 03:16 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	4.0	Not Detected
Trichloroethene	1.0	Not Detected	5.4	Not Detected
trans-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	93	70-130

Client Sample ID: VP-SB2

Lab ID#: 2202415BR1-07A

EPA METHOD TO-15 GC/MS

File Name:	j021823	Date of Collection:	2/10/22 8:08:00 AM
Dil. Factor:	2.00	Date of Analysis:	2/19/22 02:46 AM

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	4.0	Not Detected
Trichloroethene	1.0	Not Detected	5.4	Not Detected
trans-1,2-Dichloroethene	1.0	Not Detected	4.0	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	105	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: VP-TB

Lab ID#: 2202415BR1-08A

EPA METHOD TO-15 GC/MS

File Name:	j021824	Date of Collection:	2/10/22 8:30:00 AM
Dil. Factor:	2.12	Date of Analysis:	2/19/22 03:19 AM

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.1	Not Detected	2.7	Not Detected
cis-1,2-Dichloroethene	1.1	Not Detected	4.2	Not Detected
Trichloroethene	1.1	Not Detected	5.7	Not Detected
trans-1,2-Dichloroethene	1.1	Not Detected	4.2	Not Detected

Container Type: 1 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	91	70-130

Client Sample ID: Lab Blank

Lab ID#: 2202415BR1-09A

EPA METHOD TO-15 GC/MS

File Name:	j021805a	Date of Collection:	NA
Dil. Factor:	1.00	Date of Analysis:	2/18/22 12:26 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	95	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	92	70-130

Client Sample ID: Lab Blank

Lab ID#: 2202415BR1-09B

EPA METHOD TO-15 GC/MS

File Name:	j022305a	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/23/22 01:19 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	91	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	89	70-130

Client Sample ID: CCV
 Lab ID#: 2202415BR1-10A
 EPA METHOD TO-15 GC/MS

File Name:	j021802	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/18/22 10:11 AM

Compound	%Recovery
Vinyl Chloride	104
cis-1,2-Dichloroethene	111
Trichloroethene	100
trans-1,2-Dichloroethene	110

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	99	70-130

Client Sample ID: CCV
 Lab ID#: 2202415BR1-10B
 EPA METHOD TO-15 GC/MS

File Name:	j022302	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/23/22 10:33 AM

Compound	%Recovery
Vinyl Chloride	110
cis-1,2-Dichloroethene	115
Trichloroethene	102
trans-1,2-Dichloroethene	116

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCS
 Lab ID#: 2202415BR1-11A
 EPA METHOD TO-15 GC/MS

File Name:	j021803	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/18/22 10:42 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	114	70-130
cis-1,2-Dichloroethene	115	70-130
Trichloroethene	103	70-130
trans-1,2-Dichloroethene	117	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	95	70-130

Client Sample ID: LCSD
 Lab ID#: 2202415BR1-11AA
 EPA METHOD TO-15 GC/MS

File Name:	j021804	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/18/22 11:13 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	117	70-130
cis-1,2-Dichloroethene	117	70-130
Trichloroethene	103	70-130
trans-1,2-Dichloroethene	120	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	96	70-130

Client Sample ID: LCS
 Lab ID#: 2202415BR1-11B
 EPA METHOD TO-15 GC/MS

File Name:	j022303	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/23/22 11:04 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	117	70-130
cis-1,2-Dichloroethene	118	70-130
Trichloroethene	104	70-130
trans-1,2-Dichloroethene	118	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	93	70-130



Client Sample ID: LCSD
Lab ID#: 2202415BR1-11BB
EPA METHOD TO-15 GC/MS

File Name:	j022304	Date of Collection: NA
Dil. Factor:	1.00	Date of Analysis: 2/23/22 11:35 AM

Compound	%Recovery	Method Limits
Vinyl Chloride	119	70-130
cis-1,2-Dichloroethene	116	70-130
Trichloroethene	105	70-130
trans-1,2-Dichloroethene	120	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	95	70-130
4-Bromofluorobenzene	92	70-130