

Our ref: 003978-RPT-56

May 23, 2024

Jeffrey Dewey  
Remedial Project Manager  
EPA Region 5  
77 West Jackson Boulevard  
Chicago, Illinois 60604-3590

Jeff Paddock  
Hydrogeologist  
Department of Natural Resources  
107 Sutliff Avenue  
Rhineland, WI 54501

Vapor Intrusion Summary Report (March 2023 – March 2024)  
Wausau Water Supply NPL Site  
Wausau, Wisconsin

Dear Mr. Dewey and Mr. Paddock:

## 1. Purpose

The purpose of this report is to provide a summary of the sampling and monitoring activities related to the vapor intrusion evaluation that took place from March 2023 through March 2024.

## 2. Background

The Wausau Superfund Site is located on the north side of the City of Wausau, in north central Wisconsin, along the Wisconsin River in Marathon County. Figure 1.1 shows the location of the Site. The Site consists of two contaminant source areas separated by the Wisconsin River. The East Bank portion of the Site is related to solvent spills on property operated by Wausau Chemical Corporation (WCC). The West Bank portion of the Site is related to the former City of Wausau landfill. These two properties are considered source areas for contaminants in the aquifer, which is the source of drinking water for the City of Wausau. The East Bank and West Bank areas are depicted on the Site Plan, Figure 1.2.

In response to the U.S. Environmental Protection Agency's (EPA) letter of January 19, 2023, a Vapor Intrusion Evaluation Work Plan Addendum (work plan) was submitted to EPA on January 31, 2023, and approved on March 3, 2023. Due to additional tasks required related to the VI work a second addendum to the work plan was submitted to EPA on August 22, 2023, and approved on August 23, 2023. Both work plans provided the proposed scope of work and field procedures for vapor intrusion (VI) evaluation and investigation at the Wausau Water Supply Superfund Site in Wausau, Wisconsin (Site).

From March 2023 through March 2024, GHD performed investigation activities to supplement existing Site data in an effort to better understand the potential for vapor intrusion (VI) risk in areas adjacent to the known groundwater plume footprints at the Site. In total, VI investigation sampling was conducted on six occasions: March 2017, August 2017, March 2023, August/September 2023, February 2024, and March 2024. A detailed summary of the VI evaluation activities completed during 2023 and 2024 is provided below.

**In March of 2023:**

- March 3, 2023 EPA approved 2023 Addendum Vapor Intrusion Evaluation Work Plan
  - This addendum added field work related to Vapor Pin installation, sub-slab Vapor Pin sampling, indoor air sampling, and manhole vapor sampling.
- Installed sub-slab vapor sampling points at Bridge Community Clinic and Wausau Music on the East Bank and installed sub-slab vapor sampling points SS-1 through SS-7 on the West Bank.
- Collected additional sub-slab and indoor air samples at select commercial/industrial buildings on the West Bank and East Bank. The East Bank results are summarized in Section 2.2. The West Bank results are summarized in Section 2.4.
- Collected preferential pathway samples from sanitary sewer manholes that are "up-flow" and "down-flow" of the Former Wausau Chemical Company on the East Bank.

**In August/September of 2023:**

- August 23, 2023 EPA approved 2023 Addendum 2 Vapor Intrusion Evaluation Work Plan
  - Addendum 2 added field work related to the installation of temporary soil gas probes and sampling of temporary soil gas probes.
- On the West Bank, installed sub-slab vapor sampling points SS-8 through SS-12 and temporary soil gas sampling points to west of Rexnord, Building B.
- Collected additional sub-slab, indoor air samples, and soil gas to west of Building B.

**In February of 2024:**

- Installed sub-slab vapor sampling points SS-13 and SS-14 on the West Bank.
- Collected additional sub-slab and indoor air samples at Rexnord Building A and Building B, located on the West Bank.

**In March of 2024:**

- Installed sub-slab vapor sampling point SS-15 on the West Bank.
- Collected additional sub-slab, and indoor air samples Rexnord Building A and Building B, located on the West Bank.
- Collected one soil gas sample on the East Bank, in the right of way of Thrive Foodery.

## **3. Vapor Intrusion Evaluation**

Sub-slab soil gas (sub-slab), indoor air, and soil-gas sampling was conducted at commercial buildings identified as potential vapor intrusion risks based on their proximity to source areas or elevated groundwater concentrations.

### **3.1 East Bank Sub-slab and Indoor Air Sampling**

East Bank commercial sub-slab and indoor air sampling was conducted at two small commercial properties (Bridge Community Clinic and Wausau Music). Exterior soil gas sampling was conducted adjacent to one restaurant (Thrive Foodery) where indoor access was unable to be obtained.

Sub-slab, indoor air, and soil gas sample locations are depicted on Figure 2.1 and summarized below:

- Bridge Community Clinic: SS-06/IA-03
- Wausau Music: SS-07/IA-04
- Thrive Foodery: SG-03

Sampling events were performed on the East Bank in March of 2023 and March of 2024. All samples were collected using laboratory supplied vacuum canisters and flow control regulators. Sampling was conducted following the procedures outlined in the work plan. Laboratory analysis was performed using EPA Method TO-15 for Tetrachloroethene (PCE), Trichloroethene (TCE), c-1,2-Dichloroethene (c12DCE), and vinyl chloride.

### **3.2 East Bank Commercial Sub-slab and Indoor Air Results**

Two small commercial properties, Bridge Community Clinic and Wausau Music, were evaluated as part of the March 2023 sub-slab and indoor air investigation. One restaurant, Thrive Foodery, was evaluated as part of the March 2024 soil gas investigation. Sub-slab, indoor air, and soil gas laboratory results are presented in Table 1. Concentrations were assessed relative to the EPA/WDNR Small Commercial Indoor Air Vapor Action Levels (IAVALs) for indoor air and Vapor Risk Screening Levels (VRSLs) for soil gas with none of the results exceeding action or screening levels, respectively. PCE was detected in the indoor air sample collected from the basement of the Bridge Community Clinic building as well as in the soil gas sample collected outside of Thrive Foodery, but the concentrations were below the respective screening level, as shown in Table 1. Based on the historical and current East Bank residential and commercial indoor air and soil gas results, there is no health risk at the tested properties related to potential vapor intrusion of Site chemicals. No additional vapor intrusion evaluation activities are recommended.

### **3.3 West Bank Sub-slab and Indoor Air Sampling**

Sub-slab, indoor air, and soil gas sampling on the West Bank were limited to the Rexnord property, based on the proximity of the property to the former City landfill and the approved work plan. Four sampling events were conducted in 2023 and 2024: March 2023, August/September 2023, February 2024, and March 2024. Sampling was performed at a total of twelve sub-slab locations and seven indoor air locations across the sampling events. Indoor air samples were only analyzed if the corresponding sub-slab locations had exceeded screening levels.

In Building A, the following sub-slab and indoor air locations were sampled:

- SS-04, SS-05/IA-05, SS-11/IA-11, SS-12/IA-12, SS-13/IA-13, and SS-14/IA-14

In Building B, the following sub-slab and indoor air locations were sampled:

- SS-01/IA-01, SS-02/IA-02, SS-03, SS-08/IA-08, and SS-09/IA-09

Two temporary soil gas probes (SG-1 and SG-2) were installed on the western side of Building B and soil gas samples were collected.

The west bank sample locations are depicted on Figure 2.2. Sub-slab and soil gas samples utilized 1-Liter canisters fitted with 100 milliliters per minute (ml/min) flow control regulators. Indoor air and ambient air samples utilized 6-Liter canisters fitted with 24-hour flow control regulators. The sampling was conducted following the procedures outlined in the work plan. Laboratory analysis was performed using EPA Method TO-15 for TCE, c12DCE, carbon tetrachloride (CT), chloroform, and vinyl chloride.

### **3.4 West Bank Sub-slab and Indoor Air Results**

West Bank sub-slab results are presented in Tables 2 and 3. The results were compared to the EPA/WDNR Large Commercial/Industrial IAVALs and VRLS.

The sub-slab TCE concentrations from the historical and current sampling events at SS-2 beneath Building B and SS-5 and SS-11 beneath Building A exceeded the screening level of 880 µg/m<sup>3</sup>. Chloroform, CT, and c12DCE were also detected in some of the sub-slab samples results, but all concentrations were below their respective screening levels.

Indoor air samples were collected from the co-located sub-slab sampling locations. However, the indoor air samples were only analyzed if there were sub-slab analytical results above the screening criteria. As a result, not all the indoor air samples needed to be analyzed. Varying concentrations of TCE, CT, and chloroform were observed in all four sampling events, however, all concentrations except TCE were below their respective Large Commercial/Industrial IAVALs. Location IA-02 exceeded the IAVAL criteria in February of 2024 with a concentration of 214 ug/m<sup>3</sup>, but the March 2024 resample from this location was found to have returned to a level similar to prior events, which was below the IAVAL criteria of 8.8 ug/m<sup>3</sup>.

Due to the action level exceedance in February 2024, Rexnord implemented training procedures for employees and sectioned off the location of IA-02 until the indoor air was resampled and measured below the IAVAL criteria. Additionally, Rexnord minimized the number of employees working in this area and ensured that no women were working in Building B due to the risk to pregnant people.

Soil Gas samples were collected in August/September from two exterior temporary locations (SG-01 and SG-02) on the west side of Building B, as depicted on Figure 2.2. There were no analytical results above the Large Commercial/Industrial VRSLs from either location.

## 4. Preferential Pathway Assessment

The historical groundwater and VI analytical results do not indicate that contaminated utility conduits exist, nor are they contributing to commercial or residential buildings. The City of Wausau provided utility maps showing the locations of sewer and water mains in the investigation areas. After reviewing these maps in relation to our investigation areas, there appear to be no direct connections to the commercial/industrial buildings. On the West Bank, the residential area is upgradient from the Site and the groundwater depth is significantly lower than the East Bank, so no preferential pathway samples were collected. On the East Bank, three manhole locations were sampled as there are residential homes near to and downgradient from the Site.

Manhole vapor sampling was completed in March 2023 per the WDNR Guidance Document and followed the recommended sampling method for manholes. This consisted of collecting a sample with an evacuated canister. These samples utilized 1-Liter canisters fitted with 100 milliliters per minute (ml/min) flow control regulators. The openings to the manholes that were sampled were small enough to fit the tubing down, thus there was no need to seal the tubing. The tubing was placed down the manhole to a depth that was approximately 1 foot above the bottom of the sewer and/or top of the liquid, if present. A grab sample was collected using a one-liter summa canister.

These vapor samples were analyzed using EPA Method TO-15 for PCE, TCE, c12DCE, and vinyl chloride, similar to the other samples collected on the East Bank.

### 4.1 Manhole Vapor Sampling Results

Three manhole locations were sampled (MH1140, MH1282, and MH9122), and their locations are depicted on Figure 3.1. The manhole location MH1132 that was proposed in the approved work plan could not be sampled due to the high traffic location of the manhole, and an alternate manhole, MH9122, was selected approximately 300 feet to the west. The manhole vapor sampling data is provided on Table 4.

Based on the *Wisconsin DNR vapor action level (VAL)*<sup>1</sup> with the attenuation factor of 0.03. There were no exceedances at the three locations that were sampled, and no further manhole vapor sampling was performed.

## 5. Recommendations

Based on the historical and current East and West Bank residential and West Bank commercial indoor air results, there does not appear to be a health risk at the tested properties related to potential vapor intrusion of Site chemicals, except for one indoor air exceedance as described in Section 3.4. In addition, the Preferential Pathway sample results indicated no exceedances. Given the data provided in this report, no additional vapor intrusion evaluation or Preferential Pathway analysis is recommended for the East Bank. The sub-slab and indoor air results associated with the West Bank will be addressed by a vapor intrusion monitoring program which will be submitted to the EPA and WDNR in a separate submittal and may include periodic sampling and monitoring at select locations to continue to monitor potential health risks.

Regards,



**Daniel (OJ) Ojinaga**  
Project Manager

+1 520 603-1923  
oj.ojinaga@ghd.com



**Mel Ross**  
Graduate Engineer

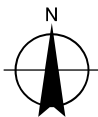
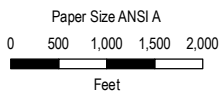
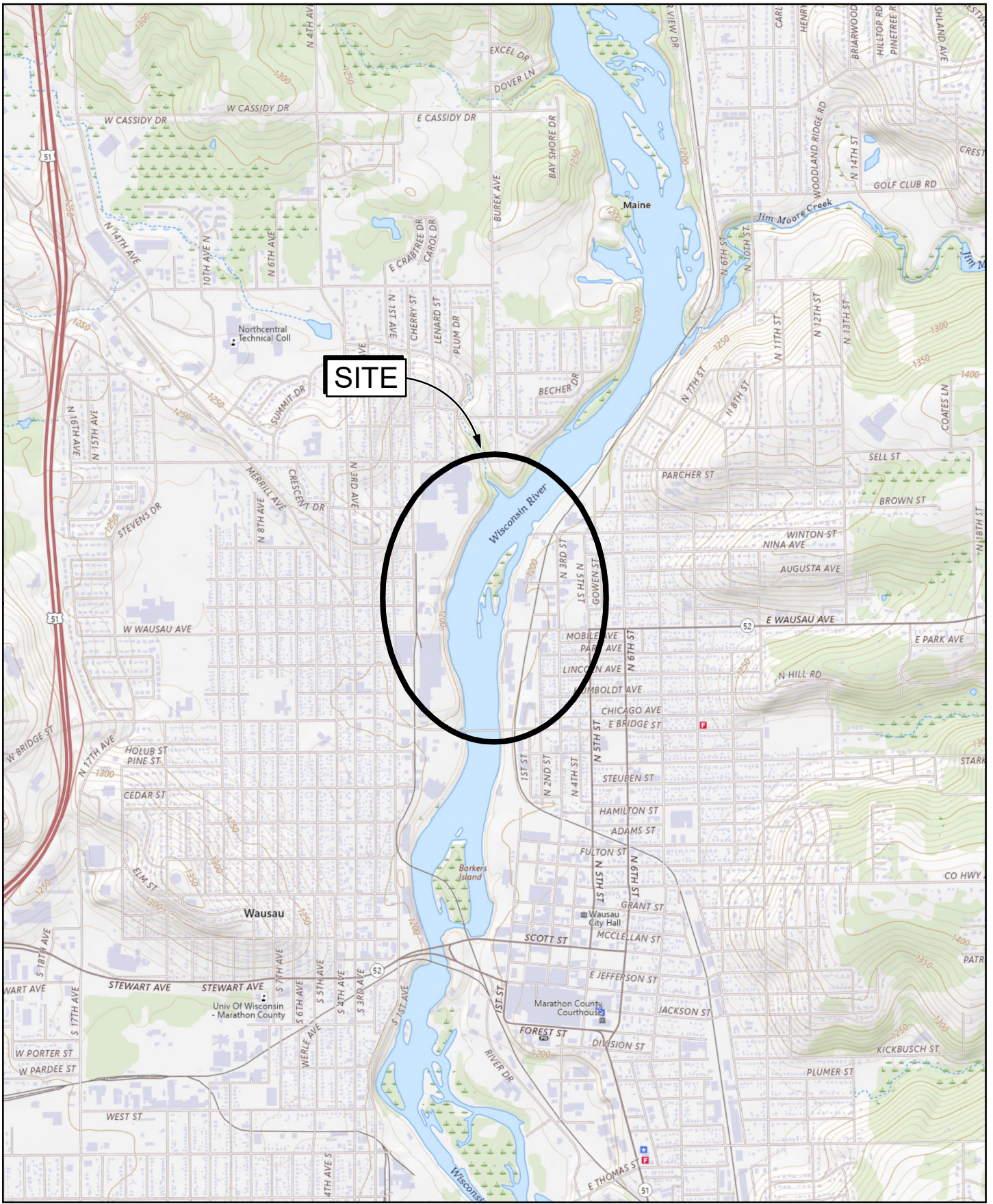
+1 314 438-2811  
mel.ross@ghd.com

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<sup>1</sup> Guidance: Wisconsin Vapor Quick Look-Up Tables, Indoor Air Vapor Action Levels and Vapor Risk Screening Levels (Based on November 2022 U.S. EPA Regional Screening Levels)

# Figures



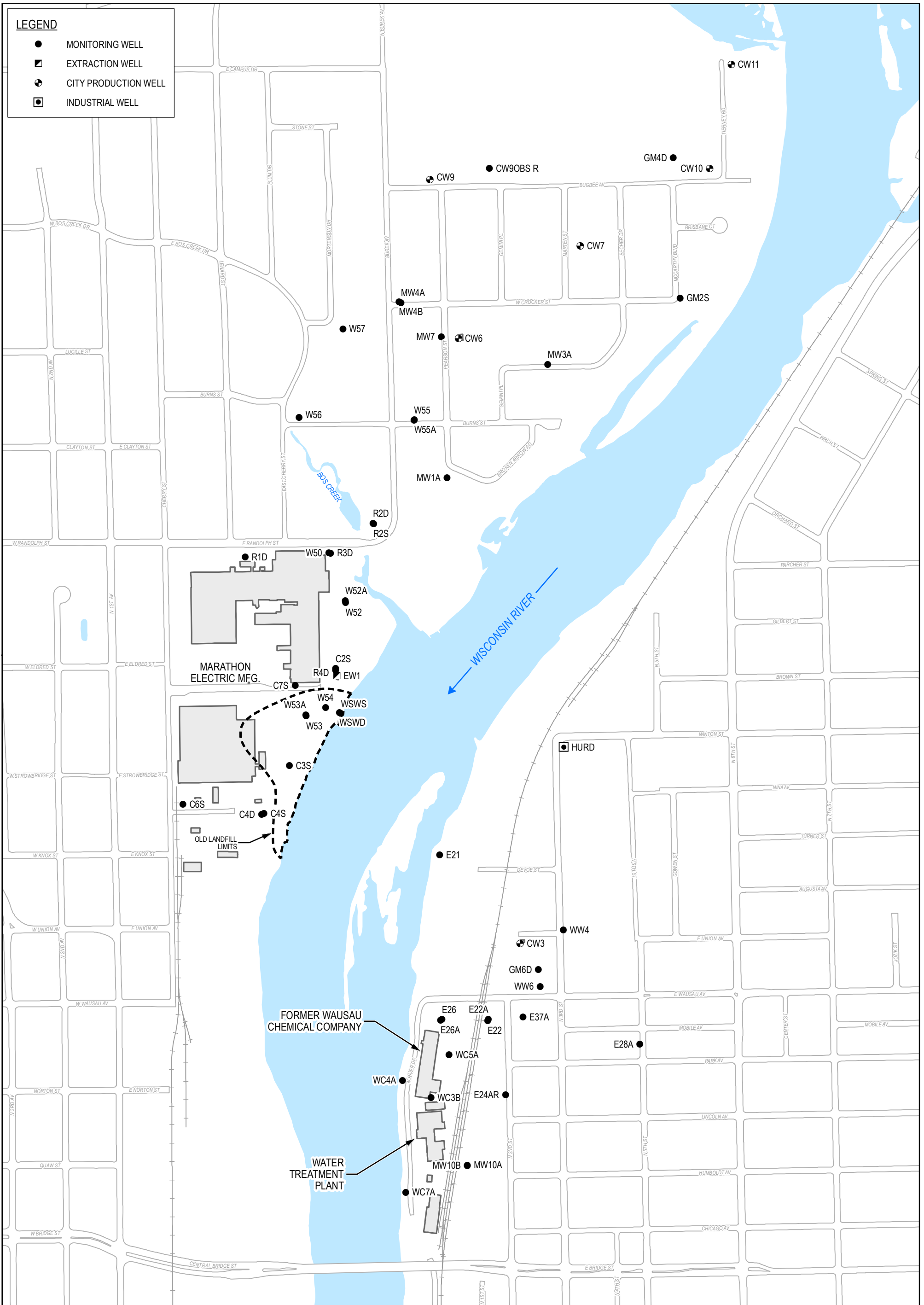
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WAUSAU, WISCONSIN**

Project No. 003978-10  
Revision No. -  
Date 05/09/2024

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Horizontal Datum: North American 1983 HARN  
Grid: NAD 1983 HARN WISCRS Marathon County Feet

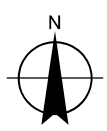
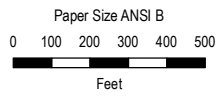
**SITE LOCATION**

**FIGURE 1.1**



**LEGEND**

- MONITORING WELL
- ▣ EXTRACTION WELL
- ⊕ CITY PRODUCTION WELL
- ⊠ INDUSTRIAL WELL



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**SITE PLAN**

**FIGURE 1.2**

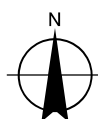
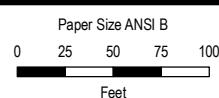
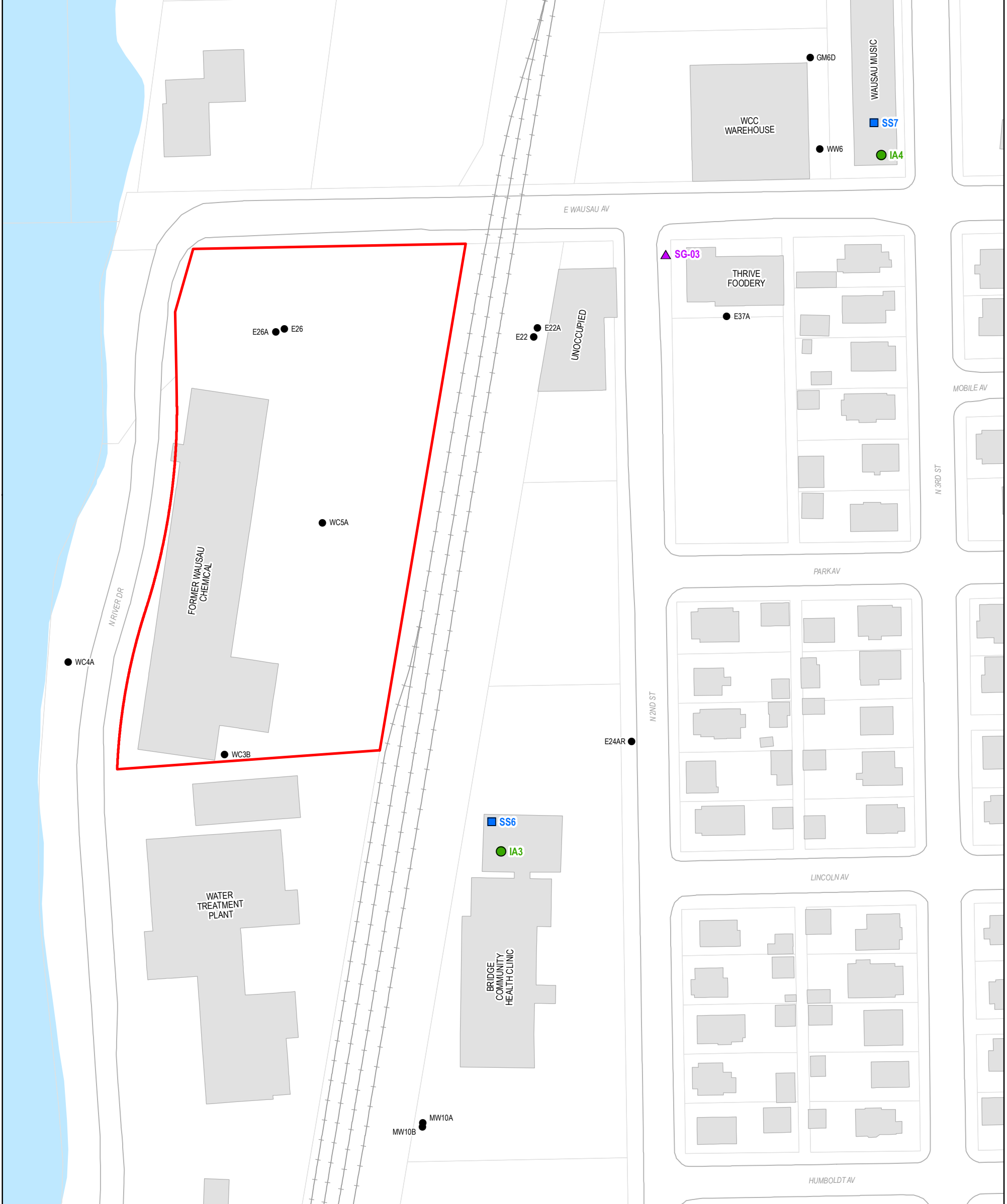


Location	Date	Units	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl chloride
<b>Sub-Slab Locations</b>	<b>SS Large Industrial SLs</b>	<b>5,800</b>	<b>880</b>	<b>--</b>	<b>2,800</b>	
SS-6 (Bridge Comm. Clinic)	3/1/2023	ug/m3	849	20.2	1.03 U	0.808 U
SS-7 (Wausau Music)	3/1/2023	ug/m3	115	2.98	1.03 U	0.808 U
<b>Indoor Air Locations</b>	<b>Industrial IA SLs</b>	<b>180</b>	<b>8.8</b>	<b>--</b>	<b>28</b>	
IA-3 (Bridge Comm. Clinic)	3/1/2023	ug/m3	11.7	1.22 U	1.03 U	0.808 U
IA-4 (Wausau Music)	3/1/2023	ug/m3	5.81 J	1.22 UJ	1.03 UJ	0.808 UJ
<b>Soil Gas Probes Outdoor</b>	<b>SS Large Industrial SLs</b>	<b>5,800</b>	<b>880</b>	<b>--</b>	<b>2,800</b>	
SG-3 (Thrive Foodery)	3/27/2024	ug/m3	109	1.07 J	1.03 U	0.808 U

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.  
J - Estimated concentration at or above the LOD and below the LOQ.

**LEGEND**

- INDOOR AIR SAMPLING LOCATION
- SUB-SLAB SAMPLING LOCATION
- ▲ SOIL GAS SAMPLING LOCATION
- MONITORING WELL
- ⊕ CITY PRODUCTION WELL
- SITE BOUNDARY



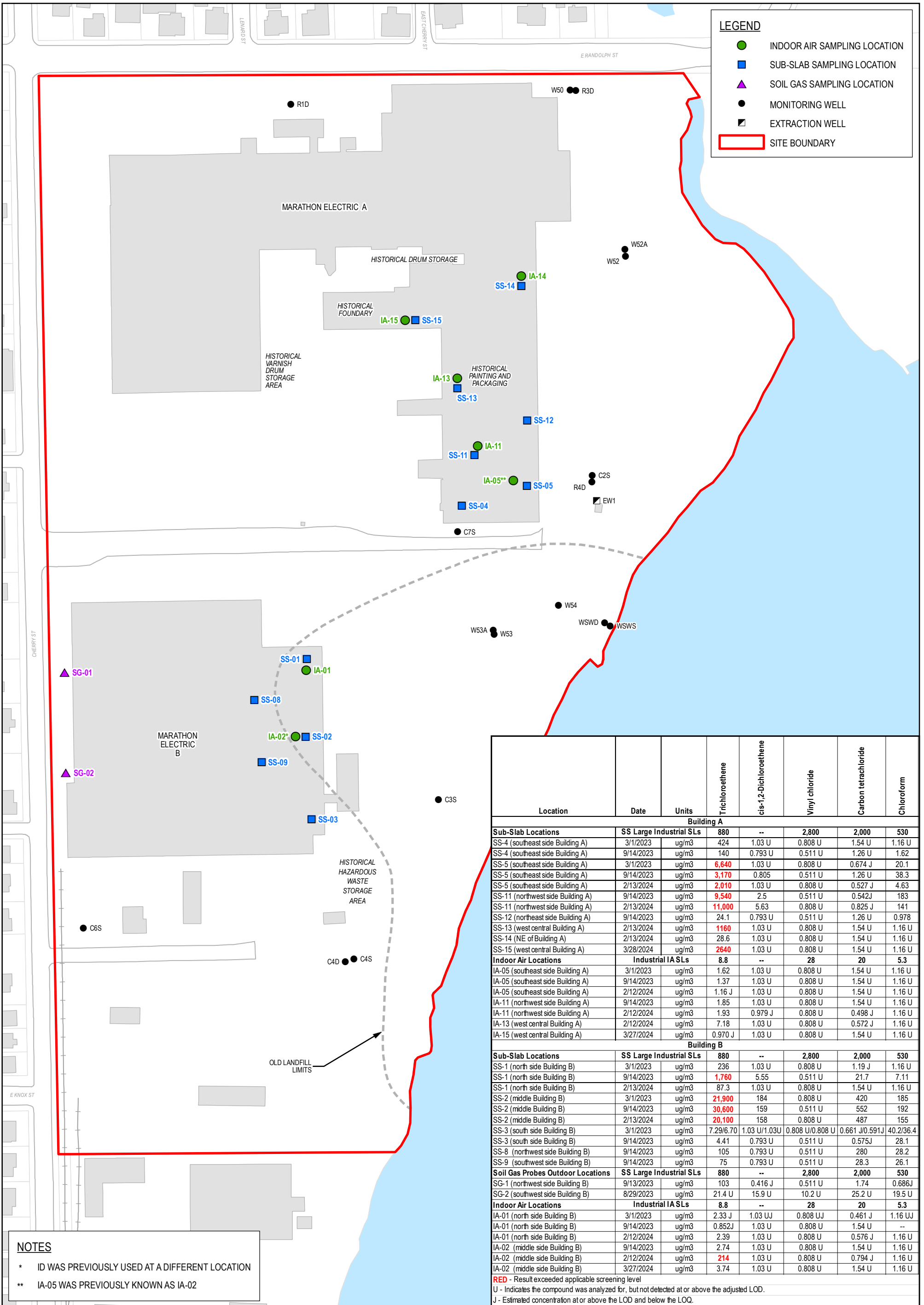
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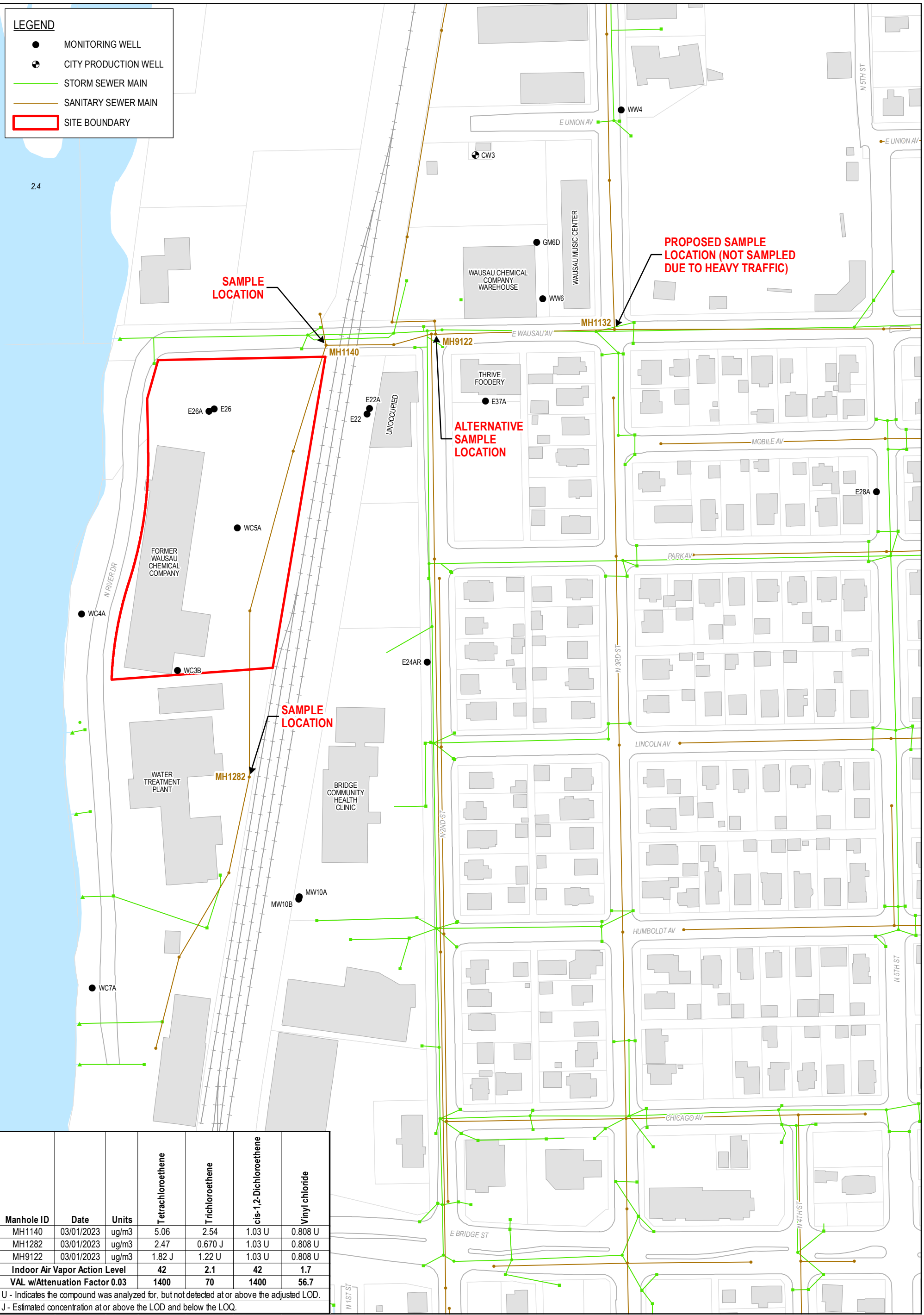
**WAUSAU WATER SUPPLY NPL SITE**  
**WAUSAU, WISCONSIN**

Project No. **003978-10**  
Revision No. -  
Date **05/09/2024**

**2023-2024 EAST BANK**  
**VAPOR SAMPLING LOCATIONS**

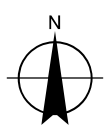
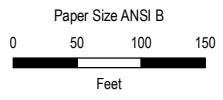
**FIGURE 2.1**





Manhole ID	Date	Units	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	Vinyl chloride
MH1140	03/01/2023	ug/m3	5.06	2.54	1.03 U	0.808 U
MH1282	03/01/2023	ug/m3	2.47	0.670 J	1.03 U	0.808 U
MH9122	03/01/2023	ug/m3	1.82 J	1.22 U	1.03 U	0.808 U
<b>Indoor Air Vapor Action Level</b>			<b>42</b>	<b>2.1</b>	<b>42</b>	<b>1.7</b>
<b>VAL w/Attenuation Factor 0.03</b>			<b>1400</b>	<b>70</b>	<b>1400</b>	<b>56.7</b>

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.  
 J - Estimated concentration at or above the LOD and below the LOQ.



Map Projection: Lambert Conformal Conic  
 Horizontal Datum: North American 1983 HARN  
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**WAUSAU WATER SUPPLY NPL SITE**  
**WAUSAU, WISCONSIN**  
**PREFERENTIAL PATHWAY**  
**INVESTIGATION**  
**SAMPLING LOCATIONS**

Project No. 003978-10  
 Revision No. -  
 Date 05/09/2024

**FIGURE 3.1**

# Tables

Table 1

**East Bank**  
**Sub-slab Vapor, Soil Gas, and Indoor Air Results (2023 - 2024)**  
**Wausau Water Supply NPL Site**  
**Wausau, Wisconsin**

East Bank	Date	Units	Tetrachloroethene	Trichloroethene	c-1,2-Dichloroethene	Vinyl chloride
<b>Sub-Slab Locations</b>	<b>Small Commerical SLs</b>		<b>5,800</b>	<b>290</b>	<b>-</b>	<b>930</b>
Bridge Comm. Clinic	3/1/2023	ug/m3	849	20.2	1.03 U	0.808 U
Wausau Music	3/1/2023	ug/m3	115	2.98	1.03 U	0.808 U
<b>Indoor Air Locations</b>	<b>Small Commerical SLs</b>		<b>180</b>	<b>8.8</b>	<b>--</b>	<b>28</b>
Bridge Comm. Clinic	3/1/2023	ug/m3	11.7	1.22 U	1.03 U	0.808 U
Wausau Music	3/1/2023	ug/m3	5.81 J	1.22 UJ	1.03 UJ	0.808 UJ
<b>Soil Gas Probes Outdoor</b>	<b>Small Commerical SLs</b>		<b>5,800</b>	<b>880</b>	<b>--</b>	<b>930</b>
Thrive Foodery	3/27/2024	ug/m3	109	1.07 J	1.03 U	0.808 U

Notes:

**5,800** - Result exceeded applicable screening level

Note: All units µg/m3

Screening Levels and Action Levels are from Wisconsin DNR "WI Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels and Vapor Risk Screening Levels. Based on May 2023 USEPA Regional Screening Levels.

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

Table 2

**West Bank Building A**  
**Sub-slab Vapor and Indoor Air Results (2023 - 2024)**  
**Wausau Water Supply NPL Site**  
**Wausau, Wisconsin**

Rexnord Building A	Date	Units	Trichloroethene	c-1,2-Dichloroethene	Vinyl chloride	Carbon tetrachloride	Chloroform
<b>Sub-Slab Locations</b>	<b>SS Large Industrial SLs</b>		<b>880</b>	--	<b>2,800</b>	<b>2,000</b>	<b>530</b>
SS-4 (southeast side Building A)	3/1/2023	ug/m3	424	1.03 U	0.808 U	1.54 U	1.16 U
	9/14/2023	ug/m3	140	0.793 U	0.511 U	1.26 U	1.62
SS-5 (southeast side Building A)	3/1/2023	ug/m3	<b>6,640</b>	1.03 U	0.808 U	0.674 J	20.1
	9/14/2023	ug/m3	<b>3,170</b>	0.805	0.511 U	1.26 U	38.3
	2/13/2024	ug/m3	<b>2,010</b>	1.03 U	0.808 U	0.527 J	4.63
SS-11 (northwest side Building A)	9/14/2023	ug/m3	<b>9,540</b>	2.5	0.511 U	0.542J	183
	2/13/2024	ug/m3	<b>11,000</b>	5.63	0.808 U	0.825 J	141
SS-12 (northeast side Building A)	9/14/2023	ug/m3	24.1	0.793 U	0.511 U	1.26 U	0.978
SS-13 (west central Building A)	2/13/2024	ug/m3	<b>1,160</b>	1.03 U	0.808 U	1.54 U	1.16 U
SS-14 (NE of Building A)	2/13/2024	ug/m3	28.6	1.03 U	0.808 U	1.54 U	1.16 U
SS-15 (west central Building A)	3/28/2024	ug/m3	<b>2,640</b>	1.03 U	0.808 U	1.54 U	1.16 U

Table 2

**West Bank Building A  
Sub-slab Vapor and Indoor Air Results (2023 - 2024)  
Wausau Water Supply NPL Site  
Wausau, Wisconsin**

Rexnord Building A	Date	Units	Trichloroethene	c-1,2-Dichloroethene	Vinyl chloride	Carbon tetrachloride	Chloroform
<b>Indoor Air Locations</b>	<b>Industrial IA SLs</b>		<b>8.8</b>	--	<b>28</b>	<b>20</b>	<b>5.3</b>
Indoor Air - Building A	3/1/2023	ug/m3	1.62	1.03 U	0.808 U	1.54 U	1.16 U
**IA-05 (southeast side Building A)	9/14/2023	ug/m3	1.37	1.03 U	0.808 U	1.54 U	1.16 U
	2/12/2024	ug/m3	1.16 J	1.03 U	0.808 U	1.54 U	1.16 U
IA-11 (northwest side Building A)	9/14/2023	ug/m3	1.85	1.03 U	0.808 U	1.54 U	1.16 U
	2/12/2024	ug/m3	1.93	0.979 J	0.808 U	0.498 J	1.16 U
IA-13 (west central Building A)	2/12/2024	ug/m3	7.18	1.03 U	0.808 U	0.572 J	1.16 U
IA-15 (west central Building A)	3/27/2024	ug/m3	0.970 J	1.03 U	0.808 U	1.54 U	1.16 U

Notes:

**880** - Result exceeded applicable screening level

Note: All units µg/m3

Screening Levels and Action Levels are from Wisconsin DNR "WI Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels and Vapor Risk Screening Levels. Based on November 2022 U.S.EPA Regional Screening Levels.

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

\*\* IA-05 was previously known as IA-02

Table 3

**West Bank Building B**  
**Sub-slab Vapor and Indoor Air Results (2023 - 2024)**  
**Wausau Water Supply NPL Site**  
**Wausau, Wisconsin**

<b>Rexnord Building B</b>	<b>Date</b>	<b>Units</b>	<b>Trichloroethene</b>	<b>c-1,2-Dichloroethene</b>	<b>Vinyl chloride</b>	<b>Carbon tetrachloride</b>	<b>Chloroform</b>
<b>Sub-Slab Locations</b>	<b>SS Large Industrial SLs</b>		<b>880</b>	<b>-</b>	<b>2,800</b>	<b>2,000</b>	<b>530</b>
SS-1 (north side Building B)	3/1/2023	ug/m3	236	1.03 U	0.808 U	1.19 J	1.16 U
	9/14/2023	ug/m3	<b>1,760</b>	5.55	0.511 U	21.7	7.11
	2/13/2024	ug/m3	87.3	1.03 U	0.808 U	1.54 U	1.16 U
SS-2 (middle Building B)	3/1/2023	ug/m3	<b>21,900</b>	184	0.808 U	420	185
	9/14/2023	ug/m3	<b>30,600</b>	159	0.511 U	552	192
	2/13/2024	ug/m3	<b>20,100</b>	158	0.808 U	487	155
SS-3 (south side Building B)	3/1/2023	ug/m3	7.29/6.70	1.03 U/1.03U	0.808 U/0.808 U	0.661 J/0.591J	40.2/36.4
	9/14/2023	ug/m3	4.41	0.793 U	0.511 U	0.575J	28.1
SS-8 (northwest side Building B)	9/14/2023	ug/m3	105	0.793 U	0.511 U	280	28.2
SS-9 (southwest side Building B)	9/14/2023	ug/m3	75	0.793 U	0.511 U	28.3	26.1



Table 3

**West Bank Building B**  
**Sub-slab Vapor and Indoor Air Results (2023 - 2024)**  
**Wausau Water Supply NPL Site**  
**Wausau, Wisconsin**

Rexnord Building B	Date	Units	Trichloroethene	c-1,2-Dichloroethene	Vinyl chloride	Carbon tetrachloride	Chloroform
<b>Soil Gas Probes Outdoor Locations</b>	<b>SS Large Industrial SLs</b>		<b>880</b>	--	<b>2,800</b>	<b>2,000</b>	<b>530</b>
SG-1 (northwest side Building B)	9/13/2023	ug/m3	103	0.416 J	0.511 U	1.74	0.686J
SG-2 (southwest side Building B)	8/29/2023	ug/m3	21.4 U	15.9 U	10.2 U	25.2 U	19.5 U
<b>Indoor Air Locations</b>	<b>Industrial IA SLs</b>		<b>8.8</b>	--	<b>28</b>	<b>20</b>	<b>5.3</b>
Indoor Air - Building B	3/1/2023	ug/m3	2.33 J	1.03 UJ	0.808 UJ	0.461 J	1.16 UJ
IA-01 (north side Building B)	9/14/2023	ug/m3	0.852J	1.03 U	0.808 U	1.54 U	--
	2/12/2024	ug/m3	2.39	1.03 U	0.808 U	0.576 J	1.16 U
IA-02 (middle side Building B)	9/14/2023	ug/m3	2.74	1.03 U	0.808 U	1.54 U	1.16 U
	2/12/2024	ug/m3	214	1.03 U	0.808 U	0.794 J	1.16 U
	3/27/2024	ug/m3	3.74	1.03 U	0.808 U	1.54 U	1.16 U

## Notes:

**880**

 - Result exceeded applicable screening level

Note: All units µg/m3

Screening Levels and Action Levels are from Wisconsin DNR "WI Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels and Vapor Risk Screening Levels. Based on November 2022 U.S.EPA Regional Screening Levels.

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

Table 4

**Preferential Pathway Vapor Results (2023)  
Wausau Water Supply NPL Site  
Wausau, Wisconsin**

Manhole ID	Date	Units	Tetrachloroethene	Trichloroethene	c-1,2-Dichloroethene	Vinyl chloride
MH1140	3/1/2023	ug/m3	5.06	2.54	1.03 U	0.808 U
MH1282	3/1/2023	ug/m3	2.47	0.670 J	1.03 U	0.808 U
MH9122	3/1/2023	ug/m3	1.82 J	1.22 U	1.03 U	0.808 U
<b>Indoor Air Vapor Action Level (VAL)</b>			<b>42</b>	<b>2.1</b>	<b>42</b>	<b>1.7</b>
<b>VAL w/Attenuation Factor 0.03</b>			<b>1400</b>	<b>70</b>	<b>1400</b>	<b>56.7</b>

Notes: All units µg/m3

Screening Levels and Action Levels are from Wisconsin DNR "WI Vapor Quick Look-Up Table, Indoor Air Vapor Action Levels and Vapor Risk Screening Levels. Based on November 2022 U.S.EPA Regional Screening Levels.

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

# Appendices

# **Appendix A**

**Analytical Reports**

March 24, 2023

Mr. Grant Anderson  
GHD  
900 Long Lake Road  
Suite 200  
New Brighton, MN 55112

RE: Project: 003978 Wausau  
Pace Project No.: 10644892

Dear Mr. Anderson:

Enclosed are the analytical results for sample(s) received by the laboratory on March 06, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Tina Soltani  
tina.soltani@pacelabs.com  
(612) 607-6384  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 003978 Wausau

Pace Project No.: 10644892

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### Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Certification #: T 104704245-17-14

Texas Mold Certification #: LAB0152

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Virginia Certification #: VT2006

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

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## SAMPLE SUMMARY

Project: 003978 Wausau

Pace Project No.: 10644892

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10644892001	IA-230301-RA-01	Air	03/01/23 12:41	03/06/23 10:15
10644892002	IA-230301-RA-02	Air	03/01/23 12:57	03/06/23 10:15
10644892003	SS-230302-RA-01	Air	03/02/23 09:35	03/06/23 10:15
10644892004	SS-230302-RA-02	Air	03/02/23 10:09	03/06/23 10:15
10644892005	MH-230301-RA-01	Air	03/01/23 15:47	03/06/23 10:15
10644892006	MH-230301-RA-02	Air	03/01/23 16:09	03/06/23 10:15
10644892007	MH-230301-RA-03	Air	03/01/23 16:23	03/06/23 10:15
10644892008	IA-230301-RA-03	Air	03/01/23 14:38	03/06/23 10:15
10644892009	IA-230301-RA-04	Air	03/01/23 15:06	03/06/23 10:15
10644892010	SS-230302-RA-03	Air	03/02/23 11:52	03/06/23 10:15
10644892011	SS-230302-RA-04	Air	03/02/23 12:07	03/06/23 10:15
10644892012	SS-230302-RA-05	Air	03/02/23 13:27	03/06/23 10:15
10644892013	SS-230302-RA-06	Air	03/02/23 13:27	03/06/23 10:15
10644892014	SS-230302-RA-07	Air	03/02/23 13:43	03/06/23 10:15
10644892015	SS-230302-RA-08	Air	03/02/23 13:56	03/06/23 10:15

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### SAMPLE ANALYTE COUNT

Project: 003978 Wausau

Pace Project No.: 10644892

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10644892001	IA-230301-RA-01	TO-15	DAH, DBB	5	PAN
10644892002	IA-230301-RA-02	TO-15	DAH	5	PAN
10644892003	SS-230302-RA-01	TO-15	DAH, DBB	5	PAN
10644892004	SS-230302-RA-02	TO-15	DAH	5	PAN
10644892005	MH-230301-RA-01	TO-15	DAH	5	PAN
10644892006	MH-230301-RA-02	TO-15	DAH	5	PAN
10644892007	MH-230301-RA-03	TO-15	DAH	5	PAN
10644892008	IA-230301-RA-03	TO-15	DAH	6	PAN
10644892009	IA-230301-RA-04	TO-15	DAH	6	PAN
10644892010	SS-230302-RA-03	TO-15	DAH	6	PAN
10644892011	SS-230302-RA-04	TO-15	DAH, DBB	6	PAN
10644892012	SS-230302-RA-05	TO-15	DAH, DBB	6	PAN
10644892013	SS-230302-RA-06	TO-15	DAH, DBB	6	PAN
10644892014	SS-230302-RA-07	TO-15	DAH, JAB	6	PAN
10644892015	SS-230302-RA-08	TO-15	DAH, JAB	6	PAN

PAN = Pace National - Mt. Juliet

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### SUMMARY OF DETECTION

Project: 003978 Wausau

Pace Project No.: 10644892

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>10644892001</b>	<b>IA-230301-RA-01</b>					
TO-15	Tetrachloroethene	11.7	ug/m3	1.84	03/10/23 21:56	
<b>10644892002</b>	<b>IA-230301-RA-02</b>					
TO-15	Tetrachloroethene	5.81	ug/m3	1.84	03/10/23 12:29	
<b>10644892003</b>	<b>SS-230302-RA-01</b>					
TO-15	Tetrachloroethene	849	ug/m3	18.4	03/11/23 17:39	
TO-15	Trichloroethene	20.2	ug/m3	1.22	03/10/23 15:10	
<b>10644892004</b>	<b>SS-230302-RA-02</b>					
TO-15	Tetrachloroethene	115	ug/m3	1.84	03/10/23 15:49	
TO-15	Trichloroethene	2.98	ug/m3	1.22	03/10/23 15:49	
<b>10644892005</b>	<b>MH-230301-RA-01</b>					
TO-15	Tetrachloroethene	2.47	ug/m3	1.84	03/10/23 16:29	
TO-15	Trichloroethene	0.670J	ug/m3	1.22	03/10/23 16:29	J
<b>10644892006</b>	<b>MH-230301-RA-02</b>					
TO-15	Tetrachloroethene	5.06	ug/m3	1.84	03/10/23 17:10	
TO-15	Trichloroethene	2.54	ug/m3	1.22	03/10/23 17:10	
<b>10644892007</b>	<b>MH-230301-RA-03</b>					
TO-15	Tetrachloroethene	1.82J	ug/m3	1.84	03/10/23 17:51	J
<b>10644892008</b>	<b>IA-230301-RA-03</b>					
TO-15	Trichloroethene	1.62	ug/m3	1.22	03/10/23 13:09	
<b>10644892009</b>	<b>IA-230301-RA-04</b>					
TO-15	Carbon tetrachloride	0.461J	ug/m3	1.54	03/10/23 13:49	J
TO-15	Trichloroethene	2.33	ug/m3	1.22	03/10/23 13:49	
<b>10644892010</b>	<b>SS-230302-RA-03</b>					
TO-15	Trichloroethene	424	ug/m3	1.22	03/10/23 22:37	
<b>10644892011</b>	<b>SS-230302-RA-04</b>					
TO-15	Carbon tetrachloride	0.674J	ug/m3	1.54	03/10/23 18:32	J
TO-15	Chloroform	20.1	ug/m3	1.16	03/10/23 18:32	
TO-15	Trichloroethene	6640	ug/m3	24.3	03/11/23 18:16	
<b>10644892012</b>	<b>SS-230302-RA-05</b>					
TO-15	Carbon tetrachloride	0.591J	ug/m3	1.54	03/10/23 19:12	J
TO-15	Chloroform	36.4	ug/m3	1.16	03/10/23 19:12	
TO-15	Trichloroethene	6.70	ug/m3	1.22	03/11/23 15:44	
<b>10644892013</b>	<b>SS-230302-RA-06</b>					
TO-15	Carbon tetrachloride	0.661J	ug/m3	1.54	03/10/23 19:52	J
TO-15	Chloroform	40.2	ug/m3	1.16	03/10/23 19:52	
TO-15	Trichloroethene	7.29	ug/m3	1.22	03/11/23 16:25	
<b>10644892014</b>	<b>SS-230302-RA-07</b>					
TO-15	Carbon tetrachloride	420	ug/m3	154	03/11/23 18:10	
TO-15	Chloroform	185	ug/m3	1.16	03/10/23 20:33	

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### SUMMARY OF DETECTION

Project: 003978 Wausau

Pace Project No.: 10644892

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>10644892014</b>	<b>SS-230302-RA-07</b>					
TO-15	cis-1,2-Dichloroethene	184	ug/m3	1.03	03/10/23 20:33	
TO-15	Trichloroethene	21900	ug/m3	122	03/11/23 18:10	
<b>10644892015</b>	<b>SS-230302-RA-08</b>					
TO-15	Carbon tetrachloride	1.19J	ug/m3	1.54	03/10/23 21:15	J
TO-15	Trichloroethene	236	ug/m3	12.2	03/11/23 23:34	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: IA-230301-RA-01**      **Lab ID: 10644892001**      Collected: 03/01/23 12:41      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 21:56	03/10/23 21:56	156-59-2	
Tetrachloroethene	<b>11.7</b>	ug/m3	1.84	0.553	1	03/10/23 21:56	03/10/23 21:56	127-18-4	
Trichloroethene	<b>1.22 U</b>	ug/m3	1.22	0.364	1	03/11/23 21:25	03/11/23 21:25	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 21:56	03/10/23 21:56	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	98.0	%	60.0-140		1	03/10/23 21:56	03/10/23 21:56	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	106	%	60.0-140		1	03/11/23 21:25	03/11/23 21:25	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: IA-230301-RA-02**      **Lab ID: 10644892002**      Collected: 03/01/23 12:57      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 12:29	03/10/23 12:29	156-59-2	
Tetrachloroethene	<b>5.81</b>	ug/m3	1.84	0.553	1	03/10/23 12:29	03/10/23 12:29	127-18-4	
Trichloroethene	<b>1.22 U</b>	ug/m3	1.22	0.364	1	03/10/23 12:29	03/10/23 12:29	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 12:29	03/10/23 12:29	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	97.2	%	60.0-140		1	03/10/23 12:29	03/10/23 12:29	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: SS-230302-RA-01**      **Lab ID: 10644892003**      Collected: 03/02/23 09:35      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 15:10	03/10/23 15:10	156-59-2	
Tetrachloroethene	<b>849</b>	ug/m3	18.4	5.53	10	03/11/23 17:39	03/11/23 17:39	127-18-4	
Trichloroethene	<b>20.2</b>	ug/m3	1.22	0.364	1	03/10/23 15:10	03/10/23 15:10	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 15:10	03/10/23 15:10	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	97.6	%	60.0-140		1	03/10/23 15:10	03/10/23 15:10	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	105	%	60.0-140		10	03/11/23 17:39	03/11/23 17:39	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

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**Sample: SS-230302-RA-02**      **Lab ID: 10644892004**      Collected: 03/02/23 10:09      Received: 03/06/23 10:15      Matrix: Air

---

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15      Preparation Method: TO-15 Pace National - Mt. Juliet							
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 15:49	03/10/23 15:49	156-59-2	
Tetrachloroethene	<b>115</b>	ug/m3	1.84	0.553	1	03/10/23 15:49	03/10/23 15:49	127-18-4	
Trichloroethene	<b>2.98</b>	ug/m3	1.22	0.364	1	03/10/23 15:49	03/10/23 15:49	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 15:49	03/10/23 15:49	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	98.1	%	60.0-140		1	03/10/23 15:49	03/10/23 15:49	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: MH-230301-RA-01**      **Lab ID: 10644892005**      Collected: 03/01/23 15:47      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 16:29	03/10/23 16:29	156-59-2	
Tetrachloroethene	<b>2.47</b>	ug/m3	1.84	0.553	1	03/10/23 16:29	03/10/23 16:29	127-18-4	
Trichloroethene	<b>0.670J</b>	ug/m3	1.22	0.364	1	03/10/23 16:29	03/10/23 16:29	79-01-6	J
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 16:29	03/10/23 16:29	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	99.9	%	60.0-140		1	03/10/23 16:29	03/10/23 16:29	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

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**Sample: MH-230301-RA-02**      **Lab ID: 10644892006**      Collected: 03/01/23 16:09      Received: 03/06/23 10:15      Matrix: Air

---

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15    Preparation Method: TO-15 Pace National - Mt. Juliet							
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 17:10	03/10/23 17:10	156-59-2	
Tetrachloroethene	<b>5.06</b>	ug/m3	1.84	0.553	1	03/10/23 17:10	03/10/23 17:10	127-18-4	
Trichloroethene	<b>2.54</b>	ug/m3	1.22	0.364	1	03/10/23 17:10	03/10/23 17:10	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 17:10	03/10/23 17:10	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	101	%	60.0-140		1	03/10/23 17:10	03/10/23 17:10	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: MH-230301-RA-03**      **Lab ID: 10644892007**      Collected: 03/01/23 16:23      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 17:51	03/10/23 17:51	156-59-2	
Tetrachloroethene	<b>1.82J</b>	ug/m3	1.84	0.553	1	03/10/23 17:51	03/10/23 17:51	127-18-4	J
Trichloroethene	<b>1.22 U</b>	ug/m3	1.22	0.364	1	03/10/23 17:51	03/10/23 17:51	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 17:51	03/10/23 17:51	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	100	%	60.0-140		1	03/10/23 17:51	03/10/23 17:51	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: IA-230301-RA-03**      **Lab ID: 10644892008**      Collected: 03/01/23 14:38      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	03/10/23 13:09	03/10/23 13:09	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	03/10/23 13:09	03/10/23 13:09	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 13:09	03/10/23 13:09	156-59-2	
Trichloroethene	<b>1.62</b>	ug/m3	1.22	0.364	1	03/10/23 13:09	03/10/23 13:09	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 13:09	03/10/23 13:09	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	97.4	%	60.0-140		1	03/10/23 13:09	03/10/23 13:09	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: IA-230301-RA-04**      **Lab ID: 10644892009**      Collected: 03/01/23 15:06      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15      Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.461 J</b>	ug/m3	1.54	0.461	1	03/10/23 13:49	03/10/23 13:49	56-23-5	J
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	03/10/23 13:49	03/10/23 13:49	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 13:49	03/10/23 13:49	156-59-2	
Trichloroethene	<b>2.33</b>	ug/m3	1.22	0.364	1	03/10/23 13:49	03/10/23 13:49	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 13:49	03/10/23 13:49	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	98.7	%	60.0-140		1	03/10/23 13:49	03/10/23 13:49	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

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**Sample: SS-230302-RA-03**      **Lab ID: 10644892010**      Collected: 03/02/23 11:52      Received: 03/06/23 10:15      Matrix: Air

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Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	03/10/23 22:37	03/10/23 22:37	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	03/10/23 22:37	03/10/23 22:37	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 22:37	03/10/23 22:37	156-59-2	
Trichloroethene	<b>424</b>	ug/m3	1.22	0.364	1	03/10/23 22:37	03/10/23 22:37	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 22:37	03/10/23 22:37	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	98.0	%	60.0-140		1	03/10/23 22:37	03/10/23 22:37	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: SS-230302-RA-04**      **Lab ID: 10644892011**      Collected: 03/02/23 12:07      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>									
Analytical Method: TO-15      Preparation Method: TO-15									
Pace National - Mt. Juliet									
Carbon tetrachloride	<b>0.674J</b>	ug/m3	1.54	0.461	1	03/10/23 18:32	03/10/23 18:32	56-23-5	J
Chloroform	<b>20.1</b>	ug/m3	1.16	0.349	1	03/10/23 18:32	03/10/23 18:32	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 18:32	03/10/23 18:32	156-59-2	
Trichloroethene	<b>6640</b>	ug/m3	24.3	7.29	20	03/11/23 18:16	03/11/23 18:16	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 18:32	03/10/23 18:32	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	98.3	%	60.0-140		1	03/10/23 18:32	03/10/23 18:32	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	106	%	60.0-140		20	03/11/23 18:16	03/11/23 18:16	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: SS-230302-RA-05**      **Lab ID: 10644892012**      Collected: 03/02/23 13:27      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>									
Analytical Method: TO-15      Preparation Method: TO-15									
Pace National - Mt. Juliet									
Carbon tetrachloride	<b>0.591J</b>	ug/m3	1.54	0.461	1	03/10/23 19:12	03/10/23 19:12	56-23-5	J
Chloroform	<b>36.4</b>	ug/m3	1.16	0.349	1	03/10/23 19:12	03/10/23 19:12	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 19:12	03/10/23 19:12	156-59-2	
Trichloroethene	<b>6.70</b>	ug/m3	1.22	0.364	1	03/11/23 15:44	03/11/23 15:44	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 19:12	03/10/23 19:12	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	99.7	%	60.0-140		1	03/10/23 19:12	03/10/23 19:12	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	105	%	60.0-140		1	03/11/23 15:44	03/11/23 15:44	3855-82-1	

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## ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: SS-230302-RA-06**      **Lab ID: 10644892013**      Collected: 03/02/23 13:27      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.661J</b>	ug/m3	1.54	0.461	1	03/10/23 19:52	03/10/23 19:52	56-23-5	J
Chloroform	<b>40.2</b>	ug/m3	1.16	0.349	1	03/10/23 19:52	03/10/23 19:52	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 19:52	03/10/23 19:52	156-59-2	
Trichloroethene	<b>7.29</b>	ug/m3	1.22	0.364	1	03/11/23 16:25	03/11/23 16:25	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 19:52	03/10/23 19:52	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	97.4	%	60.0-140		1	03/10/23 19:52	03/10/23 19:52	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	107	%	60.0-140		1	03/11/23 16:25	03/11/23 16:25	3855-82-1	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: SS-230302-RA-07**      **Lab ID: 10644892014**      Collected: 03/02/23 13:43      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>									
Analytical Method: TO-15      Preparation Method: TO-15									
Pace National - Mt. Juliet									
Carbon tetrachloride	<b>420</b>	ug/m3	154	46.1	100	03/11/23 18:10	03/11/23 18:10	56-23-5	
Chloroform	<b>185</b>	ug/m3	1.16	0.349	1	03/10/23 20:33	03/10/23 20:33	67-66-3	
cis-1,2-Dichloroethene	<b>184</b>	ug/m3	1.03	0.311	1	03/10/23 20:33	03/10/23 20:33	156-59-2	
Trichloroethene	<b>21900</b>	ug/m3	122	36.4	100	03/11/23 18:10	03/11/23 18:10	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 20:33	03/10/23 20:33	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	99.4	%	60.0-140		1	03/10/23 20:33	03/10/23 20:33	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	106	%	60.0-140		100	03/11/23 18:10	03/11/23 18:10	3855-82-1	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10644892

**Sample: SS-230302-RA-08**      **Lab ID: 10644892015**      Collected: 03/02/23 13:56      Received: 03/06/23 10:15      Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.19J</b>	ug/m3	1.54	0.461	1	03/10/23 21:15	03/10/23 21:15	56-23-5	J
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	03/10/23 21:15	03/10/23 21:15	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	03/10/23 21:15	03/10/23 21:15	156-59-2	
Trichloroethene	<b>236</b>	ug/m3	12.2	3.64	10	03/11/23 23:34	03/11/23 23:34	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	03/10/23 21:15	03/10/23 21:15	75-01-4	
<b>Surrogates</b>									
1,4-Dichlorobenzene-d4 (IS)	97.7	%	60.0-140		1	03/10/23 21:15	03/10/23 21:15	3855-82-1	
1,4-Dichlorobenzene-d4 (IS)	108	%	60.0-140		10	03/11/23 23:34	03/11/23 23:34	3855-82-1	

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**QUALITY CONTROL DATA**

Project: 003978 Wausau

Pace Project No.: 10644892

QC Batch:	2020743	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	VOA (MS) TO-15
		Laboratory:	Pace National - Mt. Juliet
Associated Lab Samples:	10644892001, 10644892002, 10644892003, 10644892004, 10644892005, 10644892006, 10644892007, 10644892008, 10644892009, 10644892010, 10644892011, 10644892012, 10644892013, 10644892014, 10644892015		

METHOD BLANK:	R3899619-3	Matrix:	Air
Associated Lab Samples:	10644892001, 10644892002, 10644892003, 10644892004, 10644892005, 10644892006, 10644892007, 10644892008, 10644892009, 10644892010, 10644892011, 10644892012, 10644892013, 10644892014, 10644892015		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbon tetrachloride	ug/m3	1.26 U	1.26	03/10/23 09:27	
Chloroform	ug/m3	0.973 U	0.973	03/10/23 09:27	
cis-1,2-Dichloroethene	ug/m3	0.793 U	0.793	03/10/23 09:27	
Tetrachloroethene	ug/m3	1.36 U	1.36	03/10/23 09:27	
Trichloroethene	ug/m3	1.07 U	1.07	03/10/23 09:27	
Vinyl chloride	ug/m3	0.511 U	0.511	03/10/23 09:27	
1,4-Dichlorobenzene-d4 (IS)	%	97.7	60.0-140	03/10/23 09:27	

Parameter	Units	R3899619-1		R3899619-2			% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCS Result	LCS % Rec	LCSD % Rec				
Carbon tetrachloride	ug/m3	23.6	22.6	23.0	95.7	97.3	70.0-130	1.66	25	
Chloroform	ug/m3	18.3	18.0	18.1	98.4	99.2	70.0-130	0.810	25	
cis-1,2-Dichloroethene	ug/m3	14.9	14.3	14.1	96.5	95.2	70.0-130	1.39	25	
Tetrachloroethene	ug/m3	25.5	24.0	25.1	94.1	98.7	70.0-130	4.70	25	
Trichloroethene	ug/m3	20.1	19.1	19.7	95.2	98.1	70.0-130	3.03	25	
Vinyl chloride	ug/m3	9.59	9.71	9.46	101	98.7	70.0-130	2.67	25	
1,4-Dichlorobenzene-d4 (IS)	%				100	99.2	60.0-140			

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**QUALITY CONTROL DATA**

Project: 003978 Wausau

Pace Project No.: 10644892

QC Batch: 2021576

Analysis Method: TO-15

QC Batch Method: TO-15

Analysis Description: VOA (MS) TO-15

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10644892014, 10644892015

METHOD BLANK: R3900056-2

Matrix: Air

Associated Lab Samples: 10644892014, 10644892015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbon tetrachloride	ug/m3	1.26 U	1.26	03/11/23 10:05	
Trichloroethene	ug/m3	1.07 U	1.07	03/11/23 10:05	
1,4-Dichlorobenzene-d4 (IS)	%	101	60.0-140	03/11/23 10:05	

LABORATORY CONTROL SAMPLE & LCSD: R3900056-1

R3900056-3

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ug/m3	23.6	23.6	22.0	99.7	93.1	70.0-130	6.92	25	
Trichloroethene	ug/m3	20.1	20.1	19.0	100	94.4	70.0-130	6.03	25	
1,4-Dichlorobenzene-d4 (IS)	%				112	106	60.0-140			

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### QUALITY CONTROL DATA

Project: 003978 Wausau

Pace Project No.: 10644892

QC Batch:	2021615	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	VOA (MS) TO-15
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 10644892001, 10644892003, 10644892011, 10644892012, 10644892013

METHOD BLANK: R3900228-3 Matrix: Air  
Associated Lab Samples: 10644892001, 10644892003, 10644892011, 10644892012, 10644892013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Tetrachloroethene	ug/m3	1.36 U	1.36	03/11/23 11:38	
Trichloroethene	ug/m3	1.07 U	1.07	03/11/23 11:38	
1,4-Dichlorobenzene-d4 (IS)	%	104	60.0-140	03/11/23 11:38	

LABORATORY CONTROL SAMPLE & LCSD: R3900228-1 R3900228-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Tetrachloroethene	ug/m3	25.5	28.8	27.8	113	109	70.0-130	3.36	25	
Trichloroethene	ug/m3	20.1	22.1	21.3	110	106	70.0-130	3.71	25	
1,4-Dichlorobenzene-d4 (IS)	%				104	105	60.0-140			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: 003978 Wausau

Pace Project No.: 10644892

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### WORKORDER QUALIFIERS

WO: 10644892

[1]

### ANALYTE QUALIFIERS

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 003978 Wausau

Pace Project No.: 10644892

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10644892001	IA-230301-RA-01	TO-15	2020743	TO-15	2020743
10644892001	IA-230301-RA-01	TO-15	2021615	TO-15	2021615
10644892002	IA-230301-RA-02	TO-15	2020743	TO-15	2020743
10644892003	SS-230302-RA-01	TO-15	2020743	TO-15	2020743
10644892003	SS-230302-RA-01	TO-15	2021615	TO-15	2021615
10644892004	SS-230302-RA-02	TO-15	2020743	TO-15	2020743
10644892005	MH-230301-RA-01	TO-15	2020743	TO-15	2020743
10644892006	MH-230301-RA-02	TO-15	2020743	TO-15	2020743
10644892007	MH-230301-RA-03	TO-15	2020743	TO-15	2020743
10644892008	IA-230301-RA-03	TO-15	2020743	TO-15	2020743
10644892009	IA-230301-RA-04	TO-15	2020743	TO-15	2020743
10644892010	SS-230302-RA-03	TO-15	2020743	TO-15	2020743
10644892011	SS-230302-RA-04	TO-15	2020743	TO-15	2020743
10644892011	SS-230302-RA-04	TO-15	2021615	TO-15	2021615
10644892012	SS-230302-RA-05	TO-15	2020743	TO-15	2020743
10644892012	SS-230302-RA-05	TO-15	2021615	TO-15	2021615
10644892013	SS-230302-RA-06	TO-15	2020743	TO-15	2020743
10644892013	SS-230302-RA-06	TO-15	2021615	TO-15	2021615
10644892014	SS-230302-RA-07	TO-15	2020743	TO-15	2020743
10644892014	SS-230302-RA-07	TO-15	2021576	TO-15	2021576
10644892015	SS-230302-RA-08	TO-15	2020743	TO-15	2020743
10644892015	SS-230302-RA-08	TO-15	2021576	TO-15	2021576

### REPORT OF LABORATORY ANALYSIS

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 1700 Elm Street Suite 200  
 Minneapolis, MN 55414

Billing Information:  
**Accounts Payable**  
 1700 Elm St., Ste. 200  
 Minneapolis, MN 55414

Report To: **Tina Soltani**  
 Email To: **tina.soltani@pacelabs.com**

Project Description: **Wausau**  
 City/State Collected: **Wausau WI**  
 Please Circle: **PT MT CT ET**

Chain of Custody Page **1** of **2**




PEOPLE ADVANCING SCIENCE  
**MT JULIET, TN**  
 12065 Lebanon Road Mt Juliet, TN 37122  
 Phone: 615-758-5858 Alt: 800-767-5859  
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

Client Project # **003978** Lab Project # **PACEMN-GHDAIR**

Phone: **612-607-1700**

Collected by (print): **Ryan Asmat** Site/Facility ID #

Collected by (signature):  **Rush?** (Lab MUST Be Notified)  
 Same Day  Three Day  
 Next Day  Five Day  
 Two Day

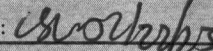
Date Results Needed

Collection Canister Pressure/Vacuum

TO-15 Summa  
List 1 (PCE, TCE, C1DCE, VC)

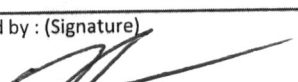
SDG # **L1591967**

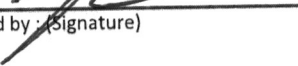
**E034**

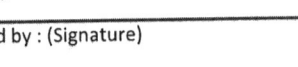
Acctnum: **PACEMN**  
 Template: **T224740**  
 Prelogin: **P980742**  
 PM: **464 - Nancy McLain**  
 PB:   
 Shipped Via: **FedEX Standard**

Sample ID	Can #	Flow Cont. #	Date	Time	Initial	Final				Rem./Contaminant	Sample # (lab only)
JA-230301-PA-01	10634	5641	3/1/23	1241	-28	-7					
JA-230301-PA-02	12297	8674	3/1/23	1257	-28	0					-01
SS-230302-PA-01	22932	6731	3/2/23	935	-30	-4					-01
SS-230302-PA-02	21558	20997	3/2/23	1009	-28	-4					-03
MH-230301-PA-01	22911	22511	3/1/23	1547	-29	-2					-04
MH-230301-PA-02	22840	21016	3/1/23	1609	-28	-5					-05
MH-230301-PA-03	22935	21799	3/1/23	1623	-28	-4					-06

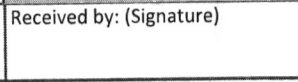
Remarks:

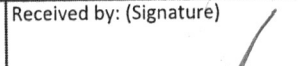
Relinquished by: (Signature)  Date: **3/3/23** Time: **1500**

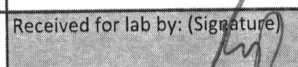
Relinquished by: (Signature)  Date: Time:

Relinquished by: (Signature)  Date: Time:

Samples returned via:  UPS  FedEx  Courier

Received by: (Signature)  Date: Time:

Received by: (Signature)  Date: Time:

Received for lab by: (Signature)  Date: **3-6-23** Time: **1015**

Sample Receipt Checklist  
 COC Seal Present/Intact:  Y  N If Applicable  
 COC Signed/Accurate:  Y  N VOA Zero Headspace:  Y  N  
 Bottles arrive intact:  Y  N Pres. Correct/Check:  Y  N  
 Correct bottles used:  Y  N  
 Sufficient volume sent:  Y  N  
 RAD Screen <0.5 mR/hr:  Y  N

COC Seal Intact:  Y  N Page 27 of 43

Company Name/Address:  
**Pace Analytical - Minnesota**  
 1700 Elm Street Suite 200  
 Minneapolis, MN 55414

Billing Information:  
**Accounts Payable**  
 1700 Elm St., Ste. 200  
 Minneapolis, MN 55414

Analysis

Chain of Custody Page \_\_\_ of \_\_\_

**Pace**  
 PEOPLE ADVANCING SCIENCE  
 MT JULIET, TN  
 12065 Lebanon Road Mt Juliet, TN 37122  
 Phone: 615-758-5858 Alt: 800-767-5859  
 Submitting a sample via this chain of custody  
 constitutes acknowledgment and acceptance  
 of the Pace Terms and Conditions found at:  
<https://info.pacelabs.com/hubs/pas-standard-terms.pdf>

Report To:  
**Tina Soltani**

Email To:  
 tina.soltani@pacelabs.com

Project Description:  
**Wausau**

City/State Collected:  
**Wausau WI**

Please Circle:  
 PT MT CT ET

Phone:  
**612-607-1700**

Client Project #  
**003978**

Lab Project #  
**PACEMN-GHDAIR**

Collected by (print):  
**Ryan Annet**

Site/Facility ID #

P.O. #

Collected by (signature):

**Rush?** (Lab MUST Be Notified)  
 Same Day  Three Day  
 Next Day  Five Day  
 Two Day

Date Results Needed

Sample ID	Can #	Flow Cont. #	Date	Time	Collection		Initial	Final
					Collection	Canister Pressure/Vacuum		
IA-230301-RA-03	10975	9391	3/1/23	1438	-28		-10	
IA-230301-RA-04	6151	7774	3/1/23	1506	-30			
SS-230302-RA-03	22098	21797	3/2/23	1152	-27		-5	
SS-230302-RA-04	22920	21685	3/2/23	1207	-27		-5	
SS-230302-RA-05	10406	21084	3/2/23	1327	-29		-1	
SS-230302-RA-06	22912	21664	3/2/23	1327	-29		-1	
SS-230302-RA-07	22892	22465	3/2/23	1343	-28		-5	
SS-230302-RA-08	22910	21071	3/2/23	1356	-29		-5	

TO-15 Summa

List 2 (TCE, C12DCE, CT, Chloroform, VC)

SDG # **L1591967**

Table #

Acctnum: **PACEMN**

Template: **T224740**

Prelogin: **P980742**

PM: **464 - Nancy McLain**

PB: **CSL-01/1/23**

Shipped Via: **FedEX Standard**

Rem./Contaminant	Sample # (lab only)
	03
	06
	09
	10
	11
	12
	13

Remarks: **PTD of 10.2 ppm on RA-07**

Relinquished by: (Signature)			Date:		Time:		Samples returned via: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> Courier		Tracking #		Hold #	
			3/5/23		1500		Received by: (Signature)		Date: Time:		Condition: (lab use only)	
Relinquished by: (Signature)			Date:		Time:		Received by: (Signature)		Date: Time:		COC Seal Intact: <input type="checkbox"/> Y <input type="checkbox"/> N Page 28 of 43	
Relinquished by: (Signature)			Date:		Time:		Received for lab by: (Signature)		Date: Time:		NCF:	





### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892001      ProjSampleNum: 10644892001      Date Collected: 03/01/23 12:41  
 Client Sample ID: IA-230301-RA-01      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.24	ppbv	0.24	0.072	03/10/23 21:56	DAH 56-23-5	
Carbon tetrachloride	0.24	ppbv	0.24	0.072	03/10/23 22:37	DAH 56-23-5	
Chloroform	0.23	ppbv	0.23	0.07	03/10/23 22:37	DAH 67-66-3	
Chloroform	0.23	ppbv	0.23	0.07	03/10/23 21:56	DAH 67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 21:56	DAH 156-59-2	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 22:37	DAH 156-59-2	
Trichloroethene	0.22	ppbv	0.22	0.067	03/11/23 21:25	DBB 79-01-6	
Trichloroethene	77.6	ppbv	0.22	0.067	03/10/23 22:37	DAH 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 21:56	DAH 75-01-4	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 22:37	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892002      ProjSampleNum: 10644892002      Date Collected: 03/01/23 12:57  
 Client Sample ID: IA-230301-RA-02      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Fnote
<b>Air</b>							
TO-15							
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 12:29	DAH 156-59-2	
Tetrachloroethene	0.84	ppbv	0.27	0.08	03/10/23 12:29	DAH 127-18-4	
Trichloroethene	0.22	ppbv	0.22	0.067	03/10/23 12:29	DAH 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 12:29	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



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 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892003      ProjSampleNum: 10644892003      Date Collected: 03/02/23 9:35  
 Client Sample ID: SS-230302-RA-01      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
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#### Air

TO-15

cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 15:10	DAH 156-59-2	
Tetrachloroethene	123	ppbv	2.7	0.8	03/11/23 17:39	DBB 127-18-4	
Trichloroethene	3.7	ppbv	0.22	0.067	03/10/23 15:10	DAH 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 15:10	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request

Date: 3/24/2023

Page 3



Pace Analytical Services, LLC  
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Minneapolis, MN 55414  
Phone: 612.607.1700  
Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD  
Phone: 972-331-8500

Lab Project Number: 10644892  
Project Name: 003978 Wausau

Lab Sample No: 10644892004      ProjSampleNum: 10644892004      Date Collected: 03/02/23 10:09  
Client Sample ID: SS-230302-RA-02      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
------------	---------	-------	--------------	-----	----------	---------	--------

#### Air

TO-15

cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 15:49	DAH 156-59-2	
Tetrachloroethene	16.7	ppbv	0.27	0.08	03/10/23 15:49	DAH 127-18-4	
Trichloroethene	0.55	ppbv	0.22	0.067	03/10/23 15:49	DAH 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 15:49	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request

Date: 3/24/2023

Page 4



Pace Analytical Services, LLC  
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 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892005      ProjSampleNum: 10644892005      Date Collected: 03/01/23 15:47  
 Client Sample ID: MH-230301-RA-01      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
<b>Air</b>							
TO-15							
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 16:29	DAH 156-59-2	
Tetrachloroethene	0.36	ppbv	0.27	0.08	03/10/23 16:29	DAH 127-18-4	
Trichloroethene	0.12J	ppbv	0.22	0.067	03/10/23 16:29	DAH 79-01-6	J
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 16:29	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



Pace Analytical Services, LLC  
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 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892006      ProjSampleNum: 10644892006      Date Collected: 03/01/23 16:09  
 Client Sample ID: MH-230301-RA-02      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
<b>Air</b>							
TO-15							
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 17:10	DAH 156-59-2	
Tetrachloroethene	0.73	ppbv	0.27	0.08	03/10/23 17:10	DAH 127-18-4	
Trichloroethene	0.46	ppbv	0.22	0.067	03/10/23 17:10	DAH 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 17:10	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892007      ProjSampleNum: 10644892007      Date Collected: 03/01/23 16:23  
 Client Sample ID: MH-230301-RA-03      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
<b>Air</b>							
TO-15							
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 17:51	DAH 156-59-2	
Tetrachloroethene	0.26J	ppbv	0.27	0.08	03/10/23 17:51	DAH 127-18-4	J
Trichloroethene	0.22	ppbv	0.22	0.067	03/10/23 17:51	DAH 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 17:51	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892008      ProjSampleNum: 10644892008      Date Collected: 03/01/23 14:38  
 Client Sample ID: IA-230301-RA-03      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Fnote
<b>Air</b>							
TO-15							
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 13:09	DAH 156-59-2	
Tetrachloroethene	0.69	ppbv	0.27	0.08	03/10/23 13:09	DAH 127-18-4	
Trichloroethene	0.3	ppbv	0.22	0.067	03/10/23 13:09	DAH 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 13:09	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**

Units Conversion Request





Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892009      ProjSampleNum: 10644892009      Date Collected: 03/01/23 15:06  
 Client Sample ID: IA-230301-RA-04      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Fnote
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.072J	ppbv	0.24	0.072	03/10/23 13:49	DAH 56-23-5	J
Chloroform	0.23	ppbv	0.23	0.07	03/10/23 13:49	DAH 67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 13:49	DAH 156-59-2	
Trichloroethene	0.43	ppbv	0.22	0.067	03/10/23 13:49	DAH 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 13:49	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892011      ProjSampleNum: 10644892011      Date Collected: 03/02/23 12:07  
 Client Sample ID: SS-230302-RA-04      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Fnote
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.11J	ppbv	0.24	0.072	03/10/23 18:32	DAH 56-23-5	J
Chloroform	4	ppbv	0.23	0.07	03/10/23 18:32	DAH 67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 18:32	DAH 156-59-2	
Trichloroethene	1220	ppbv	4.4	1.3	03/11/23 18:16	DBB 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 18:32	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892012      ProjSampleNum: 10644892012      Date Collected: 03/02/23 13:27  
 Client Sample ID: SS-230302-RA-05      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Fnote
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.092J	ppbv	0.24	0.072	03/10/23 19:12	DAH 56-23-5	J
Chloroform	7.3	ppbv	0.23	0.07	03/10/23 19:12	DAH 67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 19:12	DAH 156-59-2	
Trichloroethene	1.2	ppbv	0.22	0.067	03/11/23 15:44	DBB 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 19:12	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892013      ProjSampleNum: 10644892013      Date Collected: 03/02/23 13:27  
 Client Sample ID: SS-230302-RA-06      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.1J	ppbv	0.24	0.072	03/10/23 19:52	DAH 56-23-5	J
Chloroform	8.1	ppbv	0.23	0.07	03/10/23 19:52	DAH 67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 19:52	DAH 156-59-2	
Trichloroethene	1.3	ppbv	0.22	0.067	03/11/23 16:25	DBB 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 19:52	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892014      ProjSampleNum: 10644892014      Date Collected: 03/02/23 13:43  
 Client Sample ID: SS-230302-RA-07      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Fnote
<b>Air</b>							
TO-15							
Carbon tetrachloride	65.7	ppbv	24.1	7.2	03/11/23 18:10	JAB 56-23-5	
Chloroform	37.3	ppbv	0.23	0.07	03/10/23 20:33	DAH 67-66-3	
cis-1,2-Dichloroethene	45.7	ppbv	0.26	0.077	03/10/23 20:33	DAH 156-59-2	
Trichloroethene	4010	ppbv	22.3	6.7	03/11/23 18:10	JAB 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 20:33	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10644892  
 Project Name: 003978 Wausau

Lab Sample No: 10644892015      ProjSampleNum: 10644892015      Date Collected: 03/02/23 13:56  
 Client Sample ID: SS-230302-RA-08      Matrix: Air      Date Received: 03/06/23 10:15

Parameters	Results	Units	Report Limit	MDL	Analyzed	CAS No.	Ftnote
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.19J	ppbv	0.24	0.072	03/10/23 21:15	DAH 56-23-5	J
Chloroform	0.23	ppbv	0.23	0.07	03/10/23 21:15	DAH 67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	0.077	03/10/23 21:15	DAH 156-59-2	
Trichloroethene	43.2	ppbv	2.2	0.67	03/11/23 23:34	JAB 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	0.094	03/10/23 21:15	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



Pace Analytical Services, LLC  
1700 Elm Street, Suite 200  
Minneapolis, MN 55414  
Phone: 612.607.1700  
Fax: 612.607.6444

## ANALYTICAL RESULTS

Client: GHD  
Phone: 972-331-8500

Lab Project Number: 10644892  
Project Name: 003978 Wausau

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## PARAMETER FOOTNOTES

ND Not detected at or above adjusted reporting limit

NC Not Calculable

J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

[J] Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 3/24/2023

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Mr. Grant Anderson  
GHD Services Inc.  
900 Long Lake Road  
Suite 200  
New Brighton, Minnesota 55112

Generated 9/15/2023 12:50:03 AM

## JOB DESCRIPTION

Wausau - 003978

## JOB NUMBER

500-238904-1



# Eurofins Chicago

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

## Authorization



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Authorized for release by  
Carlene McCutcheon, Senior Project Manager  
[Carlene.McCutcheon@et.eurofinsus.com](mailto:Carlene.McCutcheon@et.eurofinsus.com)  
(708)325-6562



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# Case Narrative

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

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## Job ID: 500-238904-1

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### Laboratory: Eurofins Chicago

#### Narrative

#### Job Narrative 500-238904-1

#### Receipt

The samples were received on 8/31/2023 10:05 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 0.2° C.

#### Receipt Exceptions

One or more containers for the following sample(s) was received broken or leaking: Sample 4 has 1 VOA Vial broken.

The method requirement for no headspace was not met. The following volatile sample(s) were analyzed with headspace in the sample container(s): Sample 17 has 1 VOA vial with headspace.

The container label for the following sample(s) did not match the information listed on the Chain-of-Custody (COC) Sample 29. Received 4 VOA Vials, while the COC lists 1 VOA Vial.

#### GC/MS VOA

Method 8260B: Acetone was detected in the following samples: W-230829-RA-01 (500-238904-1), W-230830-RA-02 (500-238904-2), W-230830-RA-03 (500-238904-3), W-230830-RA-04 (500-238904-4) and W-230830-RA-05 (500-238904-5). Acetone is a known lab contaminant; therefore all low level detects for this compound could be suspected as lab contamination.

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. W-230830-RA-05 (500-238904-5)

Method 8260B: Internal standard (1,4-Dichlorobenzene-d4) response was outside of acceptance limits for the following sample: W-230830-RA-06 (500-238904-6), W-230829-RA-08 (500-238904-8), W-230830-RA-10 (500-238904-10) and W-230829-RA-12 (500-238904-12). The sample did not have detects of requested analytes using this internal standard. Surrogate 4-Bromofluorobenzene is also being quantitated with this internal standard.

Method 8260B: The matrix spike (MS) recoveries for analytical batch 500-730885 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

Method 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 500-731305 were outside control limits for one or more analytes. See QC Sample Results for detail. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery is within acceptance limits.

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

# Detection Summary

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

## Client Sample ID: W-230829-RA-01

## Lab Sample ID: 500-238904-1

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.2	J B	10	1.7	ug/L	1		8260B	Total/NA
Tetrachloroethene	8.0		1.0	0.37	ug/L	1		8260B	Total/NA
Toluene	0.23	J	0.50	0.15	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-02

## Lab Sample ID: 500-238904-2

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.3	J B	10	1.7	ug/L	1		8260B	Total/NA
Toluene	0.19	J	0.50	0.15	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-03

## Lab Sample ID: 500-238904-3

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.3	J B	10	1.7	ug/L	1		8260B	Total/NA
Toluene	0.25	J	0.50	0.15	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-04

## Lab Sample ID: 500-238904-4

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.2	J B	10	1.7	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	15		1.0	0.41	ug/L	1		8260B	Total/NA
Toluene	0.19	J	0.50	0.15	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-05

## Lab Sample ID: 500-238904-5

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Acetone	5.2	J B	10	1.7	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	5.8		1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	1.7		1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	2.0		0.50	0.16	ug/L	1		8260B	Total/NA
Vinyl chloride	1.0		1.0	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-06

## Lab Sample ID: 500-238904-6

No Detections.

## Client Sample ID: W-230830-RA-07

## Lab Sample ID: 500-238904-7

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	27		1.0	0.41	ug/L	1		8260B	Total/NA
Tetrachloroethene	2.9		1.0	0.37	ug/L	1		8260B	Total/NA
Vinyl chloride	8.5		1.0	0.20	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230829-RA-08

## Lab Sample ID: 500-238904-8

No Detections.

## Client Sample ID: W-230830-RA-09

## Lab Sample ID: 500-238904-9

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	9.8		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	0.53		0.50	0.16	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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# Detection Summary

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

## Client Sample ID: W-230830-RA-10

Lab Sample ID: 500-238904-10

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	8.4		1.0	0.37	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230829-RA-11

Lab Sample ID: 500-238904-11

No Detections.

## Client Sample ID: W-230829-RA-12

Lab Sample ID: 500-238904-12

No Detections.

## Client Sample ID: W-230829-RA-13

Lab Sample ID: 500-238904-13

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	24		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	17		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230829-RA-14

Lab Sample ID: 500-238904-14

No Detections.

## Client Sample ID: W-230829-RA-15

Lab Sample ID: 500-238904-15

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.7		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230829-RA-16

Lab Sample ID: 500-238904-16

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Chloroform	61		2.0	0.37	ug/L	1		8260B	Total/NA
Tetrachloroethene	0.70	J	1.0	0.37	ug/L	1		8260B	Total/NA
Trichloroethene	1.9		0.50	0.16	ug/L	1		8260B	Total/NA
Carbon tetrachloride - DL	140		10	3.8	ug/L	10		8260B	Total/NA

## Client Sample ID: W-230830-RA-17

Lab Sample ID: 500-238904-17

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Chloroform	0.45	J	2.0	0.37	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	2.7		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene	4.9		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-18

Lab Sample ID: 500-238904-18

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	2.7		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-19

Lab Sample ID: 500-238904-19

No Detections.

## Client Sample ID: W-230830-RA-20

Lab Sample ID: 500-238904-20

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.9		1.0	0.41	ug/L	1		8260B	Total/NA
Trichloroethene - DL	140		5.0	1.6	ug/L	10		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

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# Detection Summary

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

## Client Sample ID: W-230830-RA-21

## Lab Sample ID: 500-238904-21

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.7		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-22

## Lab Sample ID: 500-238904-22

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	43		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-23

## Lab Sample ID: 500-238904-23

No Detections.

## Client Sample ID: W-230830-RA-24

## Lab Sample ID: 500-238904-24

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.76		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-25

## Lab Sample ID: 500-238904-25

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.70		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-26

## Lab Sample ID: 500-238904-26

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.83		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-27

## Lab Sample ID: 500-238904-27

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	32		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: W-230830-RA-28

## Lab Sample ID: 500-238904-28

Analyte	Result	Qualifier	LOQ	LOD	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	10		0.50	0.16	ug/L	1		8260B	Total/NA

## Client Sample ID: Trip Blank

## Lab Sample ID: 500-238904-29

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Chicago

# Method Summary

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

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

**Protocol References:**

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

**Laboratory References:**

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

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# Sample Summary

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-238904-1	W-230829-RA-01	Water	08/29/23 13:26	08/31/23 10:05
500-238904-2	W-230830-RA-02	Water	08/30/23 09:19	08/31/23 10:05
500-238904-3	W-230830-RA-03	Water	08/30/23 08:07	08/31/23 10:05
500-238904-4	W-230830-RA-04	Water	08/30/23 10:29	08/31/23 10:05
500-238904-5	W-230830-RA-05	Water	08/30/23 08:46	08/31/23 10:05
500-238904-6	W-230830-RA-06	Water	08/30/23 08:38	08/31/23 10:05
500-238904-7	W-230830-RA-07	Water	08/30/23 11:19	08/31/23 10:05
500-238904-8	W-230829-RA-08	Water	08/29/23 16:47	08/31/23 10:05
500-238904-9	W-230830-RA-09	Water	08/30/23 09:28	08/31/23 10:05
500-238904-10	W-230830-RA-10	Water	08/30/23 12:08	08/31/23 10:05
500-238904-11	W-230829-RA-11	Water	08/29/23 14:22	08/31/23 10:05
500-238904-12	W-230829-RA-12	Water	08/29/23 14:23	08/31/23 10:05
500-238904-13	W-230829-RA-13	Water	08/29/23 15:23	08/31/23 10:05
500-238904-14	W-230829-RA-14	Water	08/29/23 15:59	08/31/23 10:05
500-238904-15	W-230829-RA-15	Water	08/29/23 16:38	08/31/23 10:05
500-238904-16	W-230829-RA-16	Water	08/29/23 17:11	08/31/23 10:05
500-238904-17	W-230830-RA-17	Water	08/30/23 08:02	08/31/23 10:05
500-238904-18	W-230830-RA-18	Water	08/30/23 08:27	08/31/23 10:05
500-238904-19	W-230830-RA-19	Water	08/30/23 08:45	08/31/23 10:05
500-238904-20	W-230830-RA-20	Water	08/30/23 08:49	08/31/23 10:05
500-238904-21	W-230830-RA-21	Water	08/30/23 09:46	08/31/23 10:05
500-238904-22	W-230830-RA-22	Water	08/30/23 10:12	08/31/23 10:05
500-238904-23	W-230830-RA-23	Water	08/30/23 10:37	08/31/23 10:05
500-238904-24	W-230830-RA-24	Water	08/30/23 10:42	08/31/23 10:05
500-238904-25	W-230830-RA-25	Water	08/30/23 10:42	08/31/23 10:05
500-238904-26	W-230830-RA-26	Water	08/30/23 10:57	08/31/23 10:05
500-238904-27	W-230830-RA-27	Water	08/30/23 11:35	08/31/23 10:05
500-238904-28	W-230830-RA-28	Water	08/30/23 12:15	08/31/23 10:05
500-238904-29	Trip Blank	Water	08/30/23 00:00	08/31/23 10:05



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230829-RA-01**

**Lab Sample ID: 500-238904-1**

Date Collected: 08/29/23 13:26

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/06/23 17:25	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/06/23 17:25	1
<b>Acetone</b>	<b>4.2</b>	<b>J B</b>	10	1.7	ug/L			09/06/23 17:25	1
Benzene	<0.15		0.50	0.15	ug/L			09/06/23 17:25	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/06/23 17:25	1
Chloroform	<0.37		2.0	0.37	ug/L			09/06/23 17:25	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/06/23 17:25	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/06/23 17:25	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/06/23 17:25	1
<b>Tetrachloroethene</b>	<b>8.0</b>		1.0	0.37	ug/L			09/06/23 17:25	1
<b>Toluene</b>	<b>0.23</b>	<b>J</b>	0.50	0.15	ug/L			09/06/23 17:25	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/06/23 17:25	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/06/23 17:25	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/06/23 17:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		75 - 126					09/06/23 17:25	1
4-Bromofluorobenzene (Surr)	116		72 - 124					09/06/23 17:25	1
Dibromofluoromethane	106		75 - 120					09/06/23 17:25	1
Toluene-d8 (Surr)	89		75 - 120					09/06/23 17:25	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-02**

**Lab Sample ID: 500-238904-2**

Date Collected: 08/30/23 09:19

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/06/23 17:49	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/06/23 17:49	1
<b>Acetone</b>	<b>5.3</b>	<b>J B</b>	10	1.7	ug/L			09/06/23 17:49	1
Benzene	<0.15		0.50	0.15	ug/L			09/06/23 17:49	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/06/23 17:49	1
Chloroform	<0.37		2.0	0.37	ug/L			09/06/23 17:49	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/06/23 17:49	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/06/23 17:49	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/06/23 17:49	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/06/23 17:49	1
<b>Toluene</b>	<b>0.19</b>	<b>J</b>	0.50	0.15	ug/L			09/06/23 17:49	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/06/23 17:49	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/06/23 17:49	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/06/23 17:49	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	110		75 - 126					09/06/23 17:49	1
4-Bromofluorobenzene (Surr)	112		72 - 124					09/06/23 17:49	1
Dibromofluoromethane	107		75 - 120					09/06/23 17:49	1
Toluene-d8 (Surr)	89		75 - 120					09/06/23 17:49	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-03**

**Lab Sample ID: 500-238904-3**

Date Collected: 08/30/23 08:07

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/06/23 18:13	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/06/23 18:13	1
<b>Acetone</b>	<b>4.3</b>	<b>J B</b>	10	1.7	ug/L			09/06/23 18:13	1
Benzene	<0.15		0.50	0.15	ug/L			09/06/23 18:13	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/06/23 18:13	1
Chloroform	<0.37		2.0	0.37	ug/L			09/06/23 18:13	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/06/23 18:13	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/06/23 18:13	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/06/23 18:13	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/06/23 18:13	1
<b>Toluene</b>	<b>0.25</b>	<b>J</b>	0.50	0.15	ug/L			09/06/23 18:13	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/06/23 18:13	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/06/23 18:13	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/06/23 18:13	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	112		75 - 126		09/06/23 18:13	1
4-Bromofluorobenzene (Surr)	113		72 - 124		09/06/23 18:13	1
Dibromofluoromethane	109		75 - 120		09/06/23 18:13	1
Toluene-d8 (Surr)	89		75 - 120		09/06/23 18:13	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-04**

**Lab Sample ID: 500-238904-4**

Date Collected: 08/30/23 10:29

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/06/23 18:38	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/06/23 18:38	1
<b>Acetone</b>	<b>5.2</b>	<b>J B</b>	10	1.7	ug/L			09/06/23 18:38	1
Benzene	<0.15		0.50	0.15	ug/L			09/06/23 18:38	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/06/23 18:38	1
Chloroform	<0.37		2.0	0.37	ug/L			09/06/23 18:38	1
<b>cis-1,2-Dichloroethene</b>	<b>15</b>		1.0	0.41	ug/L			09/06/23 18:38	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/06/23 18:38	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/06/23 18:38	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/06/23 18:38	1
<b>Toluene</b>	<b>0.19</b>	<b>J</b>	0.50	0.15	ug/L			09/06/23 18:38	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/06/23 18:38	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/06/23 18:38	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/06/23 18:38	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		75 - 126		09/06/23 18:38	1
4-Bromofluorobenzene (Surr)	112		72 - 124		09/06/23 18:38	1
Dibromofluoromethane	109		75 - 120		09/06/23 18:38	1
Toluene-d8 (Surr)	89		75 - 120		09/06/23 18:38	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-05**

**Lab Sample ID: 500-238904-5**

Date Collected: 08/30/23 08:46

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/06/23 19:02	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/06/23 19:02	1
<b>Acetone</b>	<b>5.2</b>	<b>J B</b>	10	1.7	ug/L			09/06/23 19:02	1
Benzene	<0.15		0.50	0.15	ug/L			09/06/23 19:02	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/06/23 19:02	1
Chloroform	<0.37		2.0	0.37	ug/L			09/06/23 19:02	1
<b>cis-1,2-Dichloroethene</b>	<b>5.8</b>		1.0	0.41	ug/L			09/06/23 19:02	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/06/23 19:02	1
Methylene Chloride	<1.6	F1	5.0	1.6	ug/L			09/06/23 19:02	1
<b>Tetrachloroethene</b>	<b>1.7</b>		1.0	0.37	ug/L			09/06/23 19:02	1
Toluene	<0.15		0.50	0.15	ug/L			09/06/23 19:02	1
<b>Trichloroethene</b>	<b>2.0</b>		0.50	0.16	ug/L			09/06/23 19:02	1
<b>Vinyl chloride</b>	<b>1.0</b>		1.0	0.20	ug/L			09/06/23 19:02	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/06/23 19:02	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	113		75 - 126					09/06/23 19:02	1
4-Bromofluorobenzene (Surr)	112		72 - 124					09/06/23 19:02	1
Dibromofluoromethane	110		75 - 120					09/06/23 19:02	1
Toluene-d8 (Surr)	90		75 - 120					09/06/23 19:02	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-06**

**Lab Sample ID: 500-238904-6**

Date Collected: 08/30/23 08:38

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 01:25	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 01:25	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 01:25	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 01:25	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 01:25	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 01:25	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 01:25	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 01:25	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 01:25	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 01:25	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 01:25	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 01:25	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 01:25	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 01:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		75 - 126		09/08/23 01:25	1
4-Bromofluorobenzene (Surr)	97	*	72 - 124		09/08/23 01:25	1
Dibromofluoromethane	104		75 - 120		09/08/23 01:25	1
Toluene-d8 (Surr)	95		75 - 120		09/08/23 01:25	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-07**

**Lab Sample ID: 500-238904-7**

Date Collected: 08/30/23 11:19

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 01:48	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 01:48	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 01:48	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 01:48	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 01:48	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 01:48	1
<b>cis-1,2-Dichloroethene</b>	<b>27</b>		1.0	0.41	ug/L			09/08/23 01:48	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 01:48	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 01:48	1
<b>Tetrachloroethene</b>	<b>2.9</b>		1.0	0.37	ug/L			09/08/23 01:48	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 01:48	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 01:48	1
<b>Vinyl chloride</b>	<b>8.5</b>		1.0	0.20	ug/L			09/08/23 01:48	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 01:48	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		75 - 126		09/08/23 01:48	1
4-Bromofluorobenzene (Surr)	100	*	72 - 124		09/08/23 01:48	1
Dibromofluoromethane	109		75 - 120		09/08/23 01:48	1
Toluene-d8 (Surr)	98		75 - 120		09/08/23 01:48	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230829-RA-08**

**Lab Sample ID: 500-238904-8**

Date Collected: 08/29/23 16:47

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 02:11	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 02:11	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 02:11	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 02:11	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 02:11	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 02:11	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 02:11	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 02:11	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 02:11	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 02:11	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 02:11	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 02:11	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 02:11	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 02:11	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	106		75 - 126					09/08/23 02:11	1
4-Bromofluorobenzene (Surr)	102	*	72 - 124					09/08/23 02:11	1
Dibromofluoromethane	111		75 - 120					09/08/23 02:11	1
Toluene-d8 (Surr)	98		75 - 120					09/08/23 02:11	1



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-09**

**Lab Sample ID: 500-238904-9**

Date Collected: 08/30/23 09:28

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 12:03	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 12:03	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 12:03	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 12:03	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 12:03	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 12:03	1
<b>cis-1,2-Dichloroethene</b>	<b>9.8</b>		1.0	0.41	ug/L			09/08/23 12:03	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 12:03	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 12:03	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 12:03	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 12:03	1
<b>Trichloroethene</b>	<b>0.53</b>		0.50	0.16	ug/L			09/08/23 12:03	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 12:03	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 12:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		75 - 126		09/08/23 12:03	1
4-Bromofluorobenzene (Surr)	99		72 - 124		09/08/23 12:03	1
Dibromofluoromethane	98		75 - 120		09/08/23 12:03	1
Toluene-d8 (Surr)	101		75 - 120		09/08/23 12:03	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-10**

**Lab Sample ID: 500-238904-10**

Date Collected: 08/30/23 12:08

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 02:57	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 02:57	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 02:57	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 02:57	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 02:57	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 02:57	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 02:57	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 02:57	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 02:57	1
<b>Tetrachloroethene</b>	<b>8.4</b>		1.0	0.37	ug/L			09/08/23 02:57	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 02:57	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 02:57	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 02:57	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 02:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	111		75 - 126					09/08/23 02:57	1
4-Bromofluorobenzene (Surr)	101	*	72 - 124					09/08/23 02:57	1
Dibromofluoromethane	110		75 - 120					09/08/23 02:57	1
Toluene-d8 (Surr)	95		75 - 120					09/08/23 02:57	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230829-RA-11**

**Lab Sample ID: 500-238904-11**

**Date Collected: 08/29/23 14:22**

**Matrix: Water**

**Date Received: 08/31/23 10:05**

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 12:30	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 12:30	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 12:30	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 12:30	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 12:30	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 12:30	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 12:30	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 12:30	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 12:30	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 12:30	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 12:30	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 12:30	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 12:30	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 12:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		75 - 126		09/08/23 12:30	1
4-Bromofluorobenzene (Surr)	99		72 - 124		09/08/23 12:30	1
Dibromofluoromethane	100		75 - 120		09/08/23 12:30	1
Toluene-d8 (Surr)	99		75 - 120		09/08/23 12:30	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230829-RA-12**

**Lab Sample ID: 500-238904-12**

Date Collected: 08/29/23 14:23

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 03:43	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 03:43	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 03:43	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 03:43	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 03:43	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 03:43	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 03:43	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 03:43	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 03:43	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 03:43	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 03:43	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 03:43	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 03:43	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 03:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		75 - 126		09/08/23 03:43	1
4-Bromofluorobenzene (Surr)	98	*	72 - 124		09/08/23 03:43	1
Dibromofluoromethane	114		75 - 120		09/08/23 03:43	1
Toluene-d8 (Surr)	95		75 - 120		09/08/23 03:43	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230829-RA-13**

**Lab Sample ID: 500-238904-13**

Date Collected: 08/29/23 15:23

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 12:57	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 12:57	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 12:57	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 12:57	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 12:57	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 12:57	1
<b>cis-1,2-Dichloroethene</b>	<b>24</b>		1.0	0.41	ug/L			09/08/23 12:57	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 12:57	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 12:57	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 12:57	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 12:57	1
<b>Trichloroethene</b>	<b>17</b>		0.50	0.16	ug/L			09/08/23 12:57	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 12:57	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 12:57	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
1,2-Dichloroethane-d4 (Surr)	100		75 - 126					09/08/23 12:57	1
4-Bromofluorobenzene (Surr)	99		72 - 124					09/08/23 12:57	1
Dibromofluoromethane	100		75 - 120					09/08/23 12:57	1
Toluene-d8 (Surr)	101		75 - 120					09/08/23 12:57	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230829-RA-14**

**Lab Sample ID: 500-238904-14**

**Date Collected: 08/29/23 15:59**

**Matrix: Water**

**Date Received: 08/31/23 10:05**

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 13:23	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 13:23	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 13:23	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 13:23	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 13:23	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 13:23	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 13:23	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 13:23	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 13:23	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 13:23	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 13:23	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 13:23	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 13:23	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 13:23	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		75 - 126		09/08/23 13:23	1
4-Bromofluorobenzene (Surr)	99		72 - 124		09/08/23 13:23	1
Dibromofluoromethane	100		75 - 120		09/08/23 13:23	1
Toluene-d8 (Surr)	100		75 - 120		09/08/23 13:23	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230829-RA-15**

**Lab Sample ID: 500-238904-15**

Date Collected: 08/29/23 16:38

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 13:51	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 13:51	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 13:51	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 13:51	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 13:51	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 13:51	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 13:51	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 13:51	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 13:51	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 13:51	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 13:51	1
<b>Trichloroethene</b>	<b>1.7</b>		0.50	0.16	ug/L			09/08/23 13:51	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 13:51	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 13:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		75 - 126		09/08/23 13:51	1
4-Bromofluorobenzene (Surr)	101		72 - 124		09/08/23 13:51	1
Dibromofluoromethane	100		75 - 120		09/08/23 13:51	1
Toluene-d8 (Surr)	100		75 - 120		09/08/23 13:51	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230829-RA-16**

**Lab Sample ID: 500-238904-16**

Date Collected: 08/29/23 17:11

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 14:17	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 14:17	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 14:17	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 14:17	1
<b>Chloroform</b>	<b>61</b>		2.0	0.37	ug/L			09/08/23 14:17	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 14:17	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 14:17	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 14:17	1
<b>Tetrachloroethene</b>	<b>0.70 J</b>		1.0	0.37	ug/L			09/08/23 14:17	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 14:17	1
<b>Trichloroethene</b>	<b>1.9</b>		0.50	0.16	ug/L			09/08/23 14:17	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 14:17	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 14:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		75 - 126		09/08/23 14:17	1
4-Bromofluorobenzene (Surr)	101		72 - 124		09/08/23 14:17	1
Dibromofluoromethane	100		75 - 120		09/08/23 14:17	1
Toluene-d8 (Surr)	100		75 - 120		09/08/23 14:17	1

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS) - DL**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
<b>Carbon tetrachloride</b>	<b>140</b>		10	3.8	ug/L			09/11/23 13:10	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		75 - 126		09/11/23 13:10	10
4-Bromofluorobenzene (Surr)	98		72 - 124		09/11/23 13:10	10
Dibromofluoromethane	102		75 - 120		09/11/23 13:10	10
Toluene-d8 (Surr)	98		75 - 120		09/11/23 13:10	10



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-17**

**Lab Sample ID: 500-238904-17**

Date Collected: 08/30/23 08:02

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 14:44	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 14:44	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 14:44	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 14:44	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 14:44	1
<b>Chloroform</b>	<b>0.45</b>	<b>J</b>	2.0	0.37	ug/L			09/08/23 14:44	1
<b>cis-1,2-Dichloroethene</b>	<b>2.7</b>		1.0	0.41	ug/L			09/08/23 14:44	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 14:44	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 14:44	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 14:44	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 14:44	1
<b>Trichloroethene</b>	<b>4.9</b>		0.50	0.16	ug/L			09/08/23 14:44	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 14:44	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 14:44	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		75 - 126		09/08/23 14:44	1
4-Bromofluorobenzene (Surr)	101		72 - 124		09/08/23 14:44	1
Dibromofluoromethane	100		75 - 120		09/08/23 14:44	1
Toluene-d8 (Surr)	101		75 - 120		09/08/23 14:44	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-18**

**Lab Sample ID: 500-238904-18**

Date Collected: 08/30/23 08:27

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 15:10	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 15:10	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 15:10	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 15:10	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 15:10	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 15:10	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 15:10	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 15:10	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 15:10	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 15:10	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 15:10	1
<b>Trichloroethene</b>	<b>2.7</b>		0.50	0.16	ug/L			09/08/23 15:10	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 15:10	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 15:10	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		75 - 126					09/08/23 15:10	1
4-Bromofluorobenzene (Surr)	103		72 - 124					09/08/23 15:10	1
Dibromofluoromethane	102		75 - 120					09/08/23 15:10	1
Toluene-d8 (Surr)	99		75 - 120					09/08/23 15:10	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-19**

**Lab Sample ID: 500-238904-19**

**Date Collected: 08/30/23 08:45**

**Matrix: Water**

**Date Received: 08/31/23 10:05**

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 15:37	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 15:37	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 15:37	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 15:37	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 15:37	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 15:37	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 15:37	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 15:37	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 15:37	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 15:37	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 15:37	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 15:37	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 15:37	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 15:37	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		09/08/23 15:37	1
4-Bromofluorobenzene (Surr)	103		72 - 124		09/08/23 15:37	1
Dibromofluoromethane	101		75 - 120		09/08/23 15:37	1
Toluene-d8 (Surr)	99		75 - 120		09/08/23 15:37	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-20**

**Lab Sample ID: 500-238904-20**

Date Collected: 08/30/23 08:49

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 16:04	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 16:04	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 16:04	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 16:04	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 16:04	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 16:04	1
<b>cis-1,2-Dichloroethene</b>	<b>3.9</b>		1.0	0.41	ug/L			09/08/23 16:04	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 16:04	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 16:04	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 16:04	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 16:04	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 16:04	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 16:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		75 - 126		09/08/23 16:04	1
4-Bromofluorobenzene (Surr)	100		72 - 124		09/08/23 16:04	1
Dibromofluoromethane	99		75 - 120		09/08/23 16:04	1
Toluene-d8 (Surr)	101		75 - 120		09/08/23 16:04	1

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS) - DL**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
<b>Trichloroethene</b>	<b>140</b>		5.0	1.6	ug/L			09/11/23 13:37	10

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		75 - 126		09/11/23 13:37	10
4-Bromofluorobenzene (Surr)	98		72 - 124		09/11/23 13:37	10
Dibromofluoromethane	103		75 - 120		09/11/23 13:37	10
Toluene-d8 (Surr)	98		75 - 120		09/11/23 13:37	10

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-21**

**Lab Sample ID: 500-238904-21**

Date Collected: 08/30/23 09:46

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 16:30	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 16:30	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 16:30	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 16:30	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 16:30	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 16:30	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 16:30	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 16:30	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 16:30	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 16:30	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 16:30	1
<b>Trichloroethene</b>	<b>1.7</b>		0.50	0.16	ug/L			09/08/23 16:30	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 16:30	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 16:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	102		75 - 126		09/08/23 16:30	1
4-Bromofluorobenzene (Surr)	100		72 - 124		09/08/23 16:30	1
Dibromofluoromethane	101		75 - 120		09/08/23 16:30	1
Toluene-d8 (Surr)	100		75 - 120		09/08/23 16:30	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-22**

**Lab Sample ID: 500-238904-22**

Date Collected: 08/30/23 10:12

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 16:57	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 16:57	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 16:57	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 16:57	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 16:57	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 16:57	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 16:57	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 16:57	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 16:57	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 16:57	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 16:57	1
<b>Trichloroethene</b>	<b>43</b>		0.50	0.16	ug/L			09/08/23 16:57	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 16:57	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 16:57	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		75 - 126		09/08/23 16:57	1
4-Bromofluorobenzene (Surr)	100		72 - 124		09/08/23 16:57	1
Dibromofluoromethane	101		75 - 120		09/08/23 16:57	1
Toluene-d8 (Surr)	99		75 - 120		09/08/23 16:57	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-23**

**Lab Sample ID: 500-238904-23**

Date Collected: 08/30/23 10:37

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 17:24	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 17:24	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 17:24	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 17:24	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 17:24	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 17:24	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 17:24	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 17:24	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 17:24	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 17:24	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 17:24	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 17:24	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 17:24	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 17:24	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		09/08/23 17:24	1
4-Bromofluorobenzene (Surr)	100		72 - 124		09/08/23 17:24	1
Dibromofluoromethane	101		75 - 120		09/08/23 17:24	1
Toluene-d8 (Surr)	99		75 - 120		09/08/23 17:24	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-24**

**Lab Sample ID: 500-238904-24**

Date Collected: 08/30/23 10:42

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 17:50	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 17:50	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 17:50	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 17:50	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 17:50	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 17:50	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 17:50	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 17:50	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 17:50	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 17:50	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 17:50	1
<b>Trichloroethene</b>	<b>0.76</b>		0.50	0.16	ug/L			09/08/23 17:50	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 17:50	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 17:50	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		09/08/23 17:50	1
4-Bromofluorobenzene (Surr)	100		72 - 124		09/08/23 17:50	1
Dibromofluoromethane	101		75 - 120		09/08/23 17:50	1
Toluene-d8 (Surr)	98		75 - 120		09/08/23 17:50	1



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-25**

**Lab Sample ID: 500-238904-25**

Date Collected: 08/30/23 10:42

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 18:17	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 18:17	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 18:17	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 18:17	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 18:17	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 18:17	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 18:17	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 18:17	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 18:17	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 18:17	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 18:17	1
<b>Trichloroethene</b>	<b>0.70</b>		0.50	0.16	ug/L			09/08/23 18:17	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 18:17	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 18:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		09/08/23 18:17	1
4-Bromofluorobenzene (Surr)	101		72 - 124		09/08/23 18:17	1
Dibromofluoromethane	102		75 - 120		09/08/23 18:17	1
Toluene-d8 (Surr)	99		75 - 120		09/08/23 18:17	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-26**

**Lab Sample ID: 500-238904-26**

Date Collected: 08/30/23 10:57

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 18:43	1
1,1-Dichloroethene	<0.39	F1	1.0	0.39	ug/L			09/08/23 18:43	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 18:43	1
Benzene	<0.15	F1	0.50	0.15	ug/L			09/08/23 18:43	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 18:43	1
Chloroform	<0.37	F1	2.0	0.37	ug/L			09/08/23 18:43	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 18:43	1
Ethylbenzene	<0.18	F1	0.50	0.18	ug/L			09/08/23 18:43	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 18:43	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 18:43	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 18:43	1
<b>Trichloroethene</b>	<b>0.83</b>		0.50	0.16	ug/L			09/08/23 18:43	1
Vinyl chloride	<0.20	F1	1.0	0.20	ug/L			09/08/23 18:43	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 18:43	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		75 - 126		09/08/23 18:43	1
4-Bromofluorobenzene (Surr)	100		72 - 124		09/08/23 18:43	1
Dibromofluoromethane	103		75 - 120		09/08/23 18:43	1
Toluene-d8 (Surr)	98		75 - 120		09/08/23 18:43	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-27**

**Lab Sample ID: 500-238904-27**

**Date Collected: 08/30/23 11:35**

**Matrix: Water**

**Date Received: 08/31/23 10:05**

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 23:31	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 23:31	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 23:31	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 23:31	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 23:31	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 23:31	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 23:31	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 23:31	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 23:31	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 23:31	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 23:31	1
<b>Trichloroethene</b>	<b>32</b>		0.50	0.16	ug/L			09/08/23 23:31	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 23:31	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 23:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		75 - 126		09/08/23 23:31	1
4-Bromofluorobenzene (Surr)	93		72 - 124		09/08/23 23:31	1
Dibromofluoromethane	104		75 - 120		09/08/23 23:31	1
Toluene-d8 (Surr)	101		75 - 120		09/08/23 23:31	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-28**

**Lab Sample ID: 500-238904-28**

Date Collected: 08/30/23 12:15

Matrix: Water

Date Received: 08/31/23 10:05

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 23:54	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 23:54	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 23:54	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 23:54	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 23:54	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 23:54	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 23:54	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 23:54	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 23:54	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 23:54	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 23:54	1
<b>Trichloroethene</b>	<b>10</b>		0.50	0.16	ug/L			09/08/23 23:54	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 23:54	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 23:54	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		09/08/23 23:54	1
4-Bromofluorobenzene (Surr)	97		72 - 124		09/08/23 23:54	1
Dibromofluoromethane	103		75 - 120		09/08/23 23:54	1
Toluene-d8 (Surr)	102		75 - 120		09/08/23 23:54	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-238904-29**

**Date Collected: 08/30/23 00:00**

**Matrix: Water**

**Date Received: 08/31/23 10:05**

**Method: SW846 8260B - Volatile Organic Compounds (GC/MS)**

Analyte	Result	Qualifier	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 22:45	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 22:45	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 22:45	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 22:45	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 22:45	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 22:45	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 22:45	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 22:45	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 22:45	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 22:45	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 22:45	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 22:45	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 22:45	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 22:45	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		09/08/23 22:45	1
4-Bromofluorobenzene (Surr)	96		72 - 124		09/08/23 22:45	1
Dibromofluoromethane	105		75 - 120		09/08/23 22:45	1
Toluene-d8 (Surr)	101		75 - 120		09/08/23 22:45	1

# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
*	ISTD response or retention time outside acceptable limits
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.
J	Reported value was between the limit of detection and the limit of quantitation.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
▫	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

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

## GC/MS VOA

### Analysis Batch: 730885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-238904-1	W-230829-RA-01	Total/NA	Water	8260B	
500-238904-2	W-230830-RA-02	Total/NA	Water	8260B	
500-238904-3	W-230830-RA-03	Total/NA	Water	8260B	
500-238904-4	W-230830-RA-04	Total/NA	Water	8260B	
500-238904-5	W-230830-RA-05	Total/NA	Water	8260B	
MB 500-730885/6	Method Blank	Total/NA	Water	8260B	
LCS 500-730885/4	Lab Control Sample	Total/NA	Water	8260B	
500-238904-5 MS	W-230830-RA-05	Total/NA	Water	8260B	
500-238904-5 MSD	W-230830-RA-05	Total/NA	Water	8260B	

### Analysis Batch: 731284

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-238904-6	W-230830-RA-06	Total/NA	Water	8260B	
500-238904-7	W-230830-RA-07	Total/NA	Water	8260B	
500-238904-8	W-230829-RA-08	Total/NA	Water	8260B	
500-238904-10	W-230830-RA-10	Total/NA	Water	8260B	
500-238904-12	W-230829-RA-12	Total/NA	Water	8260B	
MB 500-731284/6	Method Blank	Total/NA	Water	8260B	
LCS 500-731284/3	Lab Control Sample	Total/NA	Water	8260B	
500-238904-13 MS	W-230829-RA-13	Total/NA	Water	8260B	
500-238904-13 MSD	W-230829-RA-13	Total/NA	Water	8260B	

### Analysis Batch: 731305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-238904-9	W-230830-RA-09	Total/NA	Water	8260B	
500-238904-11	W-230829-RA-11	Total/NA	Water	8260B	
500-238904-13	W-230829-RA-13	Total/NA	Water	8260B	
500-238904-14	W-230829-RA-14	Total/NA	Water	8260B	
500-238904-15	W-230829-RA-15	Total/NA	Water	8260B	
500-238904-16	W-230829-RA-16	Total/NA	Water	8260B	
500-238904-17	W-230830-RA-17	Total/NA	Water	8260B	
500-238904-18	W-230830-RA-18	Total/NA	Water	8260B	
500-238904-19	W-230830-RA-19	Total/NA	Water	8260B	
500-238904-20	W-230830-RA-20	Total/NA	Water	8260B	
500-238904-21	W-230830-RA-21	Total/NA	Water	8260B	
500-238904-22	W-230830-RA-22	Total/NA	Water	8260B	
500-238904-23	W-230830-RA-23	Total/NA	Water	8260B	
500-238904-24	W-230830-RA-24	Total/NA	Water	8260B	
500-238904-25	W-230830-RA-25	Total/NA	Water	8260B	
500-238904-26	W-230830-RA-26	Total/NA	Water	8260B	
MB 500-731305/7	Method Blank	Total/NA	Water	8260B	
LCS 500-731305/4	Lab Control Sample	Total/NA	Water	8260B	
500-238904-26 MS	W-230830-RA-26	Total/NA	Water	8260B	
500-238904-26 MSD	W-230830-RA-26	Total/NA	Water	8260B	

### Analysis Batch: 731496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-238904-27	W-230830-RA-27	Total/NA	Water	8260B	
500-238904-28	W-230830-RA-28	Total/NA	Water	8260B	
500-238904-29	Trip Blank	Total/NA	Water	8260B	
MB 500-731496/6	Method Blank	Total/NA	Water	8260B	

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# QC Association Summary

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

## GC/MS VOA (Continued)

### Analysis Batch: 731496 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 500-731496/3	Lab Control Sample	Total/NA	Water	8260B	

### Analysis Batch: 731597

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-238904-16 - DL	W-230829-RA-16	Total/NA	Water	8260B	
500-238904-20 - DL	W-230830-RA-20	Total/NA	Water	8260B	
MB 500-731597/7	Method Blank	Total/NA	Water	8260B	
LCS 500-731597/4	Lab Control Sample	Total/NA	Water	8260B	

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# Surrogate Summary

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

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

**Matrix: Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCA (75-126)	BFB (72-124)	DBFM (75-120)	TOL (75-120)
500-238904-1	W-230829-RA-01	111	116	106	89
500-238904-2	W-230830-RA-02	110	112	107	89
500-238904-3	W-230830-RA-03	112	113	109	89
500-238904-4	W-230830-RA-04	110	112	109	89
500-238904-5	W-230830-RA-05	113	112	110	90
500-238904-5 MS	W-230830-RA-05	105	112	103	92
500-238904-5 MSD	W-230830-RA-05	103	111	103	91
500-238904-6	W-230830-RA-06	107	97 *	104	95
500-238904-7	W-230830-RA-07	108	100 *	109	98
500-238904-8	W-230829-RA-08	106	102 *	111	98
500-238904-9	W-230830-RA-09	98	99	98	101
500-238904-10	W-230830-RA-10	111	101 *	110	95
500-238904-11	W-230829-RA-11	102	99	100	99
500-238904-12	W-230829-RA-12	108	98 *	114	95
500-238904-13	W-230829-RA-13	100	99	100	101
500-238904-13 MS	W-230829-RA-13	104	103	104	98
500-238904-13 MSD	W-230829-RA-13	107	95	103	97
500-238904-14	W-230829-RA-14	101	99	100	100
500-238904-15	W-230829-RA-15	102	101	100	100
500-238904-16	W-230829-RA-16	101	101	100	100
500-238904-16 - DL	W-230829-RA-16	105	98	102	98
500-238904-17	W-230830-RA-17	100	101	100	101
500-238904-18	W-230830-RA-18	104	103	102	99
500-238904-19	W-230830-RA-19	104	103	101	99
500-238904-20	W-230830-RA-20	101	100	99	101
500-238904-20 - DL	W-230830-RA-20	106	98	103	98
500-238904-21	W-230830-RA-21	102	100	101	100
500-238904-22	W-230830-RA-22	106	100	101	99
500-238904-23	W-230830-RA-23	104	100	101	99
500-238904-24	W-230830-RA-24	104	100	101	98
500-238904-25	W-230830-RA-25	104	101	102	99
500-238904-26	W-230830-RA-26	106	100	103	98
500-238904-26 MS	W-230830-RA-26	103	98	102	98
500-238904-26 MSD	W-230830-RA-26	99	99	99	100
500-238904-27	W-230830-RA-27	105	93	104	101
500-238904-28	W-230830-RA-28	104	97	103	102
500-238904-29	Trip Blank	104	96	105	101
LCS 500-730885/4	Lab Control Sample	102	106	100	93
LCS 500-731284/3	Lab Control Sample	96	95	96	101
LCS 500-731305/4	Lab Control Sample	94	101	96	102
LCS 500-731496/3	Lab Control Sample	95	95	95	104
LCS 500-731597/4	Lab Control Sample	94	98	96	102
MB 500-730885/6	Method Blank	106	111	102	90
MB 500-731284/6	Method Blank	104	95	103	98
MB 500-731305/7	Method Blank	100	100	99	101
MB 500-731496/6	Method Blank	103	95	103	100
MB 500-731597/7	Method Blank	104	98	102	99

**Surrogate Legend**

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

# Surrogate Summary

Client: GHD Services Inc.  
Project/Site: Wausau - 003978  
BFB = 4-Bromofluorobenzene (Surr)  
DBFM = Dibromofluoromethane  
TOL = Toluene-d8 (Surr)

Job ID: 500-238904-1

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

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

**Lab Sample ID: MB 500-730885/6**  
**Matrix: Water**  
**Analysis Batch: 730885**

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

Analyte	MB	MB	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/06/23 10:48	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/06/23 10:48	1
Acetone	2.26	J	10	1.7	ug/L			09/06/23 10:48	1
Benzene	<0.15		0.50	0.15	ug/L			09/06/23 10:48	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/06/23 10:48	1
Chloroform	<0.37		2.0	0.37	ug/L			09/06/23 10:48	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/06/23 10:48	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/06/23 10:48	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/06/23 10:48	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/06/23 10:48	1
Toluene	<0.15		0.50	0.15	ug/L			09/06/23 10:48	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/06/23 10:48	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/06/23 10:48	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/06/23 10:48	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	106		75 - 126		09/06/23 10:48	1
4-Bromofluorobenzene (Surr)	111		72 - 124		09/06/23 10:48	1
Dibromofluoromethane	102		75 - 120		09/06/23 10:48	1
Toluene-d8 (Surr)	90		75 - 120		09/06/23 10:48	1

**Lab Sample ID: LCS 500-730885/4**  
**Matrix: Water**  
**Analysis Batch: 730885**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1,2-Trichloroethane	50.0	45.7		ug/L		91	71 - 130
1,1-Dichloroethene	50.0	45.1		ug/L		90	67 - 122
Acetone	50.0	44.2		ug/L		88	40 - 143
Benzene	50.0	46.5		ug/L		93	70 - 120
Carbon tetrachloride	50.0	53.6		ug/L		107	59 - 133
Chloroform	50.0	46.5		ug/L		93	70 - 120
cis-1,2-Dichloroethene	50.0	47.3		ug/L		95	70 - 125
Ethylbenzene	50.0	46.3		ug/L		93	70 - 123
Methylene Chloride	50.0	48.0		ug/L		96	69 - 125
Tetrachloroethene	50.0	41.7		ug/L		83	70 - 128
Toluene	50.0	47.1		ug/L		94	70 - 125
Trichloroethene	50.0	46.9		ug/L		94	70 - 125
Vinyl chloride	50.0	52.3		ug/L		105	64 - 126
Xylenes, Total	100	95.4		ug/L		95	70 - 125

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	102		75 - 126
4-Bromofluorobenzene (Surr)	106		72 - 124
Dibromofluoromethane	100		75 - 120
Toluene-d8 (Surr)	93		75 - 120

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

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

**Lab Sample ID: 500-238904-5 MS**  
**Matrix: Water**  
**Analysis Batch: 730885**

**Client Sample ID: W-230830-RA-05**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,2-Trichloroethane	<0.35		50.0	50.6		ug/L		101	71 - 130
1,1-Dichloroethene	<0.39		50.0	48.3		ug/L		97	67 - 122
Acetone	5.2	J B	50.0	55.1		ug/L		100	40 - 143
Benzene	<0.15		50.0	48.9		ug/L		98	70 - 120
Carbon tetrachloride	<0.38		50.0	56.7		ug/L		113	59 - 133
Chloroform	<0.37		50.0	50.1		ug/L		100	70 - 120
cis-1,2-Dichloroethene	5.8		50.0	56.9		ug/L		102	70 - 125
Ethylbenzene	<0.18		50.0	46.6		ug/L		93	70 - 123
Methylene Chloride	<1.6	F1	50.0	62.8	F1	ug/L		126	69 - 125
Tetrachloroethene	1.7		50.0	44.0		ug/L		85	70 - 128
Toluene	<0.15		50.0	48.4		ug/L		97	70 - 125
Trichloroethene	2.0		50.0	50.4		ug/L		97	70 - 125
Vinyl chloride	1.0		50.0	58.9		ug/L		116	64 - 126
Xylenes, Total	<0.22		100	96.5		ug/L		97	70 - 125

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	105		75 - 126
4-Bromofluorobenzene (Surr)	112		72 - 124
Dibromofluoromethane	103		75 - 120
Toluene-d8 (Surr)	92		75 - 120

**Lab Sample ID: 500-238904-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 730885**

**Client Sample ID: W-230830-RA-05**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,2-Trichloroethane	<0.35		50.0	47.0		ug/L		94	71 - 130	7	20
1,1-Dichloroethene	<0.39		50.0	46.0		ug/L		92	67 - 122	5	20
Acetone	5.2	J B	50.0	50.5		ug/L		91	40 - 143	9	20
Benzene	<0.15		50.0	45.7		ug/L		91	70 - 120	7	20
Carbon tetrachloride	<0.38		50.0	54.0		ug/L		108	59 - 133	5	20
Chloroform	<0.37		50.0	47.3		ug/L		95	70 - 120	6	20
cis-1,2-Dichloroethene	5.8		50.0	53.8		ug/L		96	70 - 125	6	20
Ethylbenzene	<0.18		50.0	44.1		ug/L		88	70 - 123	6	20
Methylene Chloride	<1.6	F1	50.0	59.3		ug/L		119	69 - 125	6	20
Tetrachloroethene	1.7		50.0	41.4		ug/L		79	70 - 128	6	20
Toluene	<0.15		50.0	45.5		ug/L		91	70 - 125	6	20
Trichloroethene	2.0		50.0	47.5		ug/L		91	70 - 125	6	20
Vinyl chloride	1.0		50.0	55.8		ug/L		110	64 - 126	5	20
Xylenes, Total	<0.22		100	90.2		ug/L		90	70 - 125	7	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	103		75 - 126
4-Bromofluorobenzene (Surr)	111		72 - 124
Dibromofluoromethane	103		75 - 120
Toluene-d8 (Surr)	91		75 - 120

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

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

**Lab Sample ID: MB 500-731284/6**  
**Matrix: Water**  
**Analysis Batch: 731284**

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

Analyte	MB	MB	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/07/23 22:43	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/07/23 22:43	1
Acetone	<1.7		10	1.7	ug/L			09/07/23 22:43	1
Benzene	<0.15		0.50	0.15	ug/L			09/07/23 22:43	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/07/23 22:43	1
Chloroform	<0.37		2.0	0.37	ug/L			09/07/23 22:43	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/07/23 22:43	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/07/23 22:43	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/07/23 22:43	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/07/23 22:43	1
Toluene	<0.15		0.50	0.15	ug/L			09/07/23 22:43	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/07/23 22:43	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/07/23 22:43	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/07/23 22:43	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	104		75 - 126		09/07/23 22:43	1
4-Bromofluorobenzene (Surr)	95		72 - 124		09/07/23 22:43	1
Dibromofluoromethane	103		75 - 120		09/07/23 22:43	1
Toluene-d8 (Surr)	98		75 - 120		09/07/23 22:43	1

**Lab Sample ID: LCS 500-731284/3**  
**Matrix: Water**  
**Analysis Batch: 731284**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1,2-Trichloroethane	50.0	44.7		ug/L		89	71 - 130
1,1-Dichloroethene	50.0	42.9		ug/L		86	67 - 122
Acetone	50.0	36.1		ug/L		72	40 - 143
Benzene	50.0	44.2		ug/L		88	70 - 120
Carbon tetrachloride	50.0	46.8		ug/L		94	59 - 133
Chloroform	50.0	43.4		ug/L		87	70 - 120
cis-1,2-Dichloroethene	50.0	44.4		ug/L		89	70 - 125
Ethylbenzene	50.0	48.2		ug/L		96	70 - 123
Methylene Chloride	50.0	40.6		ug/L		81	69 - 125
Tetrachloroethene	50.0	48.9		ug/L		98	70 - 128
Toluene	50.0	45.2		ug/L		90	70 - 125
Trichloroethene	50.0	47.4		ug/L		95	70 - 125
Vinyl chloride	50.0	52.3		ug/L		105	64 - 126
Xylenes, Total	100	93.5		ug/L		94	70 - 125

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	96		75 - 126
4-Bromofluorobenzene (Surr)	95		72 - 124
Dibromofluoromethane	96		75 - 120
Toluene-d8 (Surr)	101		75 - 120

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

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

**Lab Sample ID: 500-238904-13 MS**

**Matrix: Water**

**Analysis Batch: 731284**

**Client Sample ID: W-230829-RA-13**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,2-Trichloroethane	<0.35		50.0	46.8		ug/L		94	71 - 130
1,1-Dichloroethene	<0.39		50.0	39.9		ug/L		80	67 - 122
Acetone	<1.7		50.0	19.8		ug/L		40	40 - 143
Benzene	<0.15		50.0	44.6		ug/L		89	70 - 120
Carbon tetrachloride	<0.38		50.0	43.0		ug/L		86	59 - 133
Chloroform	<0.37		50.0	47.0		ug/L		94	70 - 120
cis-1,2-Dichloroethene	24		50.0	73.5		ug/L		98	70 - 125
Ethylbenzene	<0.18		50.0	42.4		ug/L		85	70 - 123
Methylene Chloride	<1.6		50.0	46.0		ug/L		92	69 - 125
Tetrachloroethene	<0.37		50.0	41.9		ug/L		84	70 - 128
Toluene	<0.15		50.0	41.5		ug/L		83	70 - 125
Trichloroethene	17		50.0	63.6		ug/L		93	70 - 125
Vinyl chloride	<0.20		50.0	46.4		ug/L		93	64 - 126
Xylenes, Total	<0.22		100	87.2		ug/L		87	70 - 125

Surrogate	MS %Recovery	MS Qualifier	MS Limits
1,2-Dichloroethane-d4 (Surr)	104		75 - 126
4-Bromofluorobenzene (Surr)	103		72 - 124
Dibromofluoromethane	104		75 - 120
Toluene-d8 (Surr)	98		75 - 120

**Lab Sample ID: 500-238904-13 MSD**

**Matrix: Water**

**Analysis Batch: 731284**

**Client Sample ID: W-230829-RA-13**

**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,2-Trichloroethane	<0.35		50.0	47.8		ug/L		96	71 - 130	2	20
1,1-Dichloroethene	<0.39		50.0	41.5		ug/L		83	67 - 122	4	20
Acetone	<1.7		50.0	23.3		ug/L		47	40 - 143	16	20
Benzene	<0.15		50.0	44.9		ug/L		90	70 - 120	1	20
Carbon tetrachloride	<0.38		50.0	43.1		ug/L		86	59 - 133	0	20
Chloroform	<0.37		50.0	46.5		ug/L		93	70 - 120	1	20
cis-1,2-Dichloroethene	24		50.0	74.3		ug/L		100	70 - 125	1	20
Ethylbenzene	<0.18		50.0	44.8		ug/L		90	70 - 123	6	20
Methylene Chloride	<1.6		50.0	47.1		ug/L		94	69 - 125	2	20
Tetrachloroethene	<0.37		50.0	43.5		ug/L		87	70 - 128	4	20
Toluene	<0.15		50.0	42.8		ug/L		86	70 - 125	3	20
Trichloroethene	17		50.0	65.0		ug/L		96	70 - 125	2	20
Vinyl chloride	<0.20		50.0	48.8		ug/L		98	64 - 126	5	20
Xylenes, Total	<0.22		100	88.7		ug/L		89	70 - 125	2	20

Surrogate	MSD %Recovery	MSD Qualifier	MSD Limits
1,2-Dichloroethane-d4 (Surr)	107		75 - 126
4-Bromofluorobenzene (Surr)	95		72 - 124
Dibromofluoromethane	103		75 - 120
Toluene-d8 (Surr)	97		75 - 120

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

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

**Lab Sample ID: MB 500-731305/7**  
**Matrix: Water**  
**Analysis Batch: 731305**

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

Analyte	MB	MB	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 11:10	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 11:10	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 11:10	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 11:10	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 11:10	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 11:10	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 11:10	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 11:10	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 11:10	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 11:10	1
Toluene	0.205	J	0.50	0.15	ug/L			09/08/23 11:10	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 11:10	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 11:10	1
Xylenes, Total	0.229	J	1.0	0.22	ug/L			09/08/23 11:10	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	100		75 - 126		09/08/23 11:10	1
4-Bromofluorobenzene (Surr)	100		72 - 124		09/08/23 11:10	1
Dibromofluoromethane	99		75 - 120		09/08/23 11:10	1
Toluene-d8 (Surr)	101		75 - 120		09/08/23 11:10	1

**Lab Sample ID: LCS 500-731305/4**  
**Matrix: Water**  
**Analysis Batch: 731305**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1,2-Trichloroethane	40.0	42.8		ug/L		107	71 - 130
1,1-Dichloroethene	40.0	46.8		ug/L		117	67 - 122
Acetone	40.0	36.9		ug/L		92	40 - 143
Benzene	40.0	43.8		ug/L		110	70 - 120
Carbon tetrachloride	40.0	47.3		ug/L		118	59 - 133
Chloroform	40.0	44.9		ug/L		112	70 - 120
cis-1,2-Dichloroethene	40.0	43.7		ug/L		109	70 - 125
Ethylbenzene	40.0	46.2		ug/L		116	70 - 123
Methylene Chloride	40.0	43.0		ug/L		107	69 - 125
Tetrachloroethene	40.0	47.2		ug/L		118	70 - 128
Toluene	40.0	42.7		ug/L		107	70 - 125
Trichloroethene	40.0	44.1		ug/L		110	70 - 125
Vinyl chloride	40.0	48.4		ug/L		121	64 - 126
Xylenes, Total	80.0	88.0		ug/L		110	70 - 125

Surrogate	LCS	LCS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	94		75 - 126
4-Bromofluorobenzene (Surr)	101		72 - 124
Dibromofluoromethane	96		75 - 120
Toluene-d8 (Surr)	102		75 - 120

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

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

**Lab Sample ID: 500-238904-26 MS**

**Matrix: Water**

**Analysis Batch: 731305**

**Client Sample ID: W-230830-RA-26**

**Prep Type: Total/NA**

Analyte	Sample	Sample Qualifier	Spike Added	MS	MS	Unit	D	%Rec	%Rec Limits
	Result			Result	Qualifier				
1,1,2-Trichloroethane	<0.35		40.0	48.2		ug/L		120	71 - 130
1,1-Dichloroethene	<0.39	F1	40.0	47.5		ug/L		119	67 - 122
Acetone	<1.7		40.0	49.6		ug/L		124	40 - 143
Benzene	<0.15	F1	40.0	46.2		ug/L		115	70 - 120
Carbon tetrachloride	<0.38		40.0	47.9		ug/L		120	59 - 133
Chloroform	<0.37	F1	40.0	49.1	F1	ug/L		123	70 - 120
cis-1,2-Dichloroethene	<0.41		40.0	47.3		ug/L		118	70 - 125
Ethylbenzene	<0.18	F1	40.0	46.6		ug/L		117	70 - 123
Methylene Chloride	<1.6		40.0	47.5		ug/L		119	69 - 125
Tetrachloroethene	<0.37		40.0	45.5		ug/L		114	70 - 128
Toluene	<0.15		40.0	43.6		ug/L		109	70 - 125
Trichloroethene	0.83		40.0	45.9		ug/L		113	70 - 125
Vinyl chloride	<0.20	F1	40.0	58.2	F1	ug/L		146	64 - 126
Xylenes, Total	<0.22		80.0	90.6		ug/L		113	70 - 125

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	103		75 - 126
4-Bromofluorobenzene (Surr)	98		72 - 124
Dibromofluoromethane	102		75 - 120
Toluene-d8 (Surr)	98		75 - 120

**Lab Sample ID: 500-238904-26 MSD**

**Matrix: Water**

**Analysis Batch: 731305**

**Client Sample ID: W-230830-RA-26**

**Prep Type: Total/NA**

Analyte	Sample	Sample Qualifier	Spike Added	MSD	MSD	Unit	D	%Rec	%Rec Limits	RPD	RPD
	Result			Result	Qualifier						Limit
1,1,2-Trichloroethane	<0.35		40.0	51.2		ug/L		128	71 - 130	6	20
1,1-Dichloroethene	<0.39	F1	40.0	50.8	F1	ug/L		127	67 - 122	7	20
Acetone	<1.7		40.0	45.0		ug/L		112	40 - 143	10	20
Benzene	<0.15	F1	40.0	49.0	F1	ug/L		122	70 - 120	6	20
Carbon tetrachloride	<0.38		40.0	50.6		ug/L		126	59 - 133	5	20
Chloroform	<0.37	F1	40.0	51.7	F1	ug/L		129	70 - 120	5	20
cis-1,2-Dichloroethene	<0.41		40.0	49.7		ug/L		124	70 - 125	5	20
Ethylbenzene	<0.18	F1	40.0	50.8	F1	ug/L		127	70 - 123	9	20
Methylene Chloride	<1.6		40.0	50.1		ug/L		125	69 - 125	5	20
Tetrachloroethene	<0.37		40.0	49.6		ug/L		124	70 - 128	9	20
Toluene	<0.15		40.0	47.2		ug/L		118	70 - 125	8	20
Trichloroethene	0.83		40.0	48.6		ug/L		120	70 - 125	6	20
Vinyl chloride	<0.20	F1	40.0	54.1	F1	ug/L		135	64 - 126	7	20
Xylenes, Total	<0.22		80.0	98.3		ug/L		123	70 - 125	8	20

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



# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

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

**Lab Sample ID: MB 500-731496/6**  
**Matrix: Water**  
**Analysis Batch: 731496**

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

Analyte	MB	MB	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,2-Trichloroethane	<0.35		1.0	0.35	ug/L			09/08/23 21:36	1
1,1-Dichloroethene	<0.39		1.0	0.39	ug/L			09/08/23 21:36	1
Acetone	<1.7		10	1.7	ug/L			09/08/23 21:36	1
Benzene	<0.15		0.50	0.15	ug/L			09/08/23 21:36	1
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/08/23 21:36	1
Chloroform	<0.37		2.0	0.37	ug/L			09/08/23 21:36	1
cis-1,2-Dichloroethene	<0.41		1.0	0.41	ug/L			09/08/23 21:36	1
Ethylbenzene	<0.18		0.50	0.18	ug/L			09/08/23 21:36	1
Methylene Chloride	<1.6		5.0	1.6	ug/L			09/08/23 21:36	1
Tetrachloroethene	<0.37		1.0	0.37	ug/L			09/08/23 21:36	1
Toluene	<0.15		0.50	0.15	ug/L			09/08/23 21:36	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/08/23 21:36	1
Vinyl chloride	<0.20		1.0	0.20	ug/L			09/08/23 21:36	1
Xylenes, Total	<0.22		1.0	0.22	ug/L			09/08/23 21:36	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	103		75 - 126		09/08/23 21:36	1
4-Bromofluorobenzene (Surr)	95		72 - 124		09/08/23 21:36	1
Dibromofluoromethane	103		75 - 120		09/08/23 21:36	1
Toluene-d8 (Surr)	100		75 - 120		09/08/23 21:36	1

**Lab Sample ID: LCS 500-731496/3**  
**Matrix: Water**  
**Analysis Batch: 731496**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
1,1,2-Trichloroethane	50.0	45.7		ug/L		91	71 - 130
1,1-Dichloroethene	50.0	48.1		ug/L		96	67 - 122
Acetone	50.0	43.1		ug/L		86	40 - 143
Benzene	50.0	46.9		ug/L		94	70 - 120
Carbon tetrachloride	50.0	52.9		ug/L		106	59 - 133
Chloroform	50.0	45.5		ug/L		91	70 - 120
cis-1,2-Dichloroethene	50.0	45.5		ug/L		91	70 - 125
Ethylbenzene	50.0	49.5		ug/L		99	70 - 123
Methylene Chloride	50.0	43.1		ug/L		86	69 - 125
Tetrachloroethene	50.0	51.8		ug/L		104	70 - 128
Toluene	50.0	47.1		ug/L		94	70 - 125
Trichloroethene	50.0	49.1		ug/L		98	70 - 125
Vinyl chloride	50.0	53.5		ug/L		107	64 - 126
Xylenes, Total	100	97.5		ug/L		98	70 - 125

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

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

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

**Lab Sample ID: MB 500-731597/7**  
**Matrix: Water**  
**Analysis Batch: 731597**

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

Analyte	MB	MB	LOQ	LOD	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Carbon tetrachloride	<0.38		1.0	0.38	ug/L			09/11/23 10:56	1
Trichloroethene	<0.16		0.50	0.16	ug/L			09/11/23 10:56	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1,2-Dichloroethane-d4 (Surr)	104		75 - 126					09/11/23 10:56	1
4-Bromofluorobenzene (Surr)	98		72 - 124					09/11/23 10:56	1
Dibromofluoromethane	102		75 - 120					09/11/23 10:56	1
Toluene-d8 (Surr)	99		75 - 120					09/11/23 10:56	1

**Lab Sample ID: LCS 500-731597/4**  
**Matrix: Water**  
**Analysis Batch: 731597**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Trichloroethene	40.0	37.9		ug/L		95	70 - 125
Surrogate	LCS	LCS	Limits				
	%Recovery	Qualifier					
1,2-Dichloroethane-d4 (Surr)	94		75 - 126				
4-Bromofluorobenzene (Surr)	98		72 - 124				
Dibromofluoromethane	96		75 - 120				
Toluene-d8 (Surr)	102		75 - 120				

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230829-RA-01**

**Lab Sample ID: 500-238904-1**

Date Collected: 08/29/23 13:26

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	730885	W1T	EET CHI	09/06/23 17:25

**Client Sample ID: W-230830-RA-02**

**Lab Sample ID: 500-238904-2**

Date Collected: 08/30/23 09:19

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	730885	W1T	EET CHI	09/06/23 17:49

**Client Sample ID: W-230830-RA-03**

**Lab Sample ID: 500-238904-3**

Date Collected: 08/30/23 08:07

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	730885	W1T	EET CHI	09/06/23 18:13

**Client Sample ID: W-230830-RA-04**

**Lab Sample ID: 500-238904-4**

Date Collected: 08/30/23 10:29

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	730885	W1T	EET CHI	09/06/23 18:38

**Client Sample ID: W-230830-RA-05**

**Lab Sample ID: 500-238904-5**

Date Collected: 08/30/23 08:46

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	730885	W1T	EET CHI	09/06/23 19:02

**Client Sample ID: W-230830-RA-06**

**Lab Sample ID: 500-238904-6**

Date Collected: 08/30/23 08:38

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731284	EA	EET CHI	09/08/23 01:25

**Client Sample ID: W-230830-RA-07**

**Lab Sample ID: 500-238904-7**

Date Collected: 08/30/23 11:19

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731284	EA	EET CHI	09/08/23 01:48

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230829-RA-08**

**Date Collected: 08/29/23 16:47**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-8**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731284	EA	EET CHI	09/08/23 02:11

**Client Sample ID: W-230830-RA-09**

**Date Collected: 08/30/23 09:28**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-9**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 12:03

**Client Sample ID: W-230830-RA-10**

**Date Collected: 08/30/23 12:08**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-10**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731284	EA	EET CHI	09/08/23 02:57

**Client Sample ID: W-230829-RA-11**

**Date Collected: 08/29/23 14:22**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-11**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 12:30

**Client Sample ID: W-230829-RA-12**

**Date Collected: 08/29/23 14:23**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-12**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731284	EA	EET CHI	09/08/23 03:43

**Client Sample ID: W-230829-RA-13**

**Date Collected: 08/29/23 15:23**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-13**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 12:57

**Client Sample ID: W-230829-RA-14**

**Date Collected: 08/29/23 15:59**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-14**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 13:23

Eurofins Chicago

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230829-RA-15**

**Lab Sample ID: 500-238904-15**

Date Collected: 08/29/23 16:38

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 13:51

**Client Sample ID: W-230829-RA-16**

**Lab Sample ID: 500-238904-16**

Date Collected: 08/29/23 17:11

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 14:17
Total/NA	Analysis	8260B	DL	10	731597	W1T	EET CHI	09/11/23 13:10

**Client Sample ID: W-230830-RA-17**

**Lab Sample ID: 500-238904-17**

Date Collected: 08/30/23 08:02

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 14:44

**Client Sample ID: W-230830-RA-18**

**Lab Sample ID: 500-238904-18**

Date Collected: 08/30/23 08:27

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 15:10

**Client Sample ID: W-230830-RA-19**

**Lab Sample ID: 500-238904-19**

Date Collected: 08/30/23 08:45

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 15:37

**Client Sample ID: W-230830-RA-20**

**Lab Sample ID: 500-238904-20**

Date Collected: 08/30/23 08:49

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 16:04
Total/NA	Analysis	8260B	DL	10	731597	W1T	EET CHI	09/11/23 13:37

**Client Sample ID: W-230830-RA-21**

**Lab Sample ID: 500-238904-21**

Date Collected: 08/30/23 09:46

Matrix: Water

Date Received: 08/31/23 10:05

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 16:30

Eurofins Chicago

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: W-230830-RA-22**

**Date Collected: 08/30/23 10:12**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-22**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 16:57

**Client Sample ID: W-230830-RA-23**

**Date Collected: 08/30/23 10:37**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-23**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 17:24

**Client Sample ID: W-230830-RA-24**

**Date Collected: 08/30/23 10:42**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-24**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 17:50

**Client Sample ID: W-230830-RA-25**

**Date Collected: 08/30/23 10:42**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-25**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 18:17

**Client Sample ID: W-230830-RA-26**

**Date Collected: 08/30/23 10:57**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-26**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731305	W1T	EET CHI	09/08/23 18:43

**Client Sample ID: W-230830-RA-27**

**Date Collected: 08/30/23 11:35**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-27**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731496	W1T	EET CHI	09/08/23 23:31

**Client Sample ID: W-230830-RA-28**

**Date Collected: 08/30/23 12:15**

**Date Received: 08/31/23 10:05**

**Lab Sample ID: 500-238904-28**

**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260B		1	731496	W1T	EET CHI	09/08/23 23:54

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

**Client Sample ID: Trip Blank**

**Lab Sample ID: 500-238904-29**

**Date Collected: 08/30/23 00:00**

**Matrix: Water**

**Date Received: 08/31/23 10:05**

<u>Prep Type</u>	<u>Batch Type</u>	<u>Batch Method</u>	<u>Run</u>	<u>Dilution Factor</u>	<u>Batch Number</u>	<u>Analyst</u>	<u>Lab</u>	<u>Prepared or Analyzed</u>
Total/NA	Analysis	8260B		1	731496	W1T	EET CHI	09/08/23 22:45

**Laboratory References:**

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

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# Accreditation/Certification Summary

Client: GHD Services Inc.  
Project/Site: Wausau - 003978

Job ID: 500-238904-1

## Laboratory: Eurofins Chicago

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

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	999580010	08-31-23 *

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\* Accreditation/Certification renewal pending - accreditation/certification considered valid.



# Chain of Custody Record

668306



Environment Testing  
America

Address: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Regulatory Program:  DW  NPDES  RCRA  Other

TAL-8210

<b>Client Contact</b> Company Name: <u>GHD</u> Address: <u>900 Long Lake Rd</u> City/State/Zip: <u>St. Paul MN 55112</u> Phone: <u>612-529-6855</u> Fax: _____ Project Name: <u>Wausau</u> Site: <u>003978</u> PO# _____		<b>Project Manager</b> <u>Ojiraga</u> Tel/Email _____		<b>Site Contact:</b> <u>Grant Anderson</u> Date: _____ <b>Lab Contact:</b> _____ Carrier: _____		COC No. _____ of <u>3</u> COCs Sampler _____ For Lab Use Only: Walk-in Client: _____ Lab Sampling: _____ Job / SDG No. <u>500-238904</u>			
		<b>Analysis Turnaround Time</b> <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		500-238904 COC 					
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Select VOC's	Sample Specific Notes
1 <del>1</del> W-230829-RA-01	8/29	1326	G	GW	3		X		
2 W-230830-RA-02	8/30	0919	G	GW	3		X		
3 W-230830-RA-03	8/30	0807	G	GW	3		X		
4 W-230830-RA-04	8/30	1029	G	GW	3		X		
5 W-230830-RA-05	8/30	0846	G	GW	3		X		
6 W-230830-RA-06	8/30	0838	G	GW	3		X		
7 W-230830-RA-07	8/30	1119	G	GW	3		X		
8 W-230829-RA-08	8/29	1647	G	GW	3		X		
9 W-230830-RA-09	8/30	0928	G	GW	3		X		
10 W-230830-RA-10	8/30	1208	G	GW	3		X		
11 W-230829-RA-11	8/29	1422	G	GW	3		X		
12 W-230829-RA-12	8/29	1423	G	GW	3		X		
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other									
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) <input type="checkbox"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months				
Special Instructions/QC Requirements & Comments:									
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No. _____		Cooler Temp. (°C): Obs'd: <u>1.3</u> Corr'd: <u>0.2</u>		Therm ID No. _____			
Relinquished by: _____ Company: <u>GHD</u>		Date/Time: <u>8/30 1600</u>		Received by: _____ Company: _____		Date/Time: _____			
Relinquished by: _____ Company: _____		Date/Time: _____		Received by: _____ Company: _____		Date/Time: _____			
Relinquished by: _____ Company: _____		Date/Time: _____		Received in Laboratory by: <u>Braun</u> Company: <u>EETA</u>		Date/Time: <u>8/31/23 1005</u>			

# Chain of Custody Record

668307



Environment Testing  
America

Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Regulatory Program:  DW  NPDES  RCRA  Other

TAL-8210

Client Contact		Project Manager			Site Contact		Date		COC No		
Company Name <b>GAH</b>		Tel/Email			Lab Contact		Carrier		2 of 3 COCs		
Address		Analysis Turnaround Time			Filtered Sample (Y/N) Perform MS / MSD (Y/N) <b>Select VOC's</b>				Sampler For Lab Use Only Walk-in Client <input type="checkbox"/> Lab Sampling <input type="checkbox"/> Job / SDG No <b>500-238904</b>		
City/State/Zip		<input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS									
Phone		TAT if different from Below _____									
Fax		<input type="checkbox"/> 2 weeks									
Project Name		<input type="checkbox"/> 1 week									
Site		<input type="checkbox"/> 2 days									
P O #		<input type="checkbox"/> 1 day									
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.			Sample Specific Notes		
13	W-230829-RA-13	8/29	1527	G	GW	3	X				
14	W-230829-RA-14	8/29	1554	G	GW	3	X				
15	W-230829-RA-15	8/29	1638	G	GW	3	X				
16	W-230829-RA-16	8/29	1711	G	GW	3	X				
17	W-230830-RA-17	8/30	0802	G	GW	3	X				
18	W-230830-RA-18	8/30	0827	G	GW	3	X				
19	W-230830-RA-19	8/30	0845	G	GW	3	X				
20	W-230830-RA-20	8/30	0849	G	GW	3	X				
21	W-230830-RA-21	8/30	0946	G	GW	3	X				
22	W-230830-RA-22	8/30	1012	G	GW	3	X				
23	W-230830-RA-23	8/30	1037	G	GW	3	X				
24	W-230830-RA-24	8/30	1042	G	GW	3	X				
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4=HNO3, 5=NaOH, 6= Other											
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample							Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)				
<input 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"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months				
Special Instructions/QC Requirements & Comments:											
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No			Cooler Temp (°C): Obs'd <b>1.3</b> Corr'd <b>0.2</b>		Therm ID No				
Relinquished by:		Company		Date/Time		Received by		Company		Date/Time	
Relinquished by		Company		Date/Time		Received by		Company		Date/Time	
Relinquished by		Company		Date/Time		Received in Laboratory by		Company		Date/Time	
						<b>Praun</b>		<b>EETA</b>		<b>8/31/23 1005</b>	

# Chain of Custody Record

668308



Environment Testing  
America

Address \_\_\_\_\_  
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Regulatory Program:  DW  NPDES  RCRA  Other

TAL-8210

Client Contact		Project Manager			Site Contact			Date		COC No	
Company Name <b>GHO</b>		Tel/Email			Lab Contact			Carrier		2 of 3 COCs	
Address		Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input type="checkbox"/> WORKING DAYS			Filtered Sample (Y/N) Perform MS/MSD (Y/N) <b>Select VOC's</b>					Sampler	
City/State/Zip										For Lab Use Only	
Phone		TAT if different from Below _____								Walk-in Client	
Fax		<input type="checkbox"/> 2 weeks								Lab Sampling	
Project Name		<input type="checkbox"/> 1 week								Job / SDG No	
Site		<input type="checkbox"/> 2 days								500-238904	
P O #		<input type="checkbox"/> 1 day								Sample Specific Notes	
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)			
25	W-230830-RA-25	8/30	1042	G	GW	3		X			
26	W-230830-RA-26	8/30	1057	G	GW	9	X	X			
27	W-230830-RA-27	8/30	1135	G	GW	3		X			
28	W-230830-RA-28	8/30	1215	G	GW	3		X			
29	Trip Blank					1					
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other											
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
<input 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"/> Return to Client <input type="checkbox"/> Disposal by Lab <input type="checkbox"/> Archive for _____ Months					
Special Instructions/QC Requirements & Comments:											
Custody Seals Intact <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No			Cooler Temp (°C). Obs'd <b>1.3</b> Corr'd <b>0.2</b>		Therm ID No _____				
Relinquished by		Company		Date/Time		Received by		Company		Date/Time	
Relinquished by		Company		Date/Time		Received by		Company		Date/Time	
Relinquished by		Company		Date/Time		Received in Laboratory by		Company		Date/Time	
						<b>Braun</b>		<b>EETA</b>		<b>8/31/23 1005</b>	



ORIGIN ID: JOTA (612) 524-6836  
RYAN AMOT  
GHD SERVICES INC.  
900 LONG LAKE ROAD  
SUITE 200  
SAINT PAUL, MN 55112  
UNITED STATES US

SHIP DATE: 17AUG23  
ACTWGT: 20.00 LB MAN  
CAD: 033264/CAFE3751



500-238904 Waybr

585C5/7584/FE2P

TO **SAMPLE LOGIN**  
**EUROFINS CHICAGO**  
**2417 BOND ST**

**UNIVERSITY PARK IL 60484**

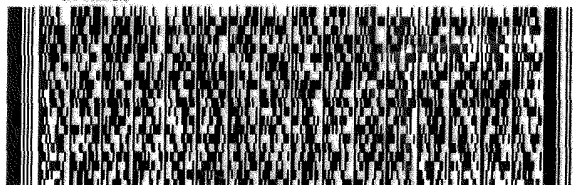
(708) 534-5200

REF:

INU:  
PO:

DEPT:

RMA: ||| ||| |||



**FedEx**  
Express



1230302015120115082020327

**FedEx**

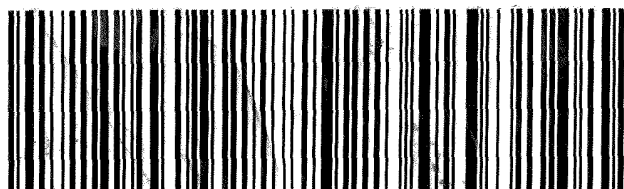
TRK# 6180 7197 6732  
0221

**THU - 31 AUG 10:30A**  
**PRIORITY OVERNIGHT**

**NX JOTA**

**60484**  
**IL-US ORD**

Post # 158297-435 RPOB EXP 07/24



#4456638 08/30 583J5/7584/9AE3

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# Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 500-238904-1

**Login Number: 238904**

**List Number: 1**

**Creator: Schmidt, Kara**

**List Source: Eurofins Chicago**

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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	0.2
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	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	
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 <6mm (1/4").	False	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





October 02, 2023

Mr. Grant Anderson  
GHD  
900 Long Lake Road  
Suite 200  
New Brighton, MN 55112

RE: Project: 003978 Wausau  
Pace Project No.: 10669086

Dear Mr. Anderson:

Enclosed are the analytical results for sample(s) received by the laboratory on September 15, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tina Soltani  
tina.soltani@pacelabs.com  
(612) 607-6384  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 003978 Wausau

Pace Project No.: 10669086

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### Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: VT2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

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### SAMPLE SUMMARY

Project: 003978 Wausau

Pace Project No.: 10669086

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10669086001	IA-230913-RA-01	Air	09/14/23 09:36	09/15/23 09:00
10669086002	IA-230913-RA-02	Air	09/14/23 09:33	09/15/23 09:00
10669086005	IA-230913-RA-05	Air	09/14/23 09:10	09/15/23 09:00
10669086008	IA-230913-RA-11	Air	09/14/23 09:04	09/15/23 09:00
10669086010	G-230913-RA-01	Air	09/13/23 13:17	09/15/23 09:00
10669086011	SS-230914-RA-01	Air	09/14/23 12:25	09/15/23 09:00
10669086012	SS-230914-RA-02	Air	09/14/23 12:07	09/15/23 09:00
10669086013	SS-230914-RA-03	Air	09/14/23 11:45	09/15/23 09:00
10669086014	SS-230914-RA-04	Air	09/14/23 14:04	09/15/23 09:00
10669086015	SS-230914-RA-05	Air	09/14/23 13:54	09/15/23 09:00
10669086016	SS-230914-RA-08	Air	09/14/23 12:15	09/15/23 09:00
10669086017	SS-230914-RA-09	Air	09/14/23 11:57	09/15/23 09:00
10669086018	SS-230914-RA-11	Air	09/14/23 13:45	09/15/23 09:00
10669086019	SS-230914-RA-12	Air	09/14/23 13:36	09/15/23 09:00

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### SAMPLE ANALYTE COUNT

Project: 003978 Wausau

Pace Project No.: 10669086

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10669086001	IA-230913-RA-01	TO-15	GH	6	PAN
10669086002	IA-230913-RA-02	TO-15	GH	6	PAN
10669086005	IA-230913-RA-05	TO-15	GH	6	PAN
10669086008	IA-230913-RA-11	TO-15	GH	6	PAN
10669086010	G-230913-RA-01	TO-15	SDS	6	PAN
10669086011	SS-230914-RA-01	TO-15	DAH, SDS	6	PAN
10669086012	SS-230914-RA-02	TO-15	DAH, SDS	6	PAN
10669086013	SS-230914-RA-03	TO-15	DAH, SDS	6	PAN
10669086014	SS-230914-RA-04	TO-15	SDS	6	PAN
10669086015	SS-230914-RA-05	TO-15	DAH, SDS	6	PAN
10669086016	SS-230914-RA-08	TO-15	SDS	6	PAN
10669086017	SS-230914-RA-09	TO-15	SDS	6	PAN
10669086018	SS-230914-RA-11	TO-15	GH, SDS	6	PAN
10669086019	SS-230914-RA-12	TO-15	JAP, SDS	6	PAN

PAN = Pace National - Mt. Juliet

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### SUMMARY OF DETECTION

Project: 003978 Wausau

Pace Project No.: 10669086

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>10669086001</b>	<b>IA-230913-RA-01</b>					
TO-15	Trichloroethene	0.852J	ug/m3	1.22	09/17/23 16:52	J
<b>10669086002</b>	<b>IA-230913-RA-02</b>					
TO-15	Trichloroethene	2.74	ug/m3	1.22	09/17/23 17:20	
<b>10669086005</b>	<b>IA-230913-RA-05</b>					
TO-15	Trichloroethene	1.37	ug/m3	1.22	09/17/23 18:44	
<b>10669086008</b>	<b>IA-230913-RA-11</b>					
TO-15	Trichloroethene	1.85	ug/m3	1.22	09/17/23 20:09	
<b>10669086010</b>	<b>G-230913-RA-01</b>					
TO-15	Carbon tetrachloride	1.74	ug/m3	1.26	09/16/23 18:20	
TO-15	Chloroform	0.686J	ug/m3	0.973	09/16/23 18:20	J
TO-15	cis-1,2-Dichloroethene	0.416J	ug/m3	0.793	09/16/23 18:20	J
TO-15	Trichloroethene	103	ug/m3	1.07	09/16/23 18:20	
<b>10669086011</b>	<b>SS-230914-RA-01</b>					
TO-15	Carbon tetrachloride	21.7	ug/m3	1.26	09/16/23 18:49	
TO-15	Chloroform	7.11	ug/m3	0.973	09/16/23 18:49	
TO-15	cis-1,2-Dichloroethene	5.55	ug/m3	0.793	09/16/23 18:49	
TO-15	Trichloroethene	1760	ug/m3	10.7	09/18/23 21:51	
<b>10669086012</b>	<b>SS-230914-RA-02</b>					
TO-15	Carbon tetrachloride	552	ug/m3	126	09/19/23 03:20	
TO-15	Chloroform	192	ug/m3	0.973	09/16/23 19:17	
TO-15	cis-1,2-Dichloroethene	159	ug/m3	0.793	09/16/23 19:17	
TO-15	Trichloroethene	30600	ug/m3	107	09/19/23 03:20	
<b>10669086013</b>	<b>SS-230914-RA-03</b>					
TO-15	Carbon tetrachloride	0.575J	ug/m3	1.26	09/16/23 19:45	J
TO-15	Chloroform	28.1	ug/m3	0.973	09/16/23 19:45	
TO-15	Trichloroethene	4.41	ug/m3	1.07	09/18/23 22:29	
<b>10669086014</b>	<b>SS-230914-RA-04</b>					
TO-15	Chloroform	1.62	ug/m3	0.973	09/16/23 20:13	
TO-15	Trichloroethene	140	ug/m3	1.07	09/16/23 20:13	
<b>10669086015</b>	<b>SS-230914-RA-05</b>					
TO-15	Chloroform	38.3	ug/m3	0.973	09/16/23 20:41	
TO-15	cis-1,2-Dichloroethene	0.805	ug/m3	0.793	09/16/23 20:41	
TO-15	Trichloroethene	3170	ug/m3	10.7	09/18/23 23:05	
<b>10669086016</b>	<b>SS-230914-RA-08</b>					
TO-15	Carbon tetrachloride	280	ug/m3	1.26	09/16/23 21:10	
TO-15	Chloroform	28.2	ug/m3	0.973	09/16/23 21:10	
TO-15	Trichloroethene	105	ug/m3	1.07	09/16/23 21:10	
<b>10669086017</b>	<b>SS-230914-RA-09</b>					
TO-15	Carbon tetrachloride	28.3	ug/m3	1.26	09/16/23 21:38	
TO-15	Chloroform	26.1	ug/m3	0.973	09/16/23 21:38	

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: 003978 Wausau

Pace Project No.: 10669086

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>10669086017</b>	<b>SS-230914-RA-09</b>					
TO-15	Trichloroethene	75.0	ug/m3	1.07	09/16/23 21:38	
<b>10669086018</b>	<b>SS-230914-RA-11</b>					
TO-15	Carbon tetrachloride	0.542J	ug/m3	1.26	09/16/23 22:06	J
TO-15	Chloroform	183	ug/m3	0.973	09/16/23 22:06	
TO-15	cis-1,2-Dichloroethene	2.50	ug/m3	0.793	09/16/23 22:06	
TO-15	Trichloroethene	9540	ug/m3	122	09/20/23 21:15	
<b>10669086019</b>	<b>SS-230914-RA-12</b>					
TO-15	Chloroform	0.978	ug/m3	0.973	09/16/23 22:34	
TO-15	Trichloroethene	24.1	ug/m3	1.07	09/18/23 23:24	B

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: IA-230913-RA-01 Lab ID: 10669086001 Collected: 09/14/23 09:36 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	09/17/23 16:52	09/17/23 16:52	56-23-5	
Chlorobenzene	<b>1.28 U</b>	ug/m3	1.28	0.385	1	09/17/23 16:52	09/17/23 16:52	108-90-7	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	09/17/23 16:52	09/17/23 16:52	156-59-2	
Trichloroethene	<b>0.852J</b>	ug/m3	1.22	0.364	1	09/17/23 16:52	09/17/23 16:52	79-01-6	J
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	09/17/23 16:52	09/17/23 16:52	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	90.6	%	60.0-140		1	09/17/23 16:52	09/17/23 16:52	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: IA-230913-RA-02 Lab ID: 10669086002 Collected: 09/14/23 09:33 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	09/17/23 17:20	09/17/23 17:20	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	09/17/23 17:20	09/17/23 17:20	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	09/17/23 17:20	09/17/23 17:20	156-59-2	
Trichloroethene	<b>2.74</b>	ug/m3	1.22	0.364	1	09/17/23 17:20	09/17/23 17:20	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	09/17/23 17:20	09/17/23 17:20	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	91.6	%	60.0-140		1	09/17/23 17:20	09/17/23 17:20	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: IA-230913-RA-05 Lab ID: 10669086005 Collected: 09/14/23 09:10 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	09/17/23 18:44	09/17/23 18:44	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	09/17/23 18:44	09/17/23 18:44	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	09/17/23 18:44	09/17/23 18:44	156-59-2	
Trichloroethene	<b>1.37</b>	ug/m3	1.22	0.364	1	09/17/23 18:44	09/17/23 18:44	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	09/17/23 18:44	09/17/23 18:44	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	91.4	%	60.0-140		1	09/17/23 18:44	09/17/23 18:44	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: IA-230913-RA-11 Lab ID: 10669086008 Collected: 09/14/23 09:04 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	09/17/23 20:09	09/17/23 20:09	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	09/17/23 20:09	09/17/23 20:09	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	09/17/23 20:09	09/17/23 20:09	156-59-2	
Trichloroethene	<b>1.85</b>	ug/m3	1.22	0.364	1	09/17/23 20:09	09/17/23 20:09	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	09/17/23 20:09	09/17/23 20:09	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	92.8	%	60.0-140		1	09/17/23 20:09	09/17/23 20:09	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: **G-230913-RA-01** Lab ID: **10669086010** Collected: 09/13/23 13:17 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.74</b>	ug/m3	1.26	0.461	1	09/16/23 18:20	09/16/23 18:20	56-23-5	
Chloroform	<b>0.686J</b>	ug/m3	0.973	0.349	1	09/16/23 18:20	09/16/23 18:20	67-66-3	J
cis-1,2-Dichloroethene	<b>0.416J</b>	ug/m3	0.793	0.311	1	09/16/23 18:20	09/16/23 18:20	156-59-2	J
Trichloroethene	<b>103</b>	ug/m3	1.07	0.364	1	09/16/23 18:20	09/16/23 18:20	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 18:20	09/16/23 18:20	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	96.5	%	60.0-140		1	09/16/23 18:20	09/16/23 18:20	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: **SS-230914-RA-01** Lab ID: **10669086011** Collected: 09/14/23 12:25 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>21.7</b>	ug/m3	1.26	0.461	1	09/16/23 18:49	09/16/23 18:49	56-23-5	
Chloroform	<b>7.11</b>	ug/m3	0.973	0.349	1	09/16/23 18:49	09/16/23 18:49	67-66-3	
cis-1,2-Dichloroethene	<b>5.55</b>	ug/m3	0.793	0.311	1	09/16/23 18:49	09/16/23 18:49	156-59-2	
Trichloroethene	<b>1760</b>	ug/m3	10.7	3.64	10	09/18/23 21:51	09/18/23 21:51	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 18:49	09/16/23 18:49	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	96.4	%	60.0-140		1	09/16/23 18:49	09/16/23 18:49	460-00-4	
4-Bromofluorobenzene (S)	104	%	60.0-140		10	09/18/23 21:51	09/18/23 21:51	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: **SS-230914-RA-02** Lab ID: **10669086012** Collected: 09/14/23 12:07 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>552</b>	ug/m3	126	46.1	100	09/19/23 03:20	09/19/23 03:20	56-23-5	
Chloroform	<b>192</b>	ug/m3	0.973	0.349	1	09/16/23 19:17	09/16/23 19:17	67-66-3	
cis-1,2-Dichloroethene	<b>159</b>	ug/m3	0.793	0.311	1	09/16/23 19:17	09/16/23 19:17	156-59-2	
Trichloroethene	<b>30600</b>	ug/m3	107	36.4	100	09/19/23 03:20	09/19/23 03:20	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 19:17	09/16/23 19:17	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	97.1	%	60.0-140		1	09/16/23 19:17	09/16/23 19:17	460-00-4	
4-Bromofluorobenzene (S)	102	%	60.0-140		100	09/19/23 03:20	09/19/23 03:20	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: **SS-230914-RA-03** Lab ID: **10669086013** Collected: 09/14/23 11:45 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.575J</b>	ug/m3	1.26	0.461	1	09/16/23 19:45	09/16/23 19:45	56-23-5	J
Chloroform	<b>28.1</b>	ug/m3	0.973	0.349	1	09/16/23 19:45	09/16/23 19:45	67-66-3	
cis-1,2-Dichloroethene	<b>0.793 U</b>	ug/m3	0.793	0.311	1	09/16/23 19:45	09/16/23 19:45	156-59-2	
Trichloroethene	<b>4.41</b>	ug/m3	1.07	0.364	1	09/18/23 22:29	09/18/23 22:29	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 19:45	09/16/23 19:45	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95.7	%	60.0-140		1	09/16/23 19:45	09/16/23 19:45	460-00-4	
4-Bromofluorobenzene (S)	100	%	60.0-140		1	09/18/23 22:29	09/18/23 22:29	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: **SS-230914-RA-04** Lab ID: **10669086014** Collected: 09/14/23 14:04 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.26 U</b>	ug/m3	1.26	0.461	1	09/16/23 20:13	09/16/23 20:13	56-23-5	
Chloroform	<b>1.62</b>	ug/m3	0.973	0.349	1	09/16/23 20:13	09/16/23 20:13	67-66-3	
cis-1,2-Dichloroethene	<b>0.793 U</b>	ug/m3	0.793	0.311	1	09/16/23 20:13	09/16/23 20:13	156-59-2	
Trichloroethene	<b>140</b>	ug/m3	1.07	0.364	1	09/16/23 20:13	09/16/23 20:13	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 20:13	09/16/23 20:13	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95.6	%	60.0-140		1	09/16/23 20:13	09/16/23 20:13	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: **SS-230914-RA-05** Lab ID: **10669086015** Collected: 09/14/23 13:54 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.26 U</b>	ug/m3	1.26	0.461	1	09/16/23 20:41	09/16/23 20:41	56-23-5	
Chloroform	<b>38.3</b>	ug/m3	0.973	0.349	1	09/16/23 20:41	09/16/23 20:41	67-66-3	
cis-1,2-Dichloroethene	<b>0.805</b>	ug/m3	0.793	0.311	1	09/16/23 20:41	09/16/23 20:41	156-59-2	
Trichloroethene	<b>3170</b>	ug/m3	10.7	3.64	10	09/18/23 23:05	09/18/23 23:05	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 20:41	09/16/23 20:41	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95.8	%	60.0-140		1	09/16/23 20:41	09/16/23 20:41	460-00-4	
4-Bromofluorobenzene (S)	99.9	%	60.0-140		10	09/18/23 23:05	09/18/23 23:05	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: **SS-230914-RA-08** Lab ID: **10669086016** Collected: 09/14/23 12:15 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>280</b>	ug/m3	1.26	0.461	1	09/16/23 21:10	09/16/23 21:10	56-23-5	
Chloroform	<b>28.2</b>	ug/m3	0.973	0.349	1	09/16/23 21:10	09/16/23 21:10	67-66-3	
cis-1,2-Dichloroethene	<b>0.793 U</b>	ug/m3	0.793	0.311	1	09/16/23 21:10	09/16/23 21:10	156-59-2	
Trichloroethene	<b>105</b>	ug/m3	1.07	0.364	1	09/16/23 21:10	09/16/23 21:10	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 21:10	09/16/23 21:10	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95.8	%	60.0-140		1	09/16/23 21:10	09/16/23 21:10	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: **SS-230914-RA-09** Lab ID: **10669086017** Collected: 09/14/23 11:57 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>28.3</b>	ug/m3	1.26	0.461	1	09/16/23 21:38	09/16/23 21:38	56-23-5	
Chloroform	<b>26.1</b>	ug/m3	0.973	0.349	1	09/16/23 21:38	09/16/23 21:38	67-66-3	
cis-1,2-Dichloroethene	<b>0.793 U</b>	ug/m3	0.793	0.311	1	09/16/23 21:38	09/16/23 21:38	156-59-2	
Trichloroethene	<b>75.0</b>	ug/m3	1.07	0.364	1	09/16/23 21:38	09/16/23 21:38	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 21:38	09/16/23 21:38	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	94.8	%	60.0-140		1	09/16/23 21:38	09/16/23 21:38	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: **SS-230914-RA-11** Lab ID: **10669086018** Collected: 09/14/23 13:45 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.542J</b>	ug/m3	1.26	0.461	1	09/16/23 22:06	09/16/23 22:06	56-23-5	J
Chloroform	<b>183</b>	ug/m3	0.973	0.349	1	09/16/23 22:06	09/16/23 22:06	67-66-3	
cis-1,2-Dichloroethene	<b>2.50</b>	ug/m3	0.793	0.311	1	09/16/23 22:06	09/16/23 22:06	156-59-2	
Trichloroethene	<b>9540</b>	ug/m3	122	36.4	100	09/20/23 21:15	09/20/23 21:15	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 22:06	09/16/23 22:06	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95.4	%	60.0-140		1	09/16/23 22:06	09/16/23 22:06	460-00-4	
4-Bromofluorobenzene (S)	94.0	%	60.0-140		100	09/20/23 21:15	09/20/23 21:15	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau

Pace Project No.: 10669086

Sample: **SS-230914-RA-12** Lab ID: **10669086019** Collected: 09/14/23 13:36 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>									
Analytical Method: TO-15 Preparation Method: TO-15									
Pace National - Mt. Juliet									
Carbon tetrachloride	<b>1.26 U</b>	ug/m3	1.26	0.461	1	09/16/23 22:34	09/16/23 22:34	56-23-5	
Chloroform	<b>0.978</b>	ug/m3	0.973	0.349	1	09/16/23 22:34	09/16/23 22:34	67-66-3	
cis-1,2-Dichloroethene	<b>0.793 U</b>	ug/m3	0.793	0.311	1	09/16/23 22:34	09/16/23 22:34	156-59-2	
Trichloroethene	<b>24.1</b>	ug/m3	1.07	0.364	1	09/18/23 23:24	09/18/23 23:24	79-01-6	B
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 22:34	09/16/23 22:34	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	94.2	%	60.0-140		1	09/16/23 22:34	09/16/23 22:34	460-00-4	
4-Bromofluorobenzene (S)	93.9	%	60.0-140		1	09/18/23 23:24	09/18/23 23:24	460-00-4	

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**QUALITY CONTROL DATA**

Project: 003978 Wausau

Pace Project No.: 10669086

QC Batch:	2133609	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	VOA (MS) TO-15
		Laboratory:	Pace National - Mt. Juliet
Associated Lab Samples:	10669086010, 10669086011, 10669086012, 10669086013, 10669086014, 10669086015, 10669086016, 10669086017, 10669086018, 10669086019		

METHOD BLANK:	R3974358-3	Matrix:	Air
Associated Lab Samples:	10669086010, 10669086011, 10669086012, 10669086013, 10669086014, 10669086015, 10669086016, 10669086017, 10669086018, 10669086019		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbon tetrachloride	ug/m3	1.26 U	1.26	09/16/23 15:14	
Chloroform	ug/m3	0.973 U	0.973	09/16/23 15:14	
cis-1,2-Dichloroethene	ug/m3	0.793 U	0.793	09/16/23 15:14	
Trichloroethene	ug/m3	1.07 U	1.07	09/16/23 15:14	
Vinyl chloride	ug/m3	0.511 U	0.511	09/16/23 15:14	
4-Bromofluorobenzene (S)	%	96.9	60.0-140	09/16/23 15:14	

Parameter	Units	R3974358-1		R3974358-2		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	% Rec				
Carbon tetrachloride	ug/m3	23.6	21.6	21.7	91.5	92.0	70.0-130	0.581	25
Chloroform	ug/m3	18.3	17.3	17.0	94.7	93.3	70.0-130	1.42	25
cis-1,2-Dichloroethene	ug/m3	14.9	13.3	13.2	89.6	88.8	70.0-130	0.897	25
Trichloroethene	ug/m3	20.1	19.2	19.6	95.7	97.6	70.0-130	1.93	25
Vinyl chloride	ug/m3	9.59	8.79	8.84	91.7	92.3	70.0-130	0.580	25
4-Bromofluorobenzene (S)	%				97.3	98.0	60.0-140		

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**QUALITY CONTROL DATA**

Project: 003978 Wausau

Pace Project No.: 10669086

QC Batch: 2133907 Analysis Method: TO-15  
 QC Batch Method: TO-15 Analysis Description: VOA (MS) TO-15  
 Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10669086001, 10669086002, 10669086005, 10669086008

METHOD BLANK: R3975282-3 Matrix: Air

Associated Lab Samples: 10669086001, 10669086002, 10669086005, 10669086008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbon tetrachloride	ug/m3	1.26 U	1.26	09/17/23 10:06	
Chlorobenzene	ug/m3	0.924 U	0.924	09/17/23 10:06	
Chloroform	ug/m3	0.973 U	0.973	09/17/23 10:06	
cis-1,2-Dichloroethene	ug/m3	0.793 U	0.793	09/17/23 10:06	
Trichloroethene	ug/m3	1.07 U	1.07	09/17/23 10:06	
Vinyl chloride	ug/m3	0.511 U	0.511	09/17/23 10:06	
4-Bromofluorobenzene (S)	%	93.6	60.0-140	09/17/23 10:06	

LABORATORY CONTROL SAMPLE & LCSD: R3975282-1 R3975282-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ug/m3	23.6	21.2	21.2	89.6	89.6	70.0-130	0.00	25	
Chlorobenzene	ug/m3	17.3	17.8	18.0	103	104	70.0-130	1.03	25	
Chloroform	ug/m3	18.3	16.2	16.1	88.8	88.3	70.0-130	0.602	25	
cis-1,2-Dichloroethene	ug/m3	14.9	12.2	12.2	82.4	81.9	70.0-130	0.649	25	
Trichloroethene	ug/m3	20.1	19.7	19.4	98.1	96.8	70.0-130	1.37	25	
Vinyl chloride	ug/m3	9.59	8.28	8.31	86.4	86.7	70.0-130	0.308	25	
4-Bromofluorobenzene (S)	%				95.6	95.0	60.0-140			

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**QUALITY CONTROL DATA**

Project: 003978 Wausau

Pace Project No.: 10669086

QC Batch: 2134307

Analysis Method: TO-15

QC Batch Method: TO-15

Analysis Description: VOA (MS) TO-15

Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10669086019

METHOD BLANK: R3974568-3

Matrix: Air

Associated Lab Samples: 10669086019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	ug/m3	36.2	1.07	09/18/23 12:05	
4-Bromofluorobenzene (S)	%	94.9	60.0-140	09/18/23 12:05	

LABORATORY CONTROL SAMPLE & LCSD: R3974568-1

R3974568-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Trichloroethene	ug/m3	20.1	22.0	22.1	109	110	70.0-130	0.487	25	
4-Bromofluorobenzene (S)	%				96.8	97.9	60.0-140			

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**QUALITY CONTROL DATA**

Project: 003978 Wausau

Pace Project No.: 10669086

QC Batch: 2134435 Analysis Method: TO-15  
 QC Batch Method: TO-15 Analysis Description: VOA (MS) TO-15  
 Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10669086011, 10669086012, 10669086013, 10669086015

METHOD BLANK: R3974985-3 Matrix: Air

Associated Lab Samples: 10669086011, 10669086012, 10669086013, 10669086015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbon tetrachloride	ug/m3	1.26 U	1.26	09/18/23 11:44	
Trichloroethene	ug/m3	1.07 U	1.07	09/18/23 11:44	
4-Bromofluorobenzene (S)	%	99.6	60.0-140	09/18/23 11:44	

LABORATORY CONTROL SAMPLE & LCSD: R3974985-1 R3974985-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ug/m3	23.6	22.2	22.9	94.1	96.8	70.0-130	2.79	25	
Trichloroethene	ug/m3	20.1	16.8	17.0	83.5	84.8	70.0-130	1.58	25	
4-Bromofluorobenzene (S)	%				101	98.6	60.0-140			

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**QUALITY CONTROL DATA**

Project: 003978 Wausau

Pace Project No.: 10669086

QC Batch: 2135870	Analysis Method: TO-15
QC Batch Method: TO-15	Analysis Description: VOA (MS) TO-15
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10669086018

METHOD BLANK: R3975525-3 Matrix: Air

Associated Lab Samples: 10669086018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	ug/m3	1.07 U	1.07	09/20/23 10:37	
4-Bromofluorobenzene (S)	%	94	60.0-140	09/20/23 10:37	

LABORATORY CONTROL SAMPLE & LCSD: R3975525-1 R3975525-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Trichloroethene	ug/m3	20.1	23.3	22.7	116	113	70.0-130	2.80	25	
4-Bromofluorobenzene (S)	%				93.3	91.1	60.0-140			

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## QUALIFIERS

Project: 003978 Wausau

Pace Project No.: 10669086

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

DL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 003978 Wausau

Pace Project No.: 10669086

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10669086001	IA-230913-RA-01	TO-15	2133907	TO-15	2133907
10669086002	IA-230913-RA-02	TO-15	2133907	TO-15	2133907
10669086005	IA-230913-RA-05	TO-15	2133907	TO-15	2133907
10669086008	IA-230913-RA-11	TO-15	2133907	TO-15	2133907
10669086010	G-230913-RA-01	TO-15	2133609	TO-15	2133609
10669086011	SS-230914-RA-01	TO-15	2133609	TO-15	2133609
10669086011	SS-230914-RA-01	TO-15	2134435	TO-15	2134435
10669086012	SS-230914-RA-02	TO-15	2133609	TO-15	2133609
10669086012	SS-230914-RA-02	TO-15	2134435	TO-15	2134435
10669086013	SS-230914-RA-03	TO-15	2133609	TO-15	2133609
10669086013	SS-230914-RA-03	TO-15	2134435	TO-15	2134435
10669086014	SS-230914-RA-04	TO-15	2133609	TO-15	2133609
10669086015	SS-230914-RA-05	TO-15	2133609	TO-15	2133609
10669086015	SS-230914-RA-05	TO-15	2134435	TO-15	2134435
10669086016	SS-230914-RA-08	TO-15	2133609	TO-15	2133609
10669086017	SS-230914-RA-09	TO-15	2133609	TO-15	2133609
10669086018	SS-230914-RA-11	TO-15	2133609	TO-15	2133609
10669086018	SS-230914-RA-11	TO-15	2135870	TO-15	2135870
10669086019	SS-230914-RA-12	TO-15	2133609	TO-15	2133609
10669086019	SS-230914-RA-12	TO-15	2134307	TO-15	2134307

### REPORT OF LABORATORY ANALYSIS

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**Pace** Pace\* Location Requested (City/State):

**Air CHAIN-OF-CUSTODY Analytical Request Document**  
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY - Affix Workorder/Login Label Here

Company Name: **Pace Analytical - Minnesota**  
Street Address: **1700 Elm Street Suite 200  
Minneapolis, MN 55414**  
City, State Zip:  
Customer Project #: **003978**  
Project Name: **Wausau**

Contact/Report To: **GHD Ryan Aamot / Tina Soltani**  
Phone #: **612-607-1700**  
E-Mail: **tina.soltani@pacelabs.com**  
Cc E-Mail:  
Invoice To: **640**  
Invoice  
E-Mail:  
Purchase Order # (if applicable):  
Quote #:  
State origin of sample(s):



**Sample Receipt Checklist**

DOT Seal Present/Intact:  Y  N If Applicable  
 DOT Signed/Accurate:  Y  N VOA Zero Headspace:  Y  N  
 Bottles arrive intact:  Y  N Pres. Correct/Check:  Y  N  
 Correct bottles used:  Y  N  
 Sufficient volume sent:  Y  N  
 RA Screen <0.5 mR/hr:  Y  N

Site Collection Info/Facility ID (if applicable): **PACEMN-GHDAIR**

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

Data Deliverables:  
 Level II  Level III  Level IV  
 EQUIS  
 Other

Regulatory Program (CAA, RCRA, etc.) as applicable:  
 Rush (Pre-approval required): 2 Day 3 day 5 day Other:  
 Date Results Requested:  
 Units for Reporting: ug/m<sup>3</sup> PFBs mg/m<sup>3</sup> DPMV

Field Information

Analyses Requested

Proj. Manager: **J079**  
**3976 - Naomi M Sackett**  
 AcctNum / Client ID:  
**PACEMN**  
 Table #:  
 Profile / Template: **T236667**  
 Prelog / Bottle Ord. ID: **P1021941**

\* Matrix Codes (insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)

Customer Sample ID	Matrix *	Summa Cartridge #	Flow Controller ID	Begin Collection		End Collection		Start Pressure / Vacuum (in Hg)	End Pressure / Vacuum (in Hg)	Duration (minutes)	Flow Rate (m <sup>3</sup> /min or L/min)	Total Volume Sampled (m <sup>3</sup> or L)	TO-15 Summa	Sample Comment
				Date	Time	Date	Time							
IA-230913-PA-01	I	23221	13108	9/13	1239	9/14	936	-30	-6				Y	-01
IA-230913-PA-02	I	0943	23782	9/13	1243	9/14	433	-30	-10				Y	-02
IA-230913-PA-03	I	12082	15569	9/13	1246	9/14	928	-29	-7				Y	-03
IA-230913-PA-04	I	11133	8425	9/13	1216	9/14	913	-29	-8				Y	-04
IA-230913-PA-05	I	9837	8694	9/13	1213	9/14	910	-27	-6				Y	-05
IA-230913-PA-08	I	12213	12964	9/13	1257	9/14	935	-29	-7				Y	-06
IA-230913-PA-09	I	9022	24868	9/13	1250	9/14	931	-26	-5				Y	-07
IA-230913-PA-11	I	3982	13087	9/13	1214	9/14	904	-30	-3				Y	-08
IA-230913-PA-12	I	2818	28727	9/13	1227	9/14	902	-30	-9				Y	-09

Customer Remarks / Special Conditions / Possible Hazards:  
**Project Name: 003978 Wausau**

Collected By: **Ryan Aamot**  
 Printed Name: **Ryan Aamot**  
 Signature: *[Signature]*

Additional Instructions from Pace\*:  
 # Coolers: Thermometer ID: Correction Factor (%): Obs. Temp (°C): Corrected Temp (°C):  
 Tracing Number:  
 Delivered by: In-Person Courier  
 FedEx UPS Other  
 Date/Time: **9/15/23** **0900**

Relinquished by/Company (Signature): *[Signature]* Date/Time: **09/15/23**  
 Relinquished by/Company (Signature): *[Signature]* Date/Time: **9/14/23 1500**  
 Relinquished by/Company (Signature): *[Signature]* Date/Time:  
 Relinquished by/Company (Signature): *[Signature]* Date/Time:

**Pace** Pace\* Location Requested (City/State): **Air CHAIN-OF-CUSTODY Analytical Request Document**  
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company Name: **Pace Analytical - Minnesota**  
Street Address: **1700 Elm Street Suite 200 Minneapolis, MN 55414**  
City, State Zip: \_\_\_\_\_  
Customer Project #: **003978**  
Project Name: **Wausau**  
Site Collection Info/Facility ID (as applicable): **PACEMN-GHDAIR**  
Time Zone Collected: [ ] AK [ ] PT [ ] MT [X] CT [ ] ET  
Data Deliverables: [ ] Level II [ ] Level III [ ] Level IV [ ] EQUIS [ ] Other \_\_\_\_\_  
Regulatory Program (CAA, RCRA, etc.) as applicable: \_\_\_\_\_  
Rush (Pre-approval required): 2 Day 3 day 5 day Other \_\_\_\_\_  
Date Results Requested: \_\_\_\_\_  
Permit # as applicable: \_\_\_\_\_  
Units for Reporting: ug/m<sup>3</sup> PPBV mg/m<sup>3</sup> PPMV

\* Matrix Codes (Insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)

Customer Sample ID	Matrix *	Summa Canister ID	Flow Controller ID	Begin Collection		End Collection		Start Pressure / Vacuum (in Hg)	End Pressure / Vacuum (in Hg)	Duration (minutes)	Rate m <sup>3</sup> /min or L/min	Total Volume Sampled m <sup>3</sup> or L	TO-15 Summa
				Date	Time	Date	Time						
G-230913-RA-01	SV	9304	7123	9/13	1311	9/13	1317	-30	-5				Y
SS-230914-RA-01	SV	23880	22647	9/13	1220	9/13	1225	-27	-5				Y
SS-230914-RA-02	SV	6891	9270	9/13	1200	9/13	1207	-30	-5				Y
SS-230914-RA-03	SV	24749	24825	9/13	1135	9/13	1145	-29	-5				Y
SS-230914-RA-04	SV	21170	12667	9/13	1357	9/13	1404	-28	-5				Y
SS-230914-RA-05	SV	23825	15559	9/13	1348	9/13	1354	-29	-5				Y
SS-230914-RA-08	SV	11848	7028	9/13	1211	9/13	1215	-30	-5				Y
SS-230914-RA-09	SV	15327	12905	9/13	1151	9/13	1157	-28	-5				Y
SS-230914-RA-11	SV	28289	24971	9/13	1325	9/13	1345	-30	-5				Y
SS-230914-RA-12	SV	11905	22671	9/13	1330	9/13	1336	-28	-5				Y

Customer Remarks / Special Conditions / Possible Hazards: **Project Name: 003978 Wausau**  
Collected By: **Ryan Aamot**  
Printed Name: \_\_\_\_\_  
Signature: \_\_\_\_\_  
Additional Instructions from Pace\*: \_\_\_\_\_

Relinquished by/Company: (Signature) **CSL** Date/Time: **09/10/23**  
Relinquished by/Company: (Signature) **GHD** Date/Time: **9/14/23 15:00**  
Relinquished by/Company: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_  
Relinquished by/Company: (Signature) \_\_\_\_\_ Date/Time: \_\_\_\_\_

**Sample Receipt Checklist**  
COC Seal Present/Intact:  Y  N  
COC Signed/Accurate:  Y  N  
Bottles arrive intact:  Y  N  
Correct bottles used:  Y  N  
Sufficient volume sent:  Y  N  
PA Screen <0.5 mR/hr:  Y  N  
If Applicable: VOR Zero Headspace:  Y  N  
Pres. Correct/Check:  Y  N

Field Information					Analyses Requested			J059	
Canister		PUF / FILTER			TO-15 Summa			Lab Use Only	
Pressure / Vacuum	Start Pressure / Vacuum (in Hg)	End Pressure / Vacuum (in Hg)	Duration (minutes)	Rate m <sup>3</sup> /min or L/min				Total Volume Sampled m <sup>3</sup> or L	Proj. Manager:
								<b>PACEMN</b>	
								Table #:	
								Profile / Template: <b>T236667</b>	
								Prelog / Bottle Ord. ID: <b>P1021941</b>	
								<b>11/5/2023</b>	Sample Comment
									<b>-01</b>
									<b>-02</b>
									<b>-03</b>
									<b>-04</b>
									<b>-05</b>
									<b>-06</b>
									<b>-07</b>
									<b>-08</b>
									<b>-09</b>
									<b>-10</b>

# Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: WI

Cert. Needed:  Yes  No

Workorder: 10669086      Workorder Name: 003978 Wausau

Owner Received Date: 9/15/2023      Results Requested By: 9/29/2023

Report To		Subcontract To					Requested Analysis																							
Tina Soltani Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612) 607-6384		Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858																												
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers						Flow Controller Valve Rental	Purge Manifold	Summa Canister Rental	TO15 MSV AIR												LAB USE ONLY			
						Other																								
1	IA-230913-RA-01	PS	9/14/2023 09:36	10669086001	Air	1						X	X	X	X															
2	IA-230913-RA-02	PS	9/14/2023 09:33	10669086002	Air	1						X	X	X	X															
3	IA-230913-RA-03	PS	9/14/2023 09:28	10669086003	Air	1						X	X	X	X															
4	IA-230913-RA-04	PS	9/14/2023 09:13	10669086004	Air	1						X	X	X	X															
5	IA-230913-RA-05	PS	9/14/2023 09:10	10669086005	Air	1						X	X	X	X															
6	IA-230913-RA-08	PS	9/14/2023 09:35	10669086006	Air	1						X	X	X	X															
7	IA-230913-RA-09	PS	9/14/2023 09:31	10669086007	Air	1						X	X	X	X															
8	IA-230913-RA-11	PS	9/14/2023 09:04	10669086008	Air	1						X	X	X	X															
9	IA-230913-RA-12	PS	9/14/2023 09:02	10669086009	Air	1						X	X	X	X															
10	G-230913-RA-01	PS	9/13/2023 13:17	10669086010	Air	1						X	X	X	X															
11	SS-230914-RA-01	PS	9/14/2023 12:25	10669086011	Air	1						X	X	X	X															
12	SS-230914-RA-02	PS	9/14/2023 12:07	10669086012	Air	1						X		X	X															
13	SS-230914-RA-03	PS	9/14/2023 11:45	10669086013	Air	1						X		X	X															
14	SS-230914-RA-04	PS	9/14/2023 14:04	10669086014	Air	1						X		X	X															
15	SS-230914-RA-05	PS	9/14/2023 13:54	10669086015	Air	1						X		X	X															
16	SS-230914-RA-08	PS	9/14/2023 12:15	10669086016	Air	1						X		X	X															
17	SS-230914-RA-09	PS	9/14/2023 11:57	10669086017	Air	1						X		X	X															
18	SS-230914-RA-11	PS	9/14/2023 13:45	10669086018	Air	1						X		X	X															
19	SS-230914-RA-12	PS	9/14/2023 13:36	10669086019	Air	1						X		X	X															

					Comments		
Transfers	Released By	Date/Time	Received By	Date/Time	Analyte list is attached.		
1							
2							
3							
Cooler Temperature on Receipt _____ °C		Custody Seal Y or N		Received on Ice Y or N		Samples Intact Y or N	

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
 This chain of custody is considered complete as is since this information is available in the owner laboratory.



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086001  
 Client Sample ID: IA-230913-RA-01

ProjSampleNum: 10669086001  
 Matrix: Air

Date Collected: 09/14/23 9:36  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.24	ppbv	0.24	1	09/17/23 16:52 GH	56-23-5	
Chlorobenzene	0.27	ppbv	0.27	1	09/17/23 16:52 GH	108-90-7	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	1	09/17/23 16:52 GH	156-59-2	
Trichloroethene	0.16J	ppbv	0.22	1	09/17/23 16:52 GH	79-01-6	J
Vinyl chloride	0.31	ppbv	0.31	1	09/17/23 16:52 GH	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086002  
 Client Sample ID: IA-230913-RA-02

ProjSampleNum: 10669086002  
 Matrix: Air

Date Collected: 09/14/23 9:33  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.24	ppbv	0.24	1	09/17/23 17:20 GH	56-23-5	
Chloroform	0.23	ppbv	0.23	1	09/17/23 17:20 GH	67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	1	09/17/23 17:20 GH	156-59-2	
Trichloroethene	0.5	ppbv	0.22	1	09/17/23 17:20 GH	79-01-6	
Vinyl chloride	0.31	ppbv	0.31	1	09/17/23 17:20 GH	75-01-4	

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**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD Lab Project Number: 10669086  
 Phone: 972-331-8500 Project Name: 003978 Wausau  
 Lab Sample No: 10669086005 ProjSampleNum: 10669086005 Date Collected: 09/14/23 9:10  
 Client Sample ID: IA-230913-RA-05 Matrix: Air Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.24	ppbv	0.24	1	09/17/23 18:44 GH	56-23-5	
Chloroform	0.23	ppbv	0.23	1	09/17/23 18:44 GH	67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	1	09/17/23 18:44 GH	156-59-2	
Trichloroethene	0.25	ppbv	0.22	1	09/17/23 18:44 GH	79-01-6	
Vinyl chloride	0.31	ppbv	0.31	1	09/17/23 18:44 GH	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD Lab Project Number: 10669086  
 Phone: 972-331-8500 Project Name: 003978 Wausau  
 Lab Sample No: 10669086008 ProjSampleNum: 10669086008 Date Collected: 09/14/23 9:04  
 Client Sample ID: IA-230913-RA-11 Matrix: Air Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.24	ppbv	0.24	1	09/17/23 20:09 GH	56-23-5	
Chloroform	0.23	ppbv	0.23	1	09/17/23 20:09 GH	67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	1	09/17/23 20:09 GH	156-59-2	
Trichloroethene	0.34	ppbv	0.22	1	09/17/23 20:09 GH	79-01-6	
Vinyl chloride	0.31	ppbv	0.31	1	09/17/23 20:09 GH	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request





Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086010  
 Client Sample ID: G-230913-RA-01

ProjSampleNum: 10669086010  
 Matrix: Air

Date Collected: 09/13/23 13:17  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.27	ppbv	0.2	1	09/16/23 18:20 SDS	56-23-5	
Chloroform	0.14J	ppbv	0.2	1	09/16/23 18:20 SDS	67-66-3	J
cis-1,2-Dichloroethene	0.1J	ppbv	0.2	1	09/16/23 18:20 SDS	156-59-2	J
Trichloroethene	18.9	ppbv	0.2	1	09/16/23 18:20 SDS	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 18:20 SDS	75-01-4	

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**SUPPLEMENTAL REPORT**  
 Units Conversion Request



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 1700 Elm Street, Suite 200  
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 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086011  
 Client Sample ID: SS-230914-RA-01

ProjSampleNum: 10669086011  
 Matrix: Air

Date Collected: 09/14/23 12:25  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	3.4	ppbv	0.2	1	09/16/23 18:49 SDS	56-23-5	
Chloroform	1.4	ppbv	0.2	1	09/16/23 18:49 SDS	67-66-3	
cis-1,2-Dichloroethene	1.4	ppbv	0.2	1	09/16/23 18:49 SDS	156-59-2	
Trichloroethene	322	ppbv	2	10	09/18/23 21:51 DAH	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 18:49 SDS	75-01-4	

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**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086012  
 Client Sample ID: SS-230914-RA-02

ProjSampleNum: 10669086012  
 Matrix: Air

Date Collected: 09/14/23 12:07  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	86.3	ppbv	19.7	100	09/19/23 3:20 DAH	56-23-5	
Chloroform	38.7	ppbv	0.2	1	09/16/23 19:17 SDS	67-66-3	
cis-1,2-Dichloroethene	39.5	ppbv	0.2	1	09/16/23 19:17 SDS	156-59-2	
Trichloroethene	5600	ppbv	19.6	100	09/19/23 3:20 DAH	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 19:17 SDS	75-01-4	

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**SUPPLEMENTAL REPORT**  
 Units Conversion Request



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 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086013  
 Client Sample ID: SS-230914-RA-03

ProjSampleNum: 10669086013  
 Matrix: Air

Date Collected: 09/14/23 11:45  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.09J	ppbv	0.2	1	09/16/23 19:45 SDS	56-23-5	J
Chloroform	5.7	ppbv	0.2	1	09/16/23 19:45 SDS	67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 19:45 SDS	156-59-2	
Trichloroethene	0.81	ppbv	0.2	1	09/18/23 22:29 DAH	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 19:45 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



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1700 Elm Street, Suite 200  
Minneapolis, MN 55414  
Phone: 612.607.1700  
Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD Lab Project Number: 10669086  
Phone: 972-331-8500 Project Name: 003978 Wausau  
Lab Sample No: 10669086014 ProjSampleNum: 10669086014 Date Collected: 09/14/23 14:04  
Client Sample ID: SS-230914-RA-04 Matrix: Air Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
------------	---------	-------	--------------	----	----------	---------	------------

#### Air

TO-15

Carbon tetrachloride	0.2	ppbv	0.2	1	09/16/23 20:13 SDS	56-23-5	
Chloroform	0.33	ppbv	0.2	1	09/16/23 20:13 SDS	67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 20:13 SDS	156-59-2	
Trichloroethene	25.6	ppbv	0.2	1	09/16/23 20:13 SDS	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 20:13 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086015  
 Client Sample ID: SS-230914-RA-05

ProjSampleNum: 10669086015  
 Matrix: Air

Date Collected: 09/14/23 13:54  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.2	ppbv	0.2	1	09/16/23 20:41	SDS 56-23-5	
Chloroform	7.7	ppbv	0.2	1	09/16/23 20:41	SDS 67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 20:41	SDS 156-59-2	
Trichloroethene	580	ppbv	2	10	09/18/23 23:05	DAH 79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 20:41	SDS 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086016  
 Client Sample ID: SS-230914-RA-08

ProjSampleNum: 10669086016  
 Matrix: Air

Date Collected: 09/14/23 12:15  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	43.8	ppbv	0.2	1	09/16/23 21:10 SDS	56-23-5	
Chloroform	5.7	ppbv	0.2	1	09/16/23 21:10 SDS	67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 21:10 SDS	156-59-2	
Trichloroethene	19.2	ppbv	0.2	1	09/16/23 21:10 SDS	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 21:10 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD Lab Project Number: 10669086  
 Phone: 972-331-8500 Project Name: 003978 Wausau  
 Lab Sample No: 10669086017 ProjSampleNum: 10669086017 Date Collected: 09/14/23 11:57  
 Client Sample ID: SS-230914-RA-09 Matrix: Air Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	4.4	ppbv	0.2	1	09/16/23 21:38 SDS	56-23-5	
Chloroform	5.3	ppbv	0.2	1	09/16/23 21:38 SDS	67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 21:38 SDS	156-59-2	
Trichloroethene	13.7	ppbv	0.2	1	09/16/23 21:38 SDS	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 21:38 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request





Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086018  
 Client Sample ID: SS-230914-RA-11

ProjSampleNum: 10669086018  
 Matrix: Air

Date Collected: 09/14/23 13:45  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.085J	ppbv	0.2	1	09/16/23 22:06 SDS	56-23-5	J
Chloroform	36.9	ppbv	0.2	1	09/16/23 22:06 SDS	67-66-3	
cis-1,2-Dichloroethene	0.62	ppbv	0.2	1	09/16/23 22:06 SDS	156-59-2	
Trichloroethene	1750	ppbv	22.3	100	09/20/23 21:15 GH	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 22:06 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086019  
 Client Sample ID: SS-230914-RA-12

ProjSampleNum: 10669086019  
 Matrix: Air

Date Collected: 09/14/23 13:36  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.2	ppbv	0.2	1	09/16/23 22:34 SDS	56-23-5	
Chloroform	0.2	ppbv	0.2	1	09/16/23 22:34 SDS	67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 22:34 SDS	156-59-2	
Trichloroethene	4.4	ppbv	0.2	1	09/18/23 23:24 JAP	79-01-6	B
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 22:34 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
1700 Elm Street, Suite 200  
Minneapolis, MN 55414  
Phone: 612.607.1700  
Fax: 612.607.6444

## ANALYTICAL RESULTS

Client: GHD  
Phone: 972-331-8500

Lab Project Number: 10669086  
Project Name: 003978 Wausau

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## PARAMETER FOOTNOTES

ND Not detected at or above adjusted reporting limit

NC Not Calculable

J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

[B] Analyte was detected in the associated method blank.

[J] Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 10/2/2023

Page 15



November 09, 2023

Mr. Grant Anderson  
GHD  
900 Long Lake Road  
Suite 200  
New Brighton, MN 55112

RE: Project: 003978 Wausau-Revised Report  
Pace Project No.: 10669086

Dear Mr. Anderson:

Enclosed are the analytical results for sample(s) received by the laboratory on September 15, 2023. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet

This report was revised on November 9, 2023, to correct the TO-15 analyte list for Pace sample 10669086-001.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Tina Soltani".

Tina Soltani  
tina.soltani@pacelabs.com  
(612) 607-6384  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

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### Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: VT2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10669086001	IA-230913-RA-01	Air	09/14/23 09:36	09/15/23 09:00
10669086002	IA-230913-RA-02	Air	09/14/23 09:33	09/15/23 09:00
10669086005	IA-230913-RA-05	Air	09/14/23 09:10	09/15/23 09:00
10669086008	IA-230913-RA-11	Air	09/14/23 09:04	09/15/23 09:00
10669086010	G-230913-RA-01	Air	09/13/23 13:17	09/15/23 09:00
10669086011	SS-230914-RA-01	Air	09/14/23 12:25	09/15/23 09:00
10669086012	SS-230914-RA-02	Air	09/14/23 12:07	09/15/23 09:00
10669086013	SS-230914-RA-03	Air	09/14/23 11:45	09/15/23 09:00
10669086014	SS-230914-RA-04	Air	09/14/23 14:04	09/15/23 09:00
10669086015	SS-230914-RA-05	Air	09/14/23 13:54	09/15/23 09:00
10669086016	SS-230914-RA-08	Air	09/14/23 12:15	09/15/23 09:00
10669086017	SS-230914-RA-09	Air	09/14/23 11:57	09/15/23 09:00
10669086018	SS-230914-RA-11	Air	09/14/23 13:45	09/15/23 09:00
10669086019	SS-230914-RA-12	Air	09/14/23 13:36	09/15/23 09:00

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10669086001	IA-230913-RA-01	TO-15	GH	6	PAN
10669086002	IA-230913-RA-02	TO-15	GH	6	PAN
10669086005	IA-230913-RA-05	TO-15	GH	6	PAN
10669086008	IA-230913-RA-11	TO-15	GH	6	PAN
10669086010	G-230913-RA-01	TO-15	SDS	6	PAN
10669086011	SS-230914-RA-01	TO-15	DAH, SDS	6	PAN
10669086012	SS-230914-RA-02	TO-15	DAH, SDS	6	PAN
10669086013	SS-230914-RA-03	TO-15	DAH, SDS	6	PAN
10669086014	SS-230914-RA-04	TO-15	SDS	6	PAN
10669086015	SS-230914-RA-05	TO-15	DAH, SDS	6	PAN
10669086016	SS-230914-RA-08	TO-15	SDS	6	PAN
10669086017	SS-230914-RA-09	TO-15	SDS	6	PAN
10669086018	SS-230914-RA-11	TO-15	GH, SDS	6	PAN
10669086019	SS-230914-RA-12	TO-15	JAP, SDS	6	PAN

PAN = Pace National - Mt. Juliet

### REPORT OF LABORATORY ANALYSIS

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## SUMMARY OF DETECTION

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>10669086001</b>	<b>IA-230913-RA-01</b>					
TO-15	Trichloroethene	0.852J	ug/m3	1.22	09/17/23 16:52	J
<b>10669086002</b>	<b>IA-230913-RA-02</b>					
TO-15	Trichloroethene	2.74	ug/m3	1.22	09/17/23 17:20	
<b>10669086005</b>	<b>IA-230913-RA-05</b>					
TO-15	Trichloroethene	1.37	ug/m3	1.22	09/17/23 18:44	
<b>10669086008</b>	<b>IA-230913-RA-11</b>					
TO-15	Trichloroethene	1.85	ug/m3	1.22	09/17/23 20:09	
<b>10669086010</b>	<b>G-230913-RA-01</b>					
TO-15	Carbon tetrachloride	1.74	ug/m3	1.26	09/16/23 18:20	
TO-15	Chloroform	0.686J	ug/m3	0.973	09/16/23 18:20	J
TO-15	cis-1,2-Dichloroethene	0.416J	ug/m3	0.793	09/16/23 18:20	J
TO-15	Trichloroethene	103	ug/m3	1.07	09/16/23 18:20	
<b>10669086011</b>	<b>SS-230914-RA-01</b>					
TO-15	Carbon tetrachloride	21.7	ug/m3	1.26	09/16/23 18:49	
TO-15	Chloroform	7.11	ug/m3	0.973	09/16/23 18:49	
TO-15	cis-1,2-Dichloroethene	5.55	ug/m3	0.793	09/16/23 18:49	
TO-15	Trichloroethene	1760	ug/m3	10.7	09/18/23 21:51	
<b>10669086012</b>	<b>SS-230914-RA-02</b>					
TO-15	Carbon tetrachloride	552	ug/m3	126	09/19/23 03:20	
TO-15	Chloroform	192	ug/m3	0.973	09/16/23 19:17	
TO-15	cis-1,2-Dichloroethene	159	ug/m3	0.793	09/16/23 19:17	
TO-15	Trichloroethene	30600	ug/m3	107	09/19/23 03:20	
<b>10669086013</b>	<b>SS-230914-RA-03</b>					
TO-15	Carbon tetrachloride	0.575J	ug/m3	1.26	09/16/23 19:45	J
TO-15	Chloroform	28.1	ug/m3	0.973	09/16/23 19:45	
TO-15	Trichloroethene	4.41	ug/m3	1.07	09/18/23 22:29	
<b>10669086014</b>	<b>SS-230914-RA-04</b>					
TO-15	Chloroform	1.62	ug/m3	0.973	09/16/23 20:13	
TO-15	Trichloroethene	140	ug/m3	1.07	09/16/23 20:13	
<b>10669086015</b>	<b>SS-230914-RA-05</b>					
TO-15	Chloroform	38.3	ug/m3	0.973	09/16/23 20:41	
TO-15	cis-1,2-Dichloroethene	0.805	ug/m3	0.793	09/16/23 20:41	
TO-15	Trichloroethene	3170	ug/m3	10.7	09/18/23 23:05	
<b>10669086016</b>	<b>SS-230914-RA-08</b>					
TO-15	Carbon tetrachloride	280	ug/m3	1.26	09/16/23 21:10	
TO-15	Chloroform	28.2	ug/m3	0.973	09/16/23 21:10	
TO-15	Trichloroethene	105	ug/m3	1.07	09/16/23 21:10	
<b>10669086017</b>	<b>SS-230914-RA-09</b>					
TO-15	Carbon tetrachloride	28.3	ug/m3	1.26	09/16/23 21:38	
TO-15	Chloroform	26.1	ug/m3	0.973	09/16/23 21:38	

## REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>10669086017</b>	<b>SS-230914-RA-09</b>					
TO-15	Trichloroethene	75.0	ug/m3	1.07	09/16/23 21:38	
<b>10669086018</b>	<b>SS-230914-RA-11</b>					
TO-15	Carbon tetrachloride	0.542J	ug/m3	1.26	09/16/23 22:06	J
TO-15	Chloroform	183	ug/m3	0.973	09/16/23 22:06	
TO-15	cis-1,2-Dichloroethene	2.50	ug/m3	0.793	09/16/23 22:06	
TO-15	Trichloroethene	9540	ug/m3	122	09/20/23 21:15	
<b>10669086019</b>	<b>SS-230914-RA-12</b>					
TO-15	Chloroform	0.978	ug/m3	0.973	09/16/23 22:34	
TO-15	Trichloroethene	24.1	ug/m3	1.07	09/18/23 23:24	B

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: IA-230913-RA-01 Lab ID: 10669086001 Collected: 09/14/23 09:36 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	09/17/23 16:52	09/17/23 16:52	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	09/17/23 16:52	09/17/23 16:52	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	09/17/23 16:52	09/17/23 16:52	156-59-2	
Trichloroethene	<b>0.852J</b>	ug/m3	1.22	0.364	1	09/17/23 16:52	09/17/23 16:52	79-01-6	J
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	09/17/23 16:52	09/17/23 16:52	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	90.6	%	60.0-140		1	09/17/23 16:52	09/17/23 16:52	460-00-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: IA-230913-RA-02 Lab ID: 10669086002 Collected: 09/14/23 09:33 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	09/17/23 17:20	09/17/23 17:20	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	09/17/23 17:20	09/17/23 17:20	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	09/17/23 17:20	09/17/23 17:20	156-59-2	
Trichloroethene	<b>2.74</b>	ug/m3	1.22	0.364	1	09/17/23 17:20	09/17/23 17:20	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	09/17/23 17:20	09/17/23 17:20	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	91.6	%	60.0-140		1	09/17/23 17:20	09/17/23 17:20	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: IA-230913-RA-05 Lab ID: 10669086005 Collected: 09/14/23 09:10 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	09/17/23 18:44	09/17/23 18:44	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	09/17/23 18:44	09/17/23 18:44	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	09/17/23 18:44	09/17/23 18:44	156-59-2	
Trichloroethene	<b>1.37</b>	ug/m3	1.22	0.364	1	09/17/23 18:44	09/17/23 18:44	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	09/17/23 18:44	09/17/23 18:44	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	91.4	%	60.0-140		1	09/17/23 18:44	09/17/23 18:44	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: IA-230913-RA-11 Lab ID: 10669086008 Collected: 09/14/23 09:04 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	09/17/23 20:09	09/17/23 20:09	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	09/17/23 20:09	09/17/23 20:09	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	09/17/23 20:09	09/17/23 20:09	156-59-2	
Trichloroethene	<b>1.85</b>	ug/m3	1.22	0.364	1	09/17/23 20:09	09/17/23 20:09	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	09/17/23 20:09	09/17/23 20:09	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	92.8	%	60.0-140		1	09/17/23 20:09	09/17/23 20:09	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: G-230913-RA-01 Lab ID: 10669086010 Collected: 09/13/23 13:17 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	1.74	ug/m3	1.26	0.461	1	09/16/23 18:20	09/16/23 18:20	56-23-5	
Chloroform	0.686J	ug/m3	0.973	0.349	1	09/16/23 18:20	09/16/23 18:20	67-66-3	J
cis-1,2-Dichloroethene	0.416J	ug/m3	0.793	0.311	1	09/16/23 18:20	09/16/23 18:20	156-59-2	J
Trichloroethene	103	ug/m3	1.07	0.364	1	09/16/23 18:20	09/16/23 18:20	79-01-6	
Vinyl chloride	0.511 U	ug/m3	0.511	0.243	1	09/16/23 18:20	09/16/23 18:20	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	96.5	%	60.0-140		1	09/16/23 18:20	09/16/23 18:20	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: **SS-230914-RA-01** Lab ID: **10669086011** Collected: 09/14/23 12:25 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>21.7</b>	ug/m3	1.26	0.461	1	09/16/23 18:49	09/16/23 18:49	56-23-5	
Chloroform	<b>7.11</b>	ug/m3	0.973	0.349	1	09/16/23 18:49	09/16/23 18:49	67-66-3	
cis-1,2-Dichloroethene	<b>5.55</b>	ug/m3	0.793	0.311	1	09/16/23 18:49	09/16/23 18:49	156-59-2	
Trichloroethene	<b>1760</b>	ug/m3	10.7	3.64	10	09/18/23 21:51	09/18/23 21:51	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 18:49	09/16/23 18:49	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	96.4	%	60.0-140		1	09/16/23 18:49	09/16/23 18:49	460-00-4	
4-Bromofluorobenzene (S)	104	%	60.0-140		10	09/18/23 21:51	09/18/23 21:51	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: **SS-230914-RA-02** Lab ID: **10669086012** Collected: 09/14/23 12:07 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>552</b>	ug/m3	126	46.1	100	09/19/23 03:20	09/19/23 03:20	56-23-5	
Chloroform	<b>192</b>	ug/m3	0.973	0.349	1	09/16/23 19:17	09/16/23 19:17	67-66-3	
cis-1,2-Dichloroethene	<b>159</b>	ug/m3	0.793	0.311	1	09/16/23 19:17	09/16/23 19:17	156-59-2	
Trichloroethene	<b>30600</b>	ug/m3	107	36.4	100	09/19/23 03:20	09/19/23 03:20	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 19:17	09/16/23 19:17	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	97.1	%	60.0-140		1	09/16/23 19:17	09/16/23 19:17	460-00-4	
4-Bromofluorobenzene (S)	102	%	60.0-140		100	09/19/23 03:20	09/19/23 03:20	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: **SS-230914-RA-03** Lab ID: **10669086013** Collected: 09/14/23 11:45 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.575J</b>	ug/m3	1.26	0.461	1	09/16/23 19:45	09/16/23 19:45	56-23-5	J
Chloroform	<b>28.1</b>	ug/m3	0.973	0.349	1	09/16/23 19:45	09/16/23 19:45	67-66-3	
cis-1,2-Dichloroethene	<b>0.793 U</b>	ug/m3	0.793	0.311	1	09/16/23 19:45	09/16/23 19:45	156-59-2	
Trichloroethene	<b>4.41</b>	ug/m3	1.07	0.364	1	09/18/23 22:29	09/18/23 22:29	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 19:45	09/16/23 19:45	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95.7	%	60.0-140		1	09/16/23 19:45	09/16/23 19:45	460-00-4	
4-Bromofluorobenzene (S)	100	%	60.0-140		1	09/18/23 22:29	09/18/23 22:29	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: **SS-230914-RA-04** Lab ID: **10669086014** Collected: 09/14/23 14:04 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.26 U</b>	ug/m3	1.26	0.461	1	09/16/23 20:13	09/16/23 20:13	56-23-5	
Chloroform	<b>1.62</b>	ug/m3	0.973	0.349	1	09/16/23 20:13	09/16/23 20:13	67-66-3	
cis-1,2-Dichloroethene	<b>0.793 U</b>	ug/m3	0.793	0.311	1	09/16/23 20:13	09/16/23 20:13	156-59-2	
Trichloroethene	<b>140</b>	ug/m3	1.07	0.364	1	09/16/23 20:13	09/16/23 20:13	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 20:13	09/16/23 20:13	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95.6	%	60.0-140		1	09/16/23 20:13	09/16/23 20:13	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: **SS-230914-RA-05** Lab ID: **10669086015** Collected: 09/14/23 13:54 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.26 U</b>	ug/m3	1.26	0.461	1	09/16/23 20:41	09/16/23 20:41	56-23-5	
Chloroform	<b>38.3</b>	ug/m3	0.973	0.349	1	09/16/23 20:41	09/16/23 20:41	67-66-3	
cis-1,2-Dichloroethene	<b>0.805</b>	ug/m3	0.793	0.311	1	09/16/23 20:41	09/16/23 20:41	156-59-2	
Trichloroethene	<b>3170</b>	ug/m3	10.7	3.64	10	09/18/23 23:05	09/18/23 23:05	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 20:41	09/16/23 20:41	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95.8	%	60.0-140		1	09/16/23 20:41	09/16/23 20:41	460-00-4	
4-Bromofluorobenzene (S)	99.9	%	60.0-140		10	09/18/23 23:05	09/18/23 23:05	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: **SS-230914-RA-08** Lab ID: **10669086016** Collected: 09/14/23 12:15 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>280</b>	ug/m3	1.26	0.461	1	09/16/23 21:10	09/16/23 21:10	56-23-5	
Chloroform	<b>28.2</b>	ug/m3	0.973	0.349	1	09/16/23 21:10	09/16/23 21:10	67-66-3	
cis-1,2-Dichloroethene	<b>0.793 U</b>	ug/m3	0.793	0.311	1	09/16/23 21:10	09/16/23 21:10	156-59-2	
Trichloroethene	<b>105</b>	ug/m3	1.07	0.364	1	09/16/23 21:10	09/16/23 21:10	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 21:10	09/16/23 21:10	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95.8	%	60.0-140		1	09/16/23 21:10	09/16/23 21:10	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: **SS-230914-RA-09** Lab ID: **10669086017** Collected: 09/14/23 11:57 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>28.3</b>	ug/m3	1.26	0.461	1	09/16/23 21:38	09/16/23 21:38	56-23-5	
Chloroform	<b>26.1</b>	ug/m3	0.973	0.349	1	09/16/23 21:38	09/16/23 21:38	67-66-3	
cis-1,2-Dichloroethene	<b>0.793 U</b>	ug/m3	0.793	0.311	1	09/16/23 21:38	09/16/23 21:38	156-59-2	
Trichloroethene	<b>75.0</b>	ug/m3	1.07	0.364	1	09/16/23 21:38	09/16/23 21:38	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 21:38	09/16/23 21:38	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	94.8	%	60.0-140		1	09/16/23 21:38	09/16/23 21:38	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: **SS-230914-RA-11** Lab ID: **10669086018** Collected: 09/14/23 13:45 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.542J</b>	ug/m3	1.26	0.461	1	09/16/23 22:06	09/16/23 22:06	56-23-5	J
Chloroform	<b>183</b>	ug/m3	0.973	0.349	1	09/16/23 22:06	09/16/23 22:06	67-66-3	
cis-1,2-Dichloroethene	<b>2.50</b>	ug/m3	0.793	0.311	1	09/16/23 22:06	09/16/23 22:06	156-59-2	
Trichloroethene	<b>9540</b>	ug/m3	122	36.4	100	09/20/23 21:15	09/20/23 21:15	79-01-6	
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 22:06	09/16/23 22:06	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	95.4	%	60.0-140		1	09/16/23 22:06	09/16/23 22:06	460-00-4	
4-Bromofluorobenzene (S)	94.0	%	60.0-140		100	09/20/23 21:15	09/20/23 21:15	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Sample: **SS-230914-RA-12** Lab ID: **10669086019** Collected: 09/14/23 13:36 Received: 09/15/23 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.26 U</b>	ug/m3	1.26	0.461	1	09/16/23 22:34	09/16/23 22:34	56-23-5	
Chloroform	<b>0.978</b>	ug/m3	0.973	0.349	1	09/16/23 22:34	09/16/23 22:34	67-66-3	
cis-1,2-Dichloroethene	<b>0.793 U</b>	ug/m3	0.793	0.311	1	09/16/23 22:34	09/16/23 22:34	156-59-2	
Trichloroethene	<b>24.1</b>	ug/m3	1.07	0.364	1	09/18/23 23:24	09/18/23 23:24	79-01-6	B
Vinyl chloride	<b>0.511 U</b>	ug/m3	0.511	0.243	1	09/16/23 22:34	09/16/23 22:34	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	94.2	%	60.0-140		1	09/16/23 22:34	09/16/23 22:34	460-00-4	
4-Bromofluorobenzene (S)	93.9	%	60.0-140		1	09/18/23 23:24	09/18/23 23:24	460-00-4	

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**QUALITY CONTROL DATA**

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

QC Batch: 2133609 Analysis Method: TO-15  
 QC Batch Method: TO-15 Analysis Description: VOA (MS) TO-15  
 Laboratory: Pace National - Mt. Juliet  
 Associated Lab Samples: 10669086010, 10669086011, 10669086012, 10669086013, 10669086014, 10669086015, 10669086016, 10669086017, 10669086018, 10669086019

METHOD BLANK: R3974358-3 Matrix: Air  
 Associated Lab Samples: 10669086010, 10669086011, 10669086012, 10669086013, 10669086014, 10669086015, 10669086016, 10669086017, 10669086018, 10669086019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbon tetrachloride	ug/m3	1.26 U	1.26	09/16/23 15:14	
Chloroform	ug/m3	0.973 U	0.973	09/16/23 15:14	
cis-1,2-Dichloroethene	ug/m3	0.793 U	0.793	09/16/23 15:14	
Trichloroethene	ug/m3	1.07 U	1.07	09/16/23 15:14	
Vinyl chloride	ug/m3	0.511 U	0.511	09/16/23 15:14	
4-Bromofluorobenzene (S)	%	96.9	60.0-140	09/16/23 15:14	

LABORATORY CONTROL SAMPLE & LCSD: R3974358-1 R3974358-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ug/m3	23.6	21.6	21.7	91.5	92.0	70.0-130	0.581	25	
Chloroform	ug/m3	18.3	17.3	17.0	94.7	93.3	70.0-130	1.42	25	
cis-1,2-Dichloroethene	ug/m3	14.9	13.3	13.2	89.6	88.8	70.0-130	0.897	25	
Trichloroethene	ug/m3	20.1	19.2	19.6	95.7	97.6	70.0-130	1.93	25	
Vinyl chloride	ug/m3	9.59	8.79	8.84	91.7	92.3	70.0-130	0.580	25	
4-Bromofluorobenzene (S)	%				97.3	98.0	60.0-140			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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**QUALITY CONTROL DATA**

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

QC Batch: 2133907 Analysis Method: TO-15  
 QC Batch Method: TO-15 Analysis Description: VOA (MS) TO-15  
 Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10669086001, 10669086002, 10669086005, 10669086008

METHOD BLANK: R3975282-3 Matrix: Air

Associated Lab Samples: 10669086001, 10669086002, 10669086005, 10669086008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbon tetrachloride	ug/m3	1.26 U	1.26	09/17/23 10:06	
Chloroform	ug/m3	0.973 U	0.973	09/17/23 10:06	
cis-1,2-Dichloroethene	ug/m3	0.793 U	0.793	09/17/23 10:06	
Trichloroethene	ug/m3	1.07 U	1.07	09/17/23 10:06	
Vinyl chloride	ug/m3	0.511 U	0.511	09/17/23 10:06	
4-Bromofluorobenzene (S)	%	93.6	60.0-140	09/17/23 10:06	

LABORATORY CONTROL SAMPLE & LCSD: R3975282-1 R3975282-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ug/m3	23.6	21.2	21.2	89.6	89.6	70.0-130	0.00	25	
Chloroform	ug/m3	18.3	16.2	16.1	88.8	88.3	70.0-130	0.602	25	
cis-1,2-Dichloroethene	ug/m3	14.9	12.2	12.2	82.4	81.9	70.0-130	0.649	25	
Trichloroethene	ug/m3	20.1	19.7	19.4	98.1	96.8	70.0-130	1.37	25	
Vinyl chloride	ug/m3	9.59	8.28	8.31	86.4	86.7	70.0-130	0.308	25	
4-Bromofluorobenzene (S)	%				95.6	95.0	60.0-140			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

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**QUALITY CONTROL DATA**

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

QC Batch: 2134307	Analysis Method: TO-15
QC Batch Method: TO-15	Analysis Description: VOA (MS) TO-15
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10669086019

METHOD BLANK: R3974568-3 Matrix: Air

Associated Lab Samples: 10669086019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	ug/m3	36.2	1.07	09/18/23 12:05	
4-Bromofluorobenzene (S)	%	94.9	60.0-140	09/18/23 12:05	

LABORATORY CONTROL SAMPLE & LCSD: R3974568-1 R3974568-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Trichloroethene	ug/m3	20.1	22.0	22.1	109	110	70.0-130	0.487	25	
4-Bromofluorobenzene (S)	%				96.8	97.9	60.0-140			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

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QUALITY CONTROL DATA

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

QC Batch: 2134435 Analysis Method: TO-15
QC Batch Method: TO-15 Analysis Description: VOA (MS) TO-15
Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10669086011, 10669086012, 10669086013, 10669086015

METHOD BLANK: R3974985-3 Matrix: Air

Associated Lab Samples: 10669086011, 10669086012, 10669086013, 10669086015

Table with 6 columns: Parameter, Units, Blank Result, Reporting Limit, Analyzed, Qualifiers. Rows include Carbon tetrachloride, Trichloroethene, and 4-Bromofluorobenzene (S).

LABORATORY CONTROL SAMPLE & LCSD: R3974985-1 R3974985-2

Table with 11 columns: Parameter, Units, Spike Conc., LCS Result, LCSD Result, LCS % Rec, LCSD % Rec, % Rec Limits, RPD, Max RPD, Qualifiers. Rows include Carbon tetrachloride, Trichloroethene, and 4-Bromofluorobenzene (S).

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

QC Batch: 2135870	Analysis Method: TO-15
QC Batch Method: TO-15	Analysis Description: VOA (MS) TO-15
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10669086018

METHOD BLANK: R3975525-3 Matrix: Air

Associated Lab Samples: 10669086018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	ug/m3	1.07 U	1.07	09/20/23 10:37	
4-Bromofluorobenzene (S)	%	94	60.0-140	09/20/23 10:37	

LABORATORY CONTROL SAMPLE & LCSD: R3975525-1 R3975525-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Trichloroethene	ug/m3	20.1	23.3	22.7	116	113	70.0-130	2.80	25	
4-Bromofluorobenzene (S)	%				93.3	91.1	60.0-140			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

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## QUALIFIERS

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - Estimated concentration at or above the LOD and below the LOQ.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

DL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected at or above the adjusted LOD.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### WORKORDER QUALIFIERS

WO: 10669086

[1]

### ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

## REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.



### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 003978 Wausau-Revised Report

Pace Project No.: 10669086

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10669086001	IA-230913-RA-01	TO-15	2133907	TO-15	2133907
10669086002	IA-230913-RA-02	TO-15	2133907	TO-15	2133907
10669086005	IA-230913-RA-05	TO-15	2133907	TO-15	2133907
10669086008	IA-230913-RA-11	TO-15	2133907	TO-15	2133907
10669086010	G-230913-RA-01	TO-15	2133609	TO-15	2133609
10669086011	SS-230914-RA-01	TO-15	2133609	TO-15	2133609
10669086011	SS-230914-RA-01	TO-15	2134435	TO-15	2134435
10669086012	SS-230914-RA-02	TO-15	2133609	TO-15	2133609
10669086012	SS-230914-RA-02	TO-15	2134435	TO-15	2134435
10669086013	SS-230914-RA-03	TO-15	2133609	TO-15	2133609
10669086013	SS-230914-RA-03	TO-15	2134435	TO-15	2134435
10669086014	SS-230914-RA-04	TO-15	2133609	TO-15	2133609
10669086015	SS-230914-RA-05	TO-15	2133609	TO-15	2133609
10669086015	SS-230914-RA-05	TO-15	2134435	TO-15	2134435
10669086016	SS-230914-RA-08	TO-15	2133609	TO-15	2133609
10669086017	SS-230914-RA-09	TO-15	2133609	TO-15	2133609
10669086018	SS-230914-RA-11	TO-15	2133609	TO-15	2133609
10669086018	SS-230914-RA-11	TO-15	2135870	TO-15	2135870
10669086019	SS-230914-RA-12	TO-15	2133609	TO-15	2133609
10669086019	SS-230914-RA-12	TO-15	2134307	TO-15	2134307

### REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full, without the written consent of Pace Analytical Services, LLC.

**Pace** Pace\* Location Requested (City/State):

**Air CHAIN-OF-CUSTODY Analytical Request Document**  
Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY - Affix Workorder/Login Label Here

Company Name: **Pace Analytical - Minnesota**  
Street Address: **1700 Elm Street Suite 200  
Minneapolis, MN 55414**  
City, State Zip:  
Customer Project #: **003978**  
Project Name: **Wausau**

Contact/Report To: **GHD Ryan Aamot / Tina Soltani**  
Phone #: **612-607-1700**  
E-Mail: **tina.soltani@pacelabs.com**  
Cc E-Mail:  
Invoice To: **640**  
Invoice  
E-Mail:  
Purchase Order # (if applicable):  
Quote #:  
State origin of sample(s):



**Sample Receipt Checklist**

DOT Seal Present/Intact:  Y  N If Applicable  
 DOT Signed/Accurate:  Y  N VOA Zero Headspace:  Y  N  
 Bottles arrive intact:  Y  N Pres. Correct/Check:  Y  N  
 Correct bottles used:  Y  N  
 Sufficient volume sent:  Y  N  
 RA Screen <0.5 mR/hr:  Y  N

Site Collection Info/Facility ID (if applicable): **PACEMN-GHDAIR**

Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

Data Deliverables:  
 Level II  Level III  Level IV  
 EQUIS  
 Other

Regulatory Program (CAA, RCRA, etc.) as applicable:  
 Rush (Pre-approval required): 2 Day 3 day 5 day Other:  
 Date Results Requested:  
 Units for Reporting: ug/m<sup>3</sup> PFBs mg/m<sup>3</sup> DPMV

Permit # as applicable:  
 Units for Reporting: ug/m<sup>3</sup> PFBs mg/m<sup>3</sup> DPMV

**J079**

Analyses Requested

Proj. Manager: **3976 - Naomi M Sackett**

AcctNum / Client ID:  
**PACEMN**

Table #:  
**T236667**

Profile / Template:  
**P1021941**

Prelog / Bottle Ord. ID:  
**P1021941**

Lab Use Only

\* Matrix Codes (insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)

Customer Sample ID	Matrix *	Summa Cartridge #	Flow Controller ID	Begin Collection		End Collection		Start Pressure / Vacuum (in Hg)	End Pressure / Vacuum (in Hg)	Duration (minutes)	Flow Rate (m <sup>3</sup> /min or L/min)	Total Volume Sampled (m <sup>3</sup> or L)	TO-15 Summa
				Date	Time	Date	Time						
IA-230913-PA-01	I	23221	13108	9/13	1239	9/14	936	-30	-6				8
IA-230913-PA-02	I	0943	23782	9/13	1243	9/14	433	-30	-10				7
IA-230913-PA-03	I	12082	15569	9/13	1246	9/14	928	-29	-7				7
IA-230913-PA-04	I	11133	8425	9/13	1216	9/14	913	-29	-8				7
IA-230913-PA-05	I	9837	8694	9/13	1213	9/14	910	-27	-6				7
IA-230913-PA-08	I	12213	12964	9/13	1257	9/14	935	-29	-7				7
IA-230913-PA-09	I	9022	24868	9/13	1250	9/14	931	-26	-5				7
IA-230913-PA-11	I	3982	13087	9/13	1214	9/14	904	-30	-3				7
IA-230913-PA-12	I	2818	28727	9/13	1227	9/14	902	-30	-9				7

Customer Remarks / Special Conditions / Possible Hazards:  
**Project Name: 003978 Wausau**

Collected By: **Ryan Aamot**  
 Printed Name: **Ryan Aamot**  
 Signature: *[Signature]*

Additional Instructions from Pace\*:  
 # Coolers: Thermometer ID: Correction Factor (%): Obs. Temp (°C): Corrected Temp (°C):

Relinquished by/Company: (Signature) **SL** Date/Time: **09/10/13**  
 Received by/Company: (Signature) Date/Time:  
 Relinquished by/Company: (Signature) **1640** Date/Time: **9/14/13 1500**  
 Received by/Company: (Signature) Date/Time:  
 Relinquished by/Company: (Signature) Date/Time: **9/15/13**  
 Received by/Company: (Signature) **Jamean** Date/Time: **0900**

Delivered by: In-Person Courier  
 FedEx UPS Other

**Pace** Pace\* Location Requested (City/State): **Air CHAIN-OF-CUSTODY Analytical Request Document**  
 Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

Company Name: **Pace Analytical - Minnesota**  
 Street Address: **1700 Elm Street Suite 200 Minneapolis, MN 55414**  
 City, State Zip:  
 Customer Project #: **003978**  
 Project Name: **Wausau**  
 Site Collection Info/Facility ID (as applicable): **PACEMN-GHDAIR**  
 Time Zone Collected: [ ] AK [ ] PT [ ] MT [X] CT [ ] ET  
 Data Deliverables:  
 [ ] Level II [ ] Level III [ ] Level IV  
 [ ] EQUIS  
 [ ] Other

Contact/Report To: **GHD Ryan Aamot / Tina Soltani**  
 Phone #: **612-607-1700**  
 E-Mail: **tina.soltani@pacelabs.com**  
 Cc E-Mail:  
 Invoice to: **GHD**  
 Invoice E-Mail:  
 Purchase Order # (if applicable):  
 Quote #:  
 State origin of sample(s): **WI**

**Sample Receipt Checklist**

COC Seal Present/Intact:  Y  N  
 COC Signed/Accurate:  Y  N  
 Bottles arrive intact:  Y  N  
 Correct bottles used:  Y  N  
 Sufficient volume sent:  Y  N  
 RA Screen <0.5 mR/hr:  Y  N

If Applicable  
 VOR Zero Headspace:  Y  N  
 Pres. Correct/Check:  Y  N

Field Information					Analyses Requested			J059	
Canister		PUF / FILTER			TO-15 Summa			Lab Use Only	
Pressure / Vacuum	Start Pressure / Vacuum (in Hg)	End Pressure / Vacuum (in Hg)	Duration (minutes)	Flow Rate (m <sup>3</sup> /min or L/min)				Total Volume Sampled (m <sup>3</sup> or L)	Crsg. Manager:
								<b>3976 - Naomi M Sackett</b>	
								<b>PACEMN</b>	
								Table #:	
								Profile / Template: <b>T236667</b>	
								Prelog / Bottle Ord. ID: <b>P1021941</b>	
								<i>L11520218</i>	Sample Comment
									<i>-01</i>
									<i>-02</i>
									<i>-03</i>
									<i>-04</i>
									<i>-05</i>
									<i>-06</i>
									<i>-07</i>
									<i>-08</i>
									<i>-09</i>
									<i>-10</i>

\* Matrix Codes (Insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)

Customer Sample ID	Matrix *	Summa Canister ID	Flow Controller ID	Begin Collection		End Collection		Start Pressure / Vacuum (in Hg)	End Pressure / Vacuum (in Hg)	Duration (minutes)	Flow Rate (m <sup>3</sup> /min or L/min)	Total Volume Sampled (m <sup>3</sup> or L)	TO-15 Summa			Sample Comment
				Date	Time	Date	Time									
G-230913-RA-01	SV	9304	7123	9/13	1311	9/13	1317	-30	-5				Y			<i>-01</i>
SS-230914-RA-01	SV	23880	22647	9/13	1220	9/13	1225	-27	-5				Y			<i>-02</i>
SS-230914-RA-02	SV	6891	9270	9/13	1200	9/13	1207	-30	-5				Y			<i>-03</i>
SS-230914-RA-03	SV	24749	24825	9/13	1135	9/13	1145	-29	-5				Y			<i>-04</i>
SS-230914-RA-04	SV	21170	12667	9/13	1357	9/13	1404	-28	-5				Y			<i>-05</i>
SS-230914-RA-05	SV	23825	15559	9/13	1348	9/13	1354	-29	-5				Y			<i>-06</i>
SS-230914-RA-08	SV	11848	7028	9/13	1211	9/13	1215	-30	-5				Y			<i>-07</i>
SS-230914-RA-09	SV	15327	12905	9/13	1151	9/13	1157	-28	-5				Y			<i>-08</i>
SS-230914-RA-11	SV	28289	24971	9/13	1325	9/13	1345	-30	-5				Y			<i>-09</i>
SS-230914-RA-12	SV	11905	22671	9/13	1320	9/13	1326	-28	-5				Y			<i>-10</i>

Customer Remarks / Special Conditions / Possible Hazards: **Project Name: 003978 Wausau**

Collected By: **Ryan Aamot**  
 Printed Name: **Ryan Aamot**  
 Signature: *Ryan Aamot*

Additional Instructions from Pace\*:  
 # Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C):

Relinquished by/Company: (Signature) *CSL* Date/Time: *09/10/23*  
 Relinquished by/Company: (Signature) *GHD* Date/Time: *9/14/23 15:00*  
 Relinquished by/Company: (Signature) *Jurice* Date/Time: *9/14/23*  
 Relinquished by/Company: (Signature) Date/Time:

Received by/Company: (Signature) Date/Time: *0900*  
 Received by/Company: (Signature) Date/Time:  
 Received by/Company: (Signature) Date/Time:  
 Received by/Company: (Signature) Date/Time:

Tracking Number:  
 Delivered by: In-Person Courier  
 FedEX UPS Other



# Internal Transfer Chain of Custody



Samples Pre-Logged into eCOC.

State Of Origin: WI

Cert. Needed:  Yes  No

Workorder: 10669086      Workorder Name: 003978 Wausau

Owner Received Date: 9/15/2023      Results Requested By: 9/29/2023

Report To		Subcontract To					Requested Analysis																																	
Tina Soltani Pace Analytical Minnesota 1700 Elm Street Minneapolis, MN 55414 Phone (612) 607-6384		Pace National 12065 Lebanon Rd Mt. Juliet, TN 37122 Phone (615) 758-5858																																						
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers					Flow Controller Valve Rental	Purge Manifold	Summa Canister Rental	T015 MSV AIR											LAB USE ONLY															
						Other																																		
1	IA-230913-RA-01	PS	9/14/2023 09:36	10669086001	Air	1						X	X	X	X																									
2	IA-230913-RA-02	PS	9/14/2023 09:33	10669086002	Air	1						X	X	X	X																									
3	IA-230913-RA-03	PS	9/14/2023 09:28	10669086003	Air	1						X	X	X	X																									
4	IA-230913-RA-04	PS	9/14/2023 09:13	10669086004	Air	1						X	X	X	X																									
5	IA-230913-RA-05	PS	9/14/2023 09:10	10669086005	Air	1						X	X	X	X																									
6	IA-230913-RA-08	PS	9/14/2023 09:35	10669086006	Air	1						X	X	X	X																									
7	IA-230913-RA-09	PS	9/14/2023 09:31	10669086007	Air	1						X	X	X	X																									
8	IA-230913-RA-11	PS	9/14/2023 09:04	10669086008	Air	1						X	X	X	X																									
9	IA-230913-RA-12	PS	9/14/2023 09:02	10669086009	Air	1						X	X	X	X																									
10	G-230913-RA-01	PS	9/13/2023 13:17	10669086010	Air	1						X	X	X	X																									
11	SS-230914-RA-01	PS	9/14/2023 12:25	10669086011	Air	1						X	X	X	X																									
12	SS-230914-RA-02	PS	9/14/2023 12:07	10669086012	Air	1						X		X	X																									
13	SS-230914-RA-03	PS	9/14/2023 11:45	10669086013	Air	1						X		X	X																									
14	SS-230914-RA-04	PS	9/14/2023 14:04	10669086014	Air	1						X		X	X																									
15	SS-230914-RA-05	PS	9/14/2023 13:54	10669086015	Air	1						X		X	X																									
16	SS-230914-RA-08	PS	9/14/2023 12:15	10669086016	Air	1						X		X	X																									
17	SS-230914-RA-09	PS	9/14/2023 11:57	10669086017	Air	1						X		X	X																									
18	SS-230914-RA-11	PS	9/14/2023 13:45	10669086018	Air	1						X		X	X																									
19	SS-230914-RA-12	PS	9/14/2023 13:36	10669086019	Air	1						X		X	X																									

					Comments	
Transfers	Released By	Date/Time	Received By	Date/Time	Analyte list is attached.	
1						
2						
3						
Cooler Temperature on Receipt _____ °C		Custody Seal Y or N		Received on Ice Y or N		Samples Intact Y or N

\*\*\*In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.  
 This chain of custody is considered complete as is since this information is available in the owner laboratory.



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086001  
 Client Sample ID: IA-230913-RA-01

ProjSampleNum: 10669086001  
 Matrix: Air

Date Collected: 09/14/23 9:36  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.24	ppbv	0.24	1	09/17/23 16:52 GH	56-23-5	
Chloroform	0.23	ppbv	0.23	1	09/17/23 16:52 GH	67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	1	09/17/23 16:52 GH	156-59-2	
Trichloroethene	0.16J	ppbv	0.22	1	09/17/23 16:52 GH	79-01-6	J
Vinyl chloride	0.31	ppbv	0.31	1	09/17/23 16:52 GH	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



ANALYTICAL RESULTS

Client: GHD
Phone: 972-331-8500

Lab Project Number: 10669086
Project Name: 003978 Wausau

Lab Sample No: 10669086002
Client Sample ID: IA-230913-RA-02

ProjSampleNum: 10669086002
Matrix: Air

Date Collected: 09/14/23 9:33
Date Received: 09/15/23 9:00

Parameters Results Units Report Limit DF Analyzed CAS No. Qualifiers

Table with 8 columns: Parameters, Results, Units, Report Limit, DF, Analyzed, CAS No., Qualifiers. Data rows include Carbon tetrachloride, Chloroform, cis-1,2-Dichloroethene, Trichloroethene, and Vinyl chloride.

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

SUPPLEMENTAL REPORT
Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD Lab Project Number: 10669086  
 Phone: 972-331-8500 Project Name: 003978 Wausau  
 Lab Sample No: 10669086005 ProjSampleNum: 10669086005 Date Collected: 09/14/23 9:10  
 Client Sample ID: IA-230913-RA-05 Matrix: Air Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.24	ppbv	0.24	1	09/17/23 18:44 GH	56-23-5	
Chloroform	0.23	ppbv	0.23	1	09/17/23 18:44 GH	67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	1	09/17/23 18:44 GH	156-59-2	
Trichloroethene	0.25	ppbv	0.22	1	09/17/23 18:44 GH	79-01-6	
Vinyl chloride	0.31	ppbv	0.31	1	09/17/23 18:44 GH	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086008  
 Client Sample ID: IA-230913-RA-11

ProjSampleNum: 10669086008  
 Matrix: Air

Date Collected: 09/14/23 9:04  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.24	ppbv	0.24	1	09/17/23 20:09 GH	56-23-5	
Chloroform	0.23	ppbv	0.23	1	09/17/23 20:09 GH	67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	1	09/17/23 20:09 GH	156-59-2	
Trichloroethene	0.34	ppbv	0.22	1	09/17/23 20:09 GH	79-01-6	
Vinyl chloride	0.31	ppbv	0.31	1	09/17/23 20:09 GH	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086010  
 Client Sample ID: G-230913-RA-01

ProjSampleNum: 10669086010  
 Matrix: Air

Date Collected: 09/13/23 13:17  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.27	ppbv	0.2	1	09/16/23 18:20 SDS	56-23-5	
Chloroform	0.14J	ppbv	0.2	1	09/16/23 18:20 SDS	67-66-3	J
cis-1,2-Dichloroethene	0.1J	ppbv	0.2	1	09/16/23 18:20 SDS	156-59-2	J
Trichloroethene	18.9	ppbv	0.2	1	09/16/23 18:20 SDS	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 18:20 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086011  
 Client Sample ID: SS-230914-RA-01

ProjSampleNum: 10669086011  
 Matrix: Air

Date Collected: 09/14/23 12:25  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	3.4	ppbv	0.2	1	09/16/23 18:49 SDS	56-23-5	
Chloroform	1.4	ppbv	0.2	1	09/16/23 18:49 SDS	67-66-3	
cis-1,2-Dichloroethene	1.4	ppbv	0.2	1	09/16/23 18:49 SDS	156-59-2	
Trichloroethene	322	ppbv	2	10	09/18/23 21:51 DAH	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 18:49 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request





Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086012  
 Client Sample ID: SS-230914-RA-02

ProjSampleNum: 10669086012  
 Matrix: Air

Date Collected: 09/14/23 12:07  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	86.3	ppbv	19.7	100	09/19/23 3:20 DAH	56-23-5	
Chloroform	38.7	ppbv	0.2	1	09/16/23 19:17 SDS	67-66-3	
cis-1,2-Dichloroethene	39.5	ppbv	0.2	1	09/16/23 19:17 SDS	156-59-2	
Trichloroethene	5600	ppbv	19.6	100	09/19/23 3:20 DAH	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 19:17 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086013  
 Client Sample ID: SS-230914-RA-03

ProjSampleNum: 10669086013  
 Matrix: Air

Date Collected: 09/14/23 11:45  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.09J	ppbv	0.2	1	09/16/23 19:45 SDS	56-23-5	J
Chloroform	5.7	ppbv	0.2	1	09/16/23 19:45 SDS	67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 19:45 SDS	156-59-2	
Trichloroethene	0.81	ppbv	0.2	1	09/18/23 22:29 DAH	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 19:45 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

### ANALYTICAL RESULTS

Client: GHD  
 Phone: 972-331-8500  
 Lab Sample No: 10669086014  
 Client Sample ID: SS-230914-RA-04

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

ProjSampleNum: 10669086014  
 Matrix: Air

Date Collected: 09/14/23 14:04  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.2	ppbv	0.2	1	09/16/23 20:13 SDS	56-23-5	
Chloroform	0.33	ppbv	0.2	1	09/16/23 20:13 SDS	67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 20:13 SDS	156-59-2	
Trichloroethene	25.6	ppbv	0.2	1	09/16/23 20:13 SDS	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 20:13 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

### SUPPLEMENTAL REPORT

Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086015  
 Client Sample ID: SS-230914-RA-05

ProjSampleNum: 10669086015  
 Matrix: Air

Date Collected: 09/14/23 13:54  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.2	ppbv	0.2	1	09/16/23 20:41	SDS 56-23-5	
Chloroform	7.7	ppbv	0.2	1	09/16/23 20:41	SDS 67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 20:41	SDS 156-59-2	
Trichloroethene	580	ppbv	2	10	09/18/23 23:05	DAH 79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 20:41	SDS 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086016  
 Client Sample ID: SS-230914-RA-08

ProjSampleNum: 10669086016  
 Matrix: Air

Date Collected: 09/14/23 12:15  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	43.8	ppbv	0.2	1	09/16/23 21:10	SDS 56-23-5	
Chloroform	5.7	ppbv	0.2	1	09/16/23 21:10	SDS 67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 21:10	SDS 156-59-2	
Trichloroethene	19.2	ppbv	0.2	1	09/16/23 21:10	SDS 79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 21:10	SDS 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD Lab Project Number: 10669086  
 Phone: 972-331-8500 Project Name: 003978 Wausau  
 Lab Sample No: 10669086017 ProjSampleNum: 10669086017 Date Collected: 09/14/23 11:57  
 Client Sample ID: SS-230914-RA-09 Matrix: Air Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	4.4	ppbv	0.2	1	09/16/23 21:38	SDS 56-23-5	
Chloroform	5.3	ppbv	0.2	1	09/16/23 21:38	SDS 67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 21:38	SDS 156-59-2	
Trichloroethene	13.7	ppbv	0.2	1	09/16/23 21:38	SDS 79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 21:38	SDS 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10669086  
 Project Name: 003978 Wausau

Lab Sample No: 10669086018  
 Client Sample ID: SS-230914-RA-11

ProjSampleNum: 10669086018  
 Matrix: Air

Date Collected: 09/14/23 13:45  
 Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.085J	ppbv	0.2	1	09/16/23 22:06 SDS	56-23-5	J
Chloroform	36.9	ppbv	0.2	1	09/16/23 22:06 SDS	67-66-3	
cis-1,2-Dichloroethene	0.62	ppbv	0.2	1	09/16/23 22:06 SDS	156-59-2	
Trichloroethene	1750	ppbv	22.3	100	09/20/23 21:15 GH	79-01-6	
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 22:06 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
1700 Elm Street, Suite 200  
Minneapolis, MN 55414  
Phone: 612.607.1700  
Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
Phone: 972-331-8500

Lab Project Number: 10669086  
Project Name: 003978 Wausau

Lab Sample No: 10669086019  
Client Sample ID: SS-230914-RA-12

ProjSampleNum: 10669086019  
Matrix: Air

Date Collected: 09/14/23 13:36  
Date Received: 09/15/23 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.2	ppbv	0.2	1	09/16/23 22:34 SDS	56-23-5	
Chloroform	0.2	ppbv	0.2	1	09/16/23 22:34 SDS	67-66-3	
cis-1,2-Dichloroethene	0.2	ppbv	0.2	1	09/16/23 22:34 SDS	156-59-2	
Trichloroethene	4.4	ppbv	0.2	1	09/18/23 23:24 JAP	79-01-6	B
Vinyl chloride	0.2	ppbv	0.2	1	09/16/23 22:34 SDS	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
Units Conversion Request





Pace Analytical Services, LLC  
1700 Elm Street, Suite 200  
Minneapolis, MN 55414  
Phone: 612.607.1700  
Fax: 612.607.6444

## ANALYTICAL RESULTS

Client: GHD  
Phone: 972-331-8500

Lab Project Number: 10669086  
Project Name: 003978 Wausau

---

## PARAMETER FOOTNOTES

ND Not detected at or above adjusted reporting limit

NC Not Calculable

J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

[B] Analyte was detected in the associated method blank.

[J] Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 11/9/2023

Page 15



March 05, 2024

Mr. Grant Anderson  
GHD  
900 Long Lake Road  
Suite 200  
New Brighton, MN 55112

RE: Project: 003978 Wasau  
Pace Project No.: 10684149

Dear Mr. Anderson:

Enclosed are the analytical results for sample(s) received by the laboratory on February 14, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Tina Soltani".

Tina Soltani  
tina.soltani@pacelabs.com  
(612) 607-6384  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 003978 Wasau

Pace Project No.: 10684149

---

### Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: VT2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

---

## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: 003978 Wasau  
Pace Project No.: 10684149

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10684149001	IA-240212-RA-01	Air	02/13/24 09:49	02/14/24 09:00
10684149002	IA-240212-RA-02	Air	02/13/24 09:53	02/14/24 09:00
10684149003	IA-240212-RA-03	Air	02/13/24 10:07	02/14/24 09:00
10684149004	IA-240212-RA-04	Air	02/13/24 10:09	02/14/24 09:00
10684149005	IA-240212-RA-05	Air	02/13/24 10:00	02/14/24 09:00
10684149006	IA-240212-RA-06	Air	02/13/24 10:11	02/14/24 09:00

### REPORT OF LABORATORY ANALYSIS

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### SAMPLE ANALYTE COUNT

Project: 003978 Wasau  
Pace Project No.: 10684149

---

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10684149001	IA-240212-RA-01	TO-15	MNP	6	PAN
10684149002	IA-240212-RA-02	TO-15	MNP	6	PAN
10684149003	IA-240212-RA-03	TO-15	MNP	6	PAN
10684149004	IA-240212-RA-04	TO-15	MNP	6	PAN
10684149006	IA-240212-RA-06	TO-15	MNP	6	PAN

---

PAN = Pace National - Mt. Juliet

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: 003978 Wasau

Pace Project No.: 10684149

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>10684149001</b>	<b>IA-240212-RA-01</b>					
TO-15	Carbon tetrachloride	0.576J	ug/m3	1.54	02/29/24 18:00	J
TO-15	Trichloroethene	2.39	ug/m3	1.22	02/29/24 18:00	
<b>10684149002</b>	<b>IA-240212-RA-02</b>					
TO-15	Carbon tetrachloride	0.794J	ug/m3	1.54	02/29/24 18:39	J
TO-15	Trichloroethene	214	ug/m3	1.22	02/29/24 18:39	
<b>10684149003</b>	<b>IA-240212-RA-03</b>					
TO-15	Carbon tetrachloride	0.498J	ug/m3	1.54	02/29/24 19:18	J
TO-15	cis-1,2-Dichloroethene	0.979J	ug/m3	1.03	02/29/24 19:18	J
TO-15	Trichloroethene	1.93	ug/m3	1.22	02/29/24 19:18	
<b>10684149004</b>	<b>IA-240212-RA-04</b>					
TO-15	Trichloroethene	1.16J	ug/m3	1.22	02/29/24 19:56	J
<b>10684149006</b>	<b>IA-240212-RA-06</b>					
TO-15	Carbon tetrachloride	0.572J	ug/m3	1.54	02/29/24 20:35	J
TO-15	Trichloroethene	7.18	ug/m3	1.22	02/29/24 20:35	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 003978 Wasau

Pace Project No.: 10684149

Sample: IA-240212-RA-01 Lab ID: 10684149001 Collected: 02/13/24 09:49 Received: 02/14/24 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.576J</b>	ug/m3	1.54	0.461	1	02/29/24 18:00	02/29/24 18:00	56-23-5	J
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	02/29/24 18:00	02/29/24 18:00	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	02/29/24 18:00	02/29/24 18:00	156-59-2	
Trichloroethene	<b>2.39</b>	ug/m3	1.22	0.364	1	02/29/24 18:00	02/29/24 18:00	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	02/29/24 18:00	02/29/24 18:00	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	101	%	60.0-140		1	02/29/24 18:00	02/29/24 18:00	460-00-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 003978 Wasau

Pace Project No.: 10684149

Sample: IA-240212-RA-02 Lab ID: 10684149002 Collected: 02/13/24 09:53 Received: 02/14/24 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.794J</b>	ug/m3	1.54	0.461	1	02/29/24 18:39	02/29/24 18:39	56-23-5	J
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	02/29/24 18:39	02/29/24 18:39	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	02/29/24 18:39	02/29/24 18:39	156-59-2	
Trichloroethene	<b>214</b>	ug/m3	1.22	0.364	1	02/29/24 18:39	02/29/24 18:39	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	02/29/24 18:39	02/29/24 18:39	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99.6	%	60.0-140		1	02/29/24 18:39	02/29/24 18:39	460-00-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 003978 Wasau

Pace Project No.: 10684149

Sample: IA-240212-RA-03 Lab ID: 10684149003 Collected: 02/13/24 10:07 Received: 02/14/24 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.498J</b>	ug/m3	1.54	0.461	1	02/29/24 19:18	02/29/24 19:18	56-23-5	J
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	02/29/24 19:18	02/29/24 19:18	67-66-3	
cis-1,2-Dichloroethene	<b>0.979J</b>	ug/m3	1.03	0.311	1	02/29/24 19:18	02/29/24 19:18	156-59-2	J
Trichloroethene	<b>1.93</b>	ug/m3	1.22	0.364	1	02/29/24 19:18	02/29/24 19:18	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	02/29/24 19:18	02/29/24 19:18	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99.2	%	60.0-140		1	02/29/24 19:18	02/29/24 19:18	460-00-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 003978 Wasau

Pace Project No.: 10684149

Sample: IA-240212-RA-04 Lab ID: 10684149004 Collected: 02/13/24 10:09 Received: 02/14/24 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	02/29/24 19:56	02/29/24 19:56	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	02/29/24 19:56	02/29/24 19:56	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	02/29/24 19:56	02/29/24 19:56	156-59-2	
Trichloroethene	<b>1.16J</b>	ug/m3	1.22	0.364	1	02/29/24 19:56	02/29/24 19:56	79-01-6	J
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	02/29/24 19:56	02/29/24 19:56	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	98.7	%	60.0-140		1	02/29/24 19:56	02/29/24 19:56	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wasau

Pace Project No.: 10684149

Sample: IA-240212-RA-06 Lab ID: 10684149006 Collected: 02/13/24 10:11 Received: 02/14/24 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.572J</b>	ug/m3	1.54	0.461	1	02/29/24 20:35	02/29/24 20:35	56-23-5	J
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	02/29/24 20:35	02/29/24 20:35	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	02/29/24 20:35	02/29/24 20:35	156-59-2	
Trichloroethene	<b>7.18</b>	ug/m3	1.22	0.364	1	02/29/24 20:35	02/29/24 20:35	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	02/29/24 20:35	02/29/24 20:35	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	99.4	%	60.0-140		1	02/29/24 20:35	02/29/24 20:35	460-00-4	

### REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: 003978 Wasau

Pace Project No.: 10684149

QC Batch: 2236693 Analysis Method: TO-15  
 QC Batch Method: TO-15 Analysis Description: VOA (MS) TO-15  
 Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10684149001, 10684149002, 10684149003, 10684149004, 10684149006

METHOD BLANK: R4039799-3 Matrix: Air

Associated Lab Samples: 10684149001, 10684149002, 10684149003, 10684149004, 10684149006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbon tetrachloride	ug/m3	1.26 U	1.26	02/29/24 10:19	
Chloroform	ug/m3	0.973 U	0.973	02/29/24 10:19	
cis-1,2-Dichloroethene	ug/m3	0.793 U	0.793	02/29/24 10:19	
Trichloroethene	ug/m3	1.07 U	1.07	02/29/24 10:19	
Vinyl chloride	ug/m3	0.511 U	0.511	02/29/24 10:19	
4-Bromofluorobenzene (S)	%	97.9	60.0-140	02/29/24 10:19	

LABORATORY CONTROL SAMPLE & LCSD: R4039799-1 R4039799-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ug/m3	23.6	28.8	28.3	122	120	70.0-130	1.76	25	
Chloroform	ug/m3	18.3	23.0	22.5	126	123	70.0-130	1.93	25	
cis-1,2-Dichloroethene	ug/m3	14.9	19.3	18.6	130	125	70.0-130	3.35	25	
Trichloroethene	ug/m3	20.1	24.8	24.4	123	121	70.0-130	1.53	25	
Vinyl chloride	ug/m3	9.59	11.8	11.5	123	119	70.0-130	3.29	25	
4-Bromofluorobenzene (S)	%				101	102	60.0-140			

SAMPLE DUPLICATE: R4039799-4

Parameter	Units	L1709110-18 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ppbv	ND	2.44 U	0.00	25	
Chloroform	ppbv	ND	2.39 U	0.00	25	
cis-1,2-Dichloroethene	ppbv	0.818	2.61 U	200	25 D8	
Trichloroethene	ppbv	ND	2.27 U	0.00	25	
Vinyl chloride	ppbv	ND	3.16 U	0.00	25	
4-Bromofluorobenzene (S)	%		93.2			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

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## QUALIFIERS

Project: 003978 Wasau

Pace Project No.: 10684149

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - The reported result is an estimated value.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

DL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Analyte was not detected and is reported as less than the LOD or as defined by the customer.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

D8 The sample and duplicate results for this parameter are less than 5 times the reporting limit, the RPD may not be statistically valid.

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 003978 Wasau

Pace Project No.: 10684149

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Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10684149001	IA-240212-RA-01	TO-15	2236693	TO-15	2236693
10684149002	IA-240212-RA-02	TO-15	2236693	TO-15	2236693
10684149003	IA-240212-RA-03	TO-15	2236693	TO-15	2236693
10684149004	IA-240212-RA-04	TO-15	2236693	TO-15	2236693
10684149006	IA-240212-RA-06	TO-15	2236693	TO-15	2236693

### REPORT OF LABORATORY ANALYSIS


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**Pace** Location Requested (City/State): **Air CHAIN-OF-CUSTODY Analytical Request Document**  
 Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY - Affix Workorder/Login Label Here

Company Name: **Pace Analytical - Minnesota**  
 Street Address: **1700 Elm Street Suite 200  
 Minneapolis, MN 55414**  
 City, State Zip:  
 Customer Project #:  
 Project Name: **003978 Wasau**  
 Site Collection Info/Facility ID (as applicable): **PACEMN-GHDAIR**  
 Time Zone Collected: [ ] AK [ ] PT [ ] MT [X] CT [ ] ET

Contact/Report To: **GHD Ryan Aamot / Tina Soltani**  
 Phone #: **612-607-1700**  
 E-Mail: **tina.soltani@pacelabs.com**  
 Cc E-Mail:  
 Invoice to:  
 Invoice E-Mail:  
 Purchase Order # (if applicable):  
 Quote #:  
 State origin of sample(s):



Scan QR code for instructions

**J209**

*1/21/24*

Data Deliverables:  
 [ ] Level II [ ] Level III [ ] Level IV  
 [ ] EQUIS  
 [ ] Other

Regulatory Program (CAA, RCRA, etc.) as applicable:  
 Rush (Pre-approval required): 2 Day 3 day 5 day Other  
 Date Results Requested:

Permit # as applicable:  
 Units for Reporting: ug/m<sup>3</sup> PPBV mg/m<sup>3</sup> PPMV

\* Matrix Codes (Insert in Matrix box below): Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)

Field Information

Canister		PUF / FILTER			TO-15MNTIC Summa (TCE, cis 12 DCE, CT, chloroform)	Lab Use Only
Pressure / Vacuum	Start Pressure / End Pressure / Vacuum (in Hg)	Duration (minutes)	Flow Rate (m <sup>3</sup> /min or L/min)	Total Volume Sampled (m <sup>3</sup> or L)		
						Proj. Manager: <b>3976 - Naomi M Sackett</b>
						AcctNum / Client ID: <b>PACEMN</b>
						Table #: Profile / Template: <b>T246074</b>
						Prelog / Bottle Ord. ID: <b>P1052416</b>
						<b>L1705514</b> Sample Comment

Customer Sample ID	Matrix *	Summa Canister ID	Flow Controller ID	Begin Collection		End Collection		Start Pressure / Vacuum (in Hg)	End Pressure / Vacuum (in Hg)	Duration (minutes)	Flow Rate (m <sup>3</sup> /min or L/min)	Total Volume Sampled (m <sup>3</sup> or L)	TO-15MNTIC Summa (TCE, cis 12 DCE, CT, chloroform)	Lab Use Only
				Date	Time	Date	Time							
IA-240212-PA-01	IA	12466	11621	2/12	1246	2/13	949	-30	-9				X	\$ hold -01
IA-240212-PA-02		23247	23247	2/12	1253	2/13	953	-30	-3				Y	pending SS -02
IA-240212-PA-03		12230	12022	2/12	1320	2/13	1007	-29	-9				Y	results -03
IA-240212-PA-04		7168	10676	2/12	1325	2/13	1009	-29	-7				Y	-04
IA-240212-PA-05		13989	5567	2/12	1331	2/13	1000	-29	-12				Y	-05
IA-240212-PA-06		9204	9871	2/12	1337	2/13	1011	-29	-1				Y	-06

**Sample Receipt Checklist**

COC Seal Present/Intact:  Y  N      Airs:  Y  N

COC Signed/Accurate:  Y  N      Size: 6 1L 6 1.4L

Bottles arrive intact:  Y  N      Tare Color: G  W  P  B

Correct bottles used:  Y  N      Tubing:  Shunt

T/E#:

Customer Remarks / Special Conditions / Possible Hazards:

Collected by: **W. Aamot**  
 Printed Name: **Ryan Aamot**  
 Signature: *[Signature]*

Additional Instructions from Pace\*:  
 # Coolers:      Thermometer ID:      Correction Factor (°C):      Obs. Temp. (°C):      Corrected Temp. (°C):

Relinquished by/Company (Signature)	Date/Time	Received by/Company (Signature)	Date/Time	Tracking Number:
<i>[Signature]</i> <b>GHD</b>	<b>2/13/24 1330</b>	<i>[Signature]</i>		
		<i>[Signature]</i>		
		<i>[Signature]</i>		
		<i>[Signature]</i>	<b>2-14-24</b>	<b>0900</b>

Page: \_\_\_ of \_\_\_ Page 14 of 20



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10684149  
 Project Name: 003978 Wasau

Lab Sample No: 10684149001  
 Client Sample ID: IA-240212-RA-01

ProjSampleNum: 10684149001  
 Matrix: Air

Date Collected: 02/13/24 9:49  
 Date Received: 02/14/24 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.09J	ppbv	0.24	1	02/29/24 18:00 MNP	56-23-5	J
Chloroform	0.23	ppbv	0.23	1	02/29/24 18:00 MNP	67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	1	02/29/24 18:00 MNP	156-59-2	
Trichloroethene	0.44	ppbv	0.22	1	02/29/24 18:00 MNP	79-01-6	
Vinyl chloride	0.31	ppbv	0.31	1	02/29/24 18:00 MNP	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request











Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10684149  
 Project Name: 003978 Wasau

Lab Sample No: 10684149006  
 Client Sample ID: IA-240212-RA-06

ProjSampleNum: 10684149006  
 Matrix: Air

Date Collected: 02/13/24 10:11  
 Date Received: 02/14/24 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.089J	ppbv	0.24	1	02/29/24 20:35 MNP	56-23-5	J
Chloroform	0.23	ppbv	0.23	1	02/29/24 20:35 MNP	67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	1	02/29/24 20:35 MNP	156-59-2	
Trichloroethene	1.3	ppbv	0.22	1	02/29/24 20:35 MNP	79-01-6	
Vinyl chloride	0.31	ppbv	0.31	1	02/29/24 20:35 MNP	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
1700 Elm Street, Suite 200  
Minneapolis, MN 55414  
Phone: 612.607.1700  
Fax: 612.607.6444

## ANALYTICAL RESULTS

Client: GHD  
Phone: 972-331-8500

Lab Project Number: 10684149  
Project Name: 003978 Wasau

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## PARAMETER FOOTNOTES

ND Not detected at or above adjusted reporting limit

NC Not Calculable

J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

[J] Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 3/5/2024

Page 6



March 11, 2024

Mr. Grant Anderson  
GHD  
900 Long Lake Road  
Suite 200  
New Brighton, MN 55112

RE: Project: 003978 Wasau-Revised Report  
Pace Project No.: 10684148

Dear Mr. Anderson:

Enclosed are the analytical results for sample(s) received by the laboratory on February 14, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet

This report was revised on March 11, 2024, to remove the tentatively identified compounds (TICs) from Pace sample 10684148-006.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Tina Soltani  
tina.soltani@pacelabs.com  
(612) 607-6384  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

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### Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Mold Certification #: LAB0152

Texas Certification #: T 104704245-17-14

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: VT2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: 003978 Wasau-Revised Report  
Pace Project No.: 10684148

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10684148001	SS-240213-RA-01	Air	02/13/24 10:45	02/14/24 09:00
10684148002	SS-240213-RA-02	Air	02/13/24 11:03	02/14/24 09:00
10684148003	SS-240213-RA-03	Air	02/13/24 12:09	02/14/24 09:00
10684148004	SS-240213-RA-04	Air	02/13/24 12:30	02/14/24 09:00
10684148005	SS-240213-RA-05	Air	02/13/24 12:38	02/14/24 09:00
10684148006	SS-240213-RA-06	Air	02/13/24 12:48	02/14/24 09:00

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### SAMPLE ANALYTE COUNT

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

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Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10684148001	SS-240213-RA-01	TO-15	DAH	6	PAN
10684148002	SS-240213-RA-02	TO-15	DAH, SDS	6	PAN
10684148003	SS-240213-RA-03	TO-15	DAH, SDS	6	PAN
10684148004	SS-240213-RA-04	TO-15	DAH, SDS	6	PAN
10684148005	SS-240213-RA-05	TO-15	DAH, SDS	6	PAN
10684148006	SS-240213-RA-06	TO-15	DAH, SDS	6	PAN

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PAN = Pace National - Mt. Juliet

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**SUMMARY OF DETECTION**

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>10684148001</b>	<b>SS-240213-RA-01</b>					
TO-15	Trichloroethene	87.3	ug/m3	1.22	02/15/24 21:17	
<b>10684148002</b>	<b>SS-240213-RA-02</b>					
TO-15	Carbon tetrachloride	487	ug/m3	154	02/16/24 23:54	
TO-15	Chloroform	155	ug/m3	1.16	02/15/24 22:01	
TO-15	cis-1,2-Dichloroethene	158	ug/m3	1.03	02/15/24 22:01	
TO-15	Trichloroethene	20100	ug/m3	122	02/16/24 23:54	
<b>10684148003</b>	<b>SS-240213-RA-03</b>					
TO-15	Carbon tetrachloride	0.527J	ug/m3	1.54	02/15/24 22:44	J
TO-15	Chloroform	4.63	ug/m3	1.16	02/15/24 22:44	
TO-15	Trichloroethene	2010	ug/m3	12.2	02/16/24 19:06	
<b>10684148004</b>	<b>SS-240213-RA-04</b>					
TO-15	Carbon tetrachloride	0.825J	ug/m3	1.54	02/15/24 23:27	J
TO-15	Chloroform	141	ug/m3	1.16	02/15/24 23:27	
TO-15	cis-1,2-Dichloroethene	5.63	ug/m3	1.03	02/15/24 23:27	
TO-15	Trichloroethene	11000	ug/m3	122	02/17/24 00:32	
<b>10684148005</b>	<b>SS-240213-RA-05</b>					
TO-15	Trichloroethene	1160	ug/m3	12.2	02/16/24 19:40	
<b>10684148006</b>	<b>SS-240213-RA-06</b>					
TO-15	Trichloroethene	28.6	ug/m3	6.05	02/16/24 17:23	

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### ANALYTICAL RESULTS

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

Sample: **SS-240213-RA-01** Lab ID: **10684148001** Collected: 02/13/24 10:45 Received: 02/14/24 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	02/15/24 21:17	02/15/24 21:17	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	02/15/24 21:17	02/15/24 21:17	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	02/15/24 21:17	02/15/24 21:17	156-59-2	
Trichloroethene	<b>87.3</b>	ug/m3	1.22	0.364	1	02/15/24 21:17	02/15/24 21:17	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	02/15/24 21:17	02/15/24 21:17	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	60.0-140		1	02/15/24 21:17	02/15/24 21:17	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

Sample: **SS-240213-RA-02** Lab ID: **10684148002** Collected: 02/13/24 11:03 Received: 02/14/24 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>487</b>	ug/m3	154	46.1	100	02/16/24 23:54	02/16/24 23:54	56-23-5	
Chloroform	<b>155</b>	ug/m3	1.16	0.349	1	02/15/24 22:01	02/15/24 22:01	67-66-3	
cis-1,2-Dichloroethene	<b>158</b>	ug/m3	1.03	0.311	1	02/15/24 22:01	02/15/24 22:01	156-59-2	
Trichloroethene	<b>20100</b>	ug/m3	122	36.4	100	02/16/24 23:54	02/16/24 23:54	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	02/15/24 22:01	02/15/24 22:01	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	100	%	60.0-140		1	02/15/24 22:01	02/15/24 22:01	460-00-4	
4-Bromofluorobenzene (S)	104	%	60.0-140		100	02/16/24 23:54	02/16/24 23:54	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

Sample: **SS-240213-RA-03** Lab ID: **10684148003** Collected: 02/13/24 12:09 Received: 02/14/24 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.527J</b>	ug/m3	1.54	0.461	1	02/15/24 22:44	02/15/24 22:44	56-23-5	J
Chloroform	<b>4.63</b>	ug/m3	1.16	0.349	1	02/15/24 22:44	02/15/24 22:44	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	02/15/24 22:44	02/15/24 22:44	156-59-2	
Trichloroethene	<b>2010</b>	ug/m3	12.2	3.64	10	02/16/24 19:06	02/16/24 19:06	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	02/15/24 22:44	02/15/24 22:44	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	60.0-140		1	02/15/24 22:44	02/15/24 22:44	460-00-4	
4-Bromofluorobenzene (S)	101	%	60.0-140		10	02/16/24 19:06	02/16/24 19:06	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

Sample: **SS-240213-RA-04** Lab ID: **10684148004** Collected: 02/13/24 12:30 Received: 02/14/24 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>0.825J</b>	ug/m3	1.54	0.461	1	02/15/24 23:27	02/15/24 23:27	56-23-5	J
Chloroform	<b>141</b>	ug/m3	1.16	0.349	1	02/15/24 23:27	02/15/24 23:27	67-66-3	
cis-1,2-Dichloroethene	<b>5.63</b>	ug/m3	1.03	0.311	1	02/15/24 23:27	02/15/24 23:27	156-59-2	
Trichloroethene	<b>11000</b>	ug/m3	122	36.4	100	02/17/24 00:32	02/17/24 00:32	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	02/15/24 23:27	02/15/24 23:27	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	105	%	60.0-140		1	02/15/24 23:27	02/15/24 23:27	460-00-4	
4-Bromofluorobenzene (S)	102	%	60.0-140		100	02/17/24 00:32	02/17/24 00:32	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

Sample: **SS-240213-RA-05** Lab ID: **10684148005** Collected: 02/13/24 12:38 Received: 02/14/24 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	02/16/24 00:10	02/16/24 00:10	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	02/16/24 00:10	02/16/24 00:10	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	02/16/24 00:10	02/16/24 00:10	156-59-2	
Trichloroethene	<b>1160</b>	ug/m3	12.2	3.64	10	02/16/24 19:40	02/16/24 19:40	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	02/16/24 00:10	02/16/24 00:10	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	102	%	60.0-140		1	02/16/24 00:10	02/16/24 00:10	460-00-4	
4-Bromofluorobenzene (S)	103	%	60.0-140		10	02/16/24 19:40	02/16/24 19:40	460-00-4	

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### ANALYTICAL RESULTS

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

Sample: **SS-240213-RA-06** Lab ID: **10684148006** Collected: 02/13/24 12:48 Received: 02/14/24 09:00 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	02/16/24 00:54	02/16/24 00:54	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	02/16/24 00:54	02/16/24 00:54	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	02/16/24 00:54	02/16/24 00:54	156-59-2	
Trichloroethene	<b>28.6</b>	ug/m3	6.05	1.82	5	02/16/24 17:23	02/16/24 17:23	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	02/16/24 00:54	02/16/24 00:54	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	104	%	60.0-140		1	02/16/24 00:54	02/16/24 00:54	460-00-4	
4-Bromofluorobenzene (S)	103	%	60.0-140		5	02/16/24 17:23	02/16/24 17:23	460-00-4	

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**QUALITY CONTROL DATA**

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

QC Batch:	2227066	Analysis Method:	TO-15
QC Batch Method:	TO-15	Analysis Description:	VOA (MS) TO-15
		Laboratory:	Pace National - Mt. Juliet

Associated Lab Samples: 10684148001, 10684148002, 10684148003, 10684148004, 10684148005, 10684148006

METHOD BLANK: R4034717-2 Matrix: Air  
 Associated Lab Samples: 10684148001, 10684148002, 10684148003, 10684148004, 10684148005, 10684148006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbon tetrachloride	ug/m3	1.26 U	1.26	02/15/24 10:24	
Chloroform	ug/m3	0.973 U	0.973	02/15/24 10:24	
cis-1,2-Dichloroethene	ug/m3	0.793 U	0.793	02/15/24 10:24	
Trichloroethene	ug/m3	1.07 U	1.07	02/15/24 10:24	
Vinyl chloride	ug/m3	0.511 U	0.511	02/15/24 10:24	
4-Bromofluorobenzene (S)	%	98.5	60.0-140	02/15/24 10:24	

LABORATORY CONTROL SAMPLE & LCSD: R4034717-1		R4034717-3								
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ug/m3	23.6	24.1	24.2	102	103	70.0-130	0.521	25	
Chloroform	ug/m3	18.3	18.0	18.4	98.4	101	70.0-130	2.41	25	
cis-1,2-Dichloroethene	ug/m3	14.9	15.2	15.9	102	107	70.0-130	4.84	25	
Trichloroethene	ug/m3	20.1	21.1	20.8	105	103	70.0-130	1.53	25	
Vinyl chloride	ug/m3	9.59	9.18	10.2	95.7	106	70.0-130	10.6	25	
4-Bromofluorobenzene (S)	%				98.5	97.7	60.0-140			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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**QUALITY CONTROL DATA**

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

QC Batch: 2228076 Analysis Method: TO-15  
 QC Batch Method: TO-15 Analysis Description: VOA (MS) TO-15  
 Laboratory: Pace National - Mt. Juliet  
 Associated Lab Samples: 10684148002, 10684148003, 10684148004, 10684148005, 10684148006

METHOD BLANK: R4034986-1 Matrix: Air  
 Associated Lab Samples: 10684148002, 10684148003, 10684148004, 10684148005, 10684148006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbon tetrachloride	ug/m3	1.26 U	1.26	02/16/24 12:52	
Trichloroethene	ug/m3	1.07 U	1.07	02/16/24 12:52	
4-Bromofluorobenzene (S)	%	101	60.0-140	02/16/24 12:52	

Parameter	Units	R4034986-2		R4034986-3		% Rec Limits	RPD	Max RPD	Qualifiers
		Spike Conc.	LCS Result	LCSD Result	LCS % Rec				
Carbon tetrachloride	ug/m3	23.6	23.4	23.6	98.9	99.7	70.0-130	0.805	25
Trichloroethene	ug/m3	20.1	18.9	19.1	93.9	95.2	70.0-130	1.41	25
4-Bromofluorobenzene (S)	%				99.1	102	60.0-140		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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## QUALIFIERS

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

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### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - The reported result is an estimated value.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

DL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Analyte was not detected and is reported as less than the LOD or as defined by the customer.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 003978 Wasau-Revised Report

Pace Project No.: 10684148

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10684148001	SS-240213-RA-01	TO-15	2227066	TO-15	2227066
10684148002	SS-240213-RA-02	TO-15	2227066	TO-15	2227066
10684148002	SS-240213-RA-02	TO-15	2228076	TO-15	2228076
10684148003	SS-240213-RA-03	TO-15	2227066	TO-15	2227066
10684148003	SS-240213-RA-03	TO-15	2228076	TO-15	2228076
10684148004	SS-240213-RA-04	TO-15	2227066	TO-15	2227066
10684148004	SS-240213-RA-04	TO-15	2228076	TO-15	2228076
10684148005	SS-240213-RA-05	TO-15	2227066	TO-15	2227066
10684148005	SS-240213-RA-05	TO-15	2228076	TO-15	2228076
10684148006	SS-240213-RA-06	TO-15	2227066	TO-15	2227066
10684148006	SS-240213-RA-06	TO-15	2228076	TO-15	2228076

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**Pace** Location Requested (City/State): **Air CHAIN-OF-CUSTODY Analytical Request Document**  
 Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevant fields

LAB USE ONLY - Affix Workorder/Login Label Here

Company Name: **Pace Analytical - Minnesota**  
 Street Address: **1700 Elm Street Suite 200 Minneapolis, MN 55414**  
 City, State Zip:  
 Customer Project #: **003978 Wasau**  
 Project Name: **PACEMN-GHDAIR**  
 Site Collection Info/Facility ID (as applicable): **PACEMN-GHDAIR**  
 Time Zone Collected: [ ] AK [ ] PT [ ] MT [ ] CT [ ] ET

Contact/Report To: **GHD Ryan Aamot / Tina Soltani**  
 Phone #: **612-607-1700**  
 E-Mail: **tina.soltani@pacelabs.com**  
 Cc E-Mail:  
 Invoice to:  
 Invoice E-Mail:  
 Purchase Order # (if applicable):  
 Quote #:  
 State origin of sample(s):

Regulatory Program (CAA, RCRA, etc.) as applicable:  
 Rush (Pre-approval required): 2 Day 3 day 5 day Other  
 Date Results Requested:  
 Permit # as applicable:  
 Units for Reporting: ug/m<sup>3</sup> PPBV mg/m<sup>3</sup> PPMV

Matrix Codes (Insert in Matrix box below). Ambient (A), Indoor (I), Soil Vapor (SV), Other (O)

Customer Sample ID	Matrix *	Summa Canister ID	Flow Controller ID	Begin Collection		End Collection		Vacuum (in Hg)	End Pressure (in Hg)	Duration (minutes)	Flow Rate (m <sup>3</sup> /min or L/min)	Total Volume Sampled (m <sup>3</sup> or L)	TO-15MNTIC Summa	Lab Use Only
				Date	Time	Date	Time							
SS-240213-RA-01	SV	22946	21778	2/13	104	2/13	1015	-27	-5				X	
SS-270215-RA-02		22389	20819	2/13	1056	2/13	1103	-28	-5				✓	
SS-240213-RA-03		15595	22457		1205		1209	-29	-5				✓	
SS-240213-RA-04		28164	21214		1225		1230	-30	-5				✓	
SS-240213-RA-05		21311	20943		1233		1238	-30	-3				✓	
SS-240213-RA-06		28321	20726		1248		1248	1253	-5				✓	

TO-15MNTIC Summa (TCE, cis 1,2-DCE, CT, chloroform)

Proj. Manager: **3976 - Naomi M Sackett**  
 AcctNum / Client ID: **PACEMN**  
 Table #:  
 Profile / Template: **T246074**  
 Prelog / Bottle Ord. ID: **P1052416**  
 Sample Comment: **L1705516**

Sample Receipt Checklist  
 COC Seal Present/Intact: Y N  
 COC signed/Accurate: Y N Size: 6 1L  
 Bottles arrive intact: Y N Tube Color: G W P B  
 Correct bottles used: Y N Tubing Shunt

Customer Remarks / Special Conditions / Possible Hazards:  
 Collected By: **Ryan Aamot**  
 Printed Name: **Ryan Aamot**  
 Signature: *[Signature]*  
 Additional Instructions from Pace\*:  
 # Coolers: Thermometer ID: Correction Factor (°C): Obs. Temp. (°C): Corrected Temp. (°C):  
 Relinquished by/Company: (Signature) **RL GHD** Date/Time: **2/13/24 1330**  
 Relinquished by/Company: (Signature) Date/Time: Received by/Company: (Signature) Date/Time: Tracking Number:  
 Relinquished by/Company: (Signature) Date/Time: Received by/Company: (Signature) Date/Time: Delivered by: In-Person Courier  
 Relinquished by/Company: (Signature) Date/Time: Received by/Company: (Signature) **Jancaum** Date/Time: **2-14-24 0900** FedEX UPS Other  
 Page: of: **16 of 23**



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500  
 Lab Sample No: 10684148001  
 Client Sample ID: SS-240213-RA-01  
 Lab Project Number: 10684148  
 Project Name: 003978 Wasau  
 ProjSampleNum: 10684148001  
 Matrix: Air  
 Date Collected: 02/13/24 10:45  
 Date Received: 02/14/24 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.24	ppbv	0.24	1	02/15/24 21:17	DAH 56-23-5	
Chloroform	0.23	ppbv	0.23	1	02/15/24 21:17	DAH 67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	1	02/15/24 21:17	DAH 156-59-2	
Trichloroethene	16	ppbv	0.22	1	02/15/24 21:17	DAH 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	1	02/15/24 21:17	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500  
 Lab Sample No: 10684148002  
 Client Sample ID: SS-240213-RA-02  
 Lab Project Number: 10684148  
 Project Name: 003978 Wasau  
 ProjSampleNum: 10684148002  
 Matrix: Air  
 Date Collected: 02/13/24 11:03  
 Date Received: 02/14/24 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	76.2	ppbv	24.1	100	02/16/24 23:54	SDS 56-23-5	
Chloroform	31.2	ppbv	0.23	1	02/15/24 22:01	DAH 67-66-3	
cis-1,2-Dichloroethene	39.2	ppbv	0.26	1	02/15/24 22:01	DAH 156-59-2	
Trichloroethene	3680	ppbv	22.3	100	02/16/24 23:54	SDS 79-01-6	
Vinyl chloride	0.31	ppbv	0.31	1	02/15/24 22:01	DAH 75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request



Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10684148  
 Project Name: 003978 Wasau

Lab Sample No: 10684148003  
 Client Sample ID: SS-240213-RA-03

ProjSampleNum: 10684148003  
 Matrix: Air

Date Collected: 02/13/24 12:09  
 Date Received: 02/14/24 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.082J	ppbv	0.24	1	02/15/24 22:44 DAH	56-23-5	J
Chloroform	0.93	ppbv	0.23	1	02/15/24 22:44 DAH	67-66-3	
cis-1,2-Dichloroethene	0.26	ppbv	0.26	1	02/15/24 22:44 DAH	156-59-2	
Trichloroethene	368	ppbv	2.2	10	02/16/24 19:06 SDS	79-01-6	
Vinyl chloride	0.31	ppbv	0.31	1	02/15/24 22:44 DAH	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request





Pace Analytical Services, LLC  
 1700 Elm Street, Suite 200  
 Minneapolis, MN 55414  
 Phone: 612.607.1700  
 Fax: 612.607.6444

**ANALYTICAL RESULTS**

Client: GHD  
 Phone: 972-331-8500

Lab Project Number: 10684148  
 Project Name: 003978 Wasau

Lab Sample No: 10684148004  
 Client Sample ID: SS-240213-RA-04

ProjSampleNum: 10684148004  
 Matrix: Air

Date Collected: 02/13/24 12:30  
 Date Received: 02/14/24 9:00

Parameters	Results	Units	Report Limit	DF	Analyzed	CAS No.	Qualifiers
<b>Air</b>							
TO-15							
Carbon tetrachloride	0.13J	ppbv	0.24	1	02/15/24 23:27 DAH	56-23-5	J
Chloroform	28.4	ppbv	0.23	1	02/15/24 23:27 DAH	67-66-3	
cis-1,2-Dichloroethene	1.4	ppbv	0.26	1	02/15/24 23:27 DAH	156-59-2	
Trichloroethene	2010	ppbv	22.3	100	02/17/24 0:32 SDS	79-01-6	
Vinyl chloride	0.31	ppbv	0.31	1	02/15/24 23:27 DAH	75-01-4	

DISCLAIMER: These results have been converted to the units shown from the original units of measurement assuming 20 degrees Celsius and 1 atmosphere pressure. Values were not rounded according to EPA rounding rules. THC is quantitated based on the average response factors of several compounds; the nominal molecular weight of THC used for units conversion is the average of the molecular weights of the compounds used for quantitation.

**SUPPLEMENTAL REPORT**  
 Units Conversion Request







Pace Analytical Services, LLC  
1700 Elm Street, Suite 200  
Minneapolis, MN 55414  
Phone: 612.607.1700  
Fax: 612.607.6444

## ANALYTICAL RESULTS

Client: GHD  
Phone: 972-331-8500

Lab Project Number: 10684148  
Project Name: 003978 Wasau

---

## PARAMETER FOOTNOTES

ND Not detected at or above adjusted reporting limit

NC Not Calculable

J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

[J] Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

[N] The analyte is tentatively identified and the associated numerical value may not be consistent with the actual concentration present in the sample.

## SUPPLEMENTAL REPORT

Units Conversion Request

Date: 2/27/2024

Page 7



April 12, 2024

Mr. Grant Anderson  
GHD  
900 Long Lake Road  
Suite 200  
New Brighton, MN 55112

RE: Project: 003978-10 Wausau  
Pace Project No.: 10687882

Dear Mr. Anderson:

Enclosed are the analytical results for sample(s) received by the laboratory on March 29, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace National - Mt. Juliet

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink, appearing to read "Tina Soltani".

Tina Soltani  
tina.soltani@pacelabs.com  
(612) 607-6384  
Project Manager

Enclosures



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: 003978-10 Wausau

Pace Project No.: 10687882

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### Pace Analytical Services National

12065 Lebanon Road, Mt. Juliet, TN 37122

Alabama Certification #: 40660

Alaska Certification #: 17-026

Arizona Certification #: AZ0612

Arkansas Certification #: 88-0469

California Certification #: 2932

Canada Certification #: 1461.01

Colorado Certification #: TN00003

Connecticut Certification #: PH-0197

DOD Certification #: #1461.01

EPA# TN00003

Florida Certification #: E87487

Georgia DW Certification #: 923

Georgia Certification: NELAP

Idaho Certification #: TN00003

Illinois Certification #: 200008

Indiana Certification #: C-TN-01

Iowa Certification #: 364

Kansas Certification #: E-10277

Kentucky UST Certification #: 16

Kentucky Certification #: 90010

Louisiana Certification #: AI30792

Louisiana DW Certification #: LA180010

Maine Certification #: TN0002

Maryland Certification #: 324

Massachusetts Certification #: M-TN003

Michigan Certification #: 9958

Minnesota Certification #: 047-999-395

Mississippi Certification #: TN00003

Missouri Certification #: 340

Montana Certification #: CERT0086

Nebraska Certification #: NE-OS-15-05

Nevada Certification #: TN-03-2002-34

New Hampshire Certification #: 2975

New Jersey Certification #: TN002

New Mexico DW Certification

New York Certification #: 11742

North Carolina Aquatic Toxicity Certification #: 41

North Carolina Drinking Water Certification #: 21704

North Carolina Environmental Certificate #: 375

North Dakota Certification #: R-140

Ohio VAP Certification #: CL0069

Oklahoma Certification #: 9915

Oregon Certification #: TN200002

Pennsylvania Certification #: 68-02979

Rhode Island Certification #: LAO00356

South Carolina Certification #: 84004

South Dakota Certification

Tennessee DW/Chem/Micro Certification #: 2006

Texas Certification #: T 104704245-17-14

Texas Mold Certification #: LAB0152

USDA Soil Permit #: P330-15-00234

Utah Certification #: TN00003

Virginia Certification #: VT2006

Vermont Dept. of Health: ID# VT-2006

Virginia Certification #: 460132

Washington Certification #: C847

West Virginia Certification #: 233

Wisconsin Certification #: 998093910

Wyoming UST Certification #: via A2LA 2926.01

A2LA-ISO 17025 Certification #: 1461.01

A2LA-ISO 17025 Certification #: 1461.02

AIHA-LAP/LLC EMLAP Certification #:100789

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: 003978-10 Wausau  
Pace Project No.: 10687882

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10687882001	IA-240327-EB-01	Air	03/27/24 14:00	03/29/24 15:04
10687882002	IA-240327-EB-02	Air	03/27/24 14:18	03/29/24 15:04
10687882003	SG-240327-EB-03	Air	03/27/24 14:55	03/29/24 15:04
10687882004	SS-240328-EB-04	Air	03/28/24 12:01	03/29/24 15:04

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### SAMPLE ANALYTE COUNT

Project: 003978-10 Wausau  
Pace Project No.: 10687882

---

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10687882001	IA-240327-EB-01	TO-15	GH	6	PAN
10687882002	IA-240327-EB-02	TO-15	GH	6	PAN
10687882003	SG-240327-EB-03	TO-15	GH	4	PAN
10687882004	SS-240328-EB-04	TO-15	DBB, GH	6	PAN

---

PAN = Pace National - Mt. Juliet

### REPORT OF LABORATORY ANALYSIS

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### SUMMARY OF DETECTION

Project: 003978-10 Wausau

Pace Project No.: 10687882

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
<b>10687882001</b>	<b>IA-240327-EB-01</b>					
TO-15	Trichloroethene	0.970J	ug/m3	1.22	04/03/24 03:28	J
<b>10687882002</b>	<b>IA-240327-EB-02</b>					
TO-15	Trichloroethene	3.74	ug/m3	1.22	04/03/24 04:16	
<b>10687882003</b>	<b>SG-240327-EB-03</b>					
TO-15	Tetrachloroethene	109	ug/m3	1.84	04/03/24 05:03	
TO-15	Trichloroethene	1.07J	ug/m3	1.22	04/03/24 05:03	J
<b>10687882004</b>	<b>SS-240328-EB-04</b>					
TO-15	Trichloroethene	2640	ug/m3	12.2	04/06/24 14:09	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 003978-10 Wausau

Pace Project No.: 10687882

Sample: IA-240327-EB-01 Lab ID: 10687882001 Collected: 03/27/24 14:00 Received: 03/29/24 15:04 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	04/03/24 03:28	04/03/24 03:28	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	04/03/24 03:28	04/03/24 03:28	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	04/03/24 03:28	04/03/24 03:28	156-59-2	
Trichloroethene	<b>0.970J</b>	ug/m3	1.22	0.364	1	04/03/24 03:28	04/03/24 03:28	79-01-6	J
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	04/03/24 03:28	04/03/24 03:28	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	91.1	%	60.0-140		1	04/03/24 03:28	04/03/24 03:28	460-00-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 003978-10 Wausau

Pace Project No.: 10687882

Sample: IA-240327-EB-02 Lab ID: 10687882002 Collected: 03/27/24 14:18 Received: 03/29/24 15:04 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	04/03/24 04:16	04/03/24 04:16	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	04/03/24 04:16	04/03/24 04:16	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	04/03/24 04:16	04/03/24 04:16	156-59-2	
Trichloroethene	<b>3.74</b>	ug/m3	1.22	0.364	1	04/03/24 04:16	04/03/24 04:16	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	04/03/24 04:16	04/03/24 04:16	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	89.9	%	60.0-140		1	04/03/24 04:16	04/03/24 04:16	460-00-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 003978-10 Wausau

Pace Project No.: 10687882

Sample: **SG-240327-EB-03** Lab ID: **10687882003** Collected: 03/27/24 14:55 Received: 03/29/24 15:04 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	04/03/24 05:03	04/03/24 05:03	156-59-2	
Tetrachloroethene	<b>109</b>	ug/m3	1.84	0.553	1	04/03/24 05:03	04/03/24 05:03	127-18-4	
Trichloroethene	<b>1.07J</b>	ug/m3	1.22	0.364	1	04/03/24 05:03	04/03/24 05:03	79-01-6	J
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	04/03/24 05:03	04/03/24 05:03	75-01-4	

### REPORT OF LABORATORY ANALYSIS

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### ANALYTICAL RESULTS

Project: 003978-10 Wausau

Pace Project No.: 10687882

Sample: **SS-240328-EB-04** Lab ID: **10687882004** Collected: 03/28/24 12:01 Received: 03/29/24 15:04 Matrix: Air

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>VOA (MS) TO-15</b>		Analytical Method: TO-15 Preparation Method: TO-15 Pace National - Mt. Juliet							
Carbon tetrachloride	<b>1.54 U</b>	ug/m3	1.54	0.461	1	04/03/24 05:51	04/03/24 05:51	56-23-5	
Chloroform	<b>1.16 U</b>	ug/m3	1.16	0.349	1	04/03/24 05:51	04/03/24 05:51	67-66-3	
cis-1,2-Dichloroethene	<b>1.03 U</b>	ug/m3	1.03	0.311	1	04/03/24 05:51	04/03/24 05:51	156-59-2	
Trichloroethene	<b>2640</b>	ug/m3	12.2	3.64	10	04/06/24 14:09	04/06/24 14:09	79-01-6	
Vinyl chloride	<b>0.808 U</b>	ug/m3	0.808	0.243	1	04/03/24 05:51	04/03/24 05:51	75-01-4	
<b>Surrogates</b>									
4-Bromofluorobenzene (S)	91.0	%	60.0-140		1	04/03/24 05:51	04/03/24 05:51	460-00-4	
4-Bromofluorobenzene (S)	96.7	%	60.0-140		10	04/06/24 14:09	04/06/24 14:09	460-00-4	

### REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: 003978-10 Wausau

Pace Project No.: 10687882

QC Batch: 2258658 Analysis Method: TO-15  
 QC Batch Method: TO-15 Analysis Description: VOA (MS) TO-15  
 Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10687882001, 10687882002, 10687882003, 10687882004

METHOD BLANK: R4054429-3 Matrix: Air

Associated Lab Samples: 10687882001, 10687882002, 10687882003, 10687882004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Carbon tetrachloride	ug/m3	1.26 U	1.26	04/02/24 10:59	
Chloroform	ug/m3	0.973 U	0.973	04/02/24 10:59	
cis-1,2-Dichloroethene	ug/m3	0.793 U	0.793	04/02/24 10:59	
Tetrachloroethene	ug/m3	1.36 U	1.36	04/02/24 10:59	
Trichloroethene	ug/m3	1.07 U	1.07	04/02/24 10:59	
Vinyl chloride	ug/m3	0.511 U	0.511	04/02/24 10:59	
4-Bromofluorobenzene (S)	%	90.4	60.0-140	04/02/24 10:59	

LABORATORY CONTROL SAMPLE & LCSD: R4054429-1 R4054429-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ug/m3	3.75	25.4	25.1	107	106	70.0-130	1.25	25	
Chloroform	ug/m3	3.75	19.9	20.7	109	114	70.0-130	4.32	25	
cis-1,2-Dichloroethene	ug/m3	3.75	16.0	15.8	107	106	70.0-130	0.998	25	
Tetrachloroethene	ug/m3	3.75	26.7	27.4	105	108	70.0-130	2.76	25	
Trichloroethene	ug/m3	3.75	22.2	21.1	111	105	70.0-130	5.45	25	
Vinyl chloride	ug/m3	3.75	10.5	10.6	110	111	70.0-130	0.966	25	
4-Bromofluorobenzene (S)	%				92.8	96.2	60.0-140			

SAMPLE DUPLICATE: R4054429-4

Parameter	Units	L1720615-01 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ppbv	ND	0.244 U	0.00	25	
Chloroform	ppbv	ND	0.239 U	0.00	25	
cis-1,2-Dichloroethene	ppbv	ND	0.261 U	0.00	25	
Tetrachloroethene	ppbv	0.0989	0.0905J	8.87	25 J	
Trichloroethene	ppbv	5.82	5.64	3.14	25	
Vinyl chloride	ppbv	ND	0.316 U	0.00	25	
4-Bromofluorobenzene (S)	%		94.2			

SAMPLE DUPLICATE: R4054429-5

Parameter	Units	L1720615-02 Result	Dup Result	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ppbv	ND	0.244 U	0.00	25	
Chloroform	ppbv	ND	0.239 U	0.00	25	
cis-1,2-Dichloroethene	ppbv	ND	0.261 U	0.00	25	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

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### QUALITY CONTROL DATA

Project: 003978-10 Wausau

Pace Project No.: 10687882

SAMPLE DUPLICATE: R4054429-5

Parameter	Units	L1720615-02 Result	Dup Result	RPD	Max RPD	Qualifiers
Tetrachloroethene	ppbv	0.230	0.236J	2.58	25	J
Trichloroethene	ppbv	3.81	3.86	1.30	25	
Vinyl chloride	ppbv	ND	0.316 U	0.00	25	
4-Bromofluorobenzene (S)	%		90.7			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

### REPORT OF LABORATORY ANALYSIS

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**QUALITY CONTROL DATA**

Project: 003978-10 Wausau

Pace Project No.: 10687882

QC Batch: 2261793	Analysis Method: TO-15
QC Batch Method: M18-Mod/TO-15	Analysis Description: VOA (MS) TO-15
	Laboratory: Pace National - Mt. Juliet

Associated Lab Samples: 10687882004

METHOD BLANK: R4054752-3 Matrix: Air

Associated Lab Samples: 10687882004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Trichloroethene	ug/m3	1.07 U	1.07	04/06/24 08:03	
4-Bromofluorobenzene (S)	%	91.3	60.0-140	04/06/24 08:03	

LABORATORY CONTROL SAMPLE & LCSD: R4054752-1 R4054752-2

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Trichloroethene	ug/m3	3.75	19.8	19.1	98.7	94.9	70.0-130	3.86	25	
4-Bromofluorobenzene (S)	%				99.5	100	60.0-140			

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

**REPORT OF LABORATORY ANALYSIS**

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## QUALIFIERS

Project: 003978-10 Wausau

Pace Project No.: 10687882

---

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - The reported result is an estimated value.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

DL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Analyte was not detected and is reported as less than the LOD or as defined by the customer.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

### ANALYTE QUALIFIERS

J Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

## REPORT OF LABORATORY ANALYSIS

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### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 003978-10 Wausau  
Pace Project No.: 10687882

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10687882001	IA-240327-EB-01	TO-15	2258658	TO-15	2258658
10687882002	IA-240327-EB-02	TO-15	2258658	TO-15	2258658
10687882003	SG-240327-EB-03	TO-15	2258658	TO-15	2258658
10687882004	SS-240328-EB-04	TO-15	2258658	TO-15	2258658
10687882004	SS-240328-EB-04	TO-15	2261793	TO-15	2261793

### REPORT OF LABORATORY ANALYSIS

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12065 Lebanon Road Mt Juliet, TN 37122  
 Phone: 615-758-5858 Alt: 800-767-5859  
 Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: <https://info.pacelabs.com/files/ptpa-standard-terms.pdf>

SDG # L-046

Accnum:  
 Template:  
 Prelogin:  
 PM:  
 PB:

Shipped Via:  
 Rem./Contaminant  
 Sample # (lab only)

-01 01  
 -02 02  
 -03 03  
 -04 04

Billing information:

See S50W

Email To: grant.anderson@ghd.com

Please Circle:  
 PT MT  ET

City/State Collected: Wausau, WI

Lab Project #

Client Project # 003978-10

Site/Facility ID #

Rush? (Lab MUST Be Notified)  
 Same Day  
 Next Day  
 Two Day  
 Three Day  
 Five Day

Date Results Needed

Canister Pressure/Vacuum

Sample ID	Can #	Flow Cont. #	Date	Time	Initial	Final
IA-240327-EB-01	28440	20079	3/27/24	1400	-28	-8
IA-240327-EB-02	23314	5894	3/27/24	1418	-28	-7
SG-240327-EB-03	15075	13093	3/27/24	1455	-30	-5
SS-240328-EB-04	12691	24935	3/28/24	1201	-29	-5

Sample Receipt Checklist  
 COC seal Present/Intact:  N Size: 1L 6L  
 COC Signed/Attitude:  N Size: 1L 6L  
 Bottles arrive intact:  N Type/Color: 5 W P B  
 Correct bottles used:  N Tubing Shunt

Company Name/Address:  
GHD  
900 Long Lake Rd Suite 200  
Saint Paul, MN 55112

Report To:  
Grant Anderson

Project Description:  
Grant Anderson

Phone:  
003978-10

Collected by (print):  
Eric Brainerd

Collected by (signature):

Analysis

Analysis	Hold #	Condition:
VOC List 1		(lab use only)
VOC List 2		(lab use only)

Remarks:  
List 1: Tetrachloroethene, Trichloroethene, cis-1,2-dichloroethene  
List 2: Vinyl chloride, cis-1,2-dichloroethene, carbon tetrachloride  
List 3: Trichloroethene, chloroform, vinyl chloride

Relinquished by: (Signature) [Signature] Date: 3/28/24 Time: 1504

Relinquished by: (Signature) [Signature] Date: 3/29/24 Time: 1530

Relinquished by: (Signature) [Signature] Date: 03/30/24 Time: 09:00

Samples returned via:  
 UPS FedEX Courier

Received by: (Signature) [Signature] Date: 3-29-24 Time: 1504

Received by: (Signature) [Signature] Date: 03/30/24 Time: 09:00



VOC LIST 1 - East Bank

Tetrachloroethene  
Trichloroethene  
cis-1,2-dichloroethene  
vinyl chloride

VOC LIST 2 - West Bank

Trichloroethene  
cis-1,2-dichloroethene  
carbon tetrachloride  
chloroform  
vinyl chloride













Pace Analytical Services, LLC  
1700 Elm Street, Suite 200  
Minneapolis, MN 55414  
Phone: 612.607.1700  
Fax: 612.607.6444

## ANALYTICAL RESULTS

Client: GHD  
Phone: 972-331-8500

Lab Project Number: 10687882  
Project Name: 003978-10 Wausau

---

## PARAMETER FOOTNOTES

ND Not detected at or above adjusted reporting limit

NC Not Calculable

J Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

[J] Analyte detected below the reporting limit, therefore result is an estimate. This qualifier is also used for all TICs.

## SUPPLEMENTAL REPORT

Units Conversion Request

# **Appendix B**

## **Data Quality Validation Memorandum**

# Technical Memorandum

March 31, 2023

<b>To</b>	OJ Ojinaga, GHD	<b>Tel</b>	612-524-6836
		<b>Email</b>	grant.anderson@ghd.com
<b>From</b>	Grant Anderson/mg/3	<b>Ref. No.</b>	003978
<b>Subject</b>	Analytical Results and Reduced Validation Air Sampling Event Wausau Superfund Site Wausau, Wisconsin March 2023		

## 1. Introduction

The following document details a reduced validation of analytical results for air samples collected in support of the air sampling event at the Wausau Superfund Site during March 2023. Samples were submitted to Pace Analytical Services, LLC (Pace), located in Minneapolis, Minnesota. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD Services, Inc. (GHD) report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from laboratory control samples (LCS) and field QA/QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical method referenced in Table 3 and applicable guidance from the documents entitled:

- i. "Quality Assurance Project Plan Focused Site Investigation", Report 17 Rev. 3, September 13, 2018
- ii. "National Functional Guidelines for Superfund Organic Methods Data Review," EPA-540-R-2016-002, September 2016

Item ii. will subsequently be referred to as the "Guidelines" in this Memorandum.

## 2. Sample Holding Time and Preservation

The sample holding time criterion for the analyses is summarized in Table 3. The sample chain of custody documents and analytical report were used to determine sample holding times. The samples were prepared and analyzed within the required holding time.

The samples were properly preserved and stored by the laboratory at the required temperature.

Two summa cans registered zero pressure at the end of the sampling period. Ideally negative pressure (~-5psi) should be left in the can. Table 4 lists the samples. Associated sample results are qualified as noted in the table.

### **3. Laboratory Method Blank Analyses**

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

Laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

### **4. Laboratory Control Sample Analyses**

LCS and/or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

### **5. Field QA/QC Samples**

The field QA/QC consisted of a field duplicate sample set.

#### **Field Duplicate Sample Analysis**

To assess the analytical and sampling protocol precision, one field duplicate sample set was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 percent. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criteria is one times the RL value.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

### **6. Analyte Reporting**

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the RL but greater than the MDL were reported as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

## 7. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

Regards,



**Grant Anderson**  
Chemist

Encl.

Table 1

**Sample Collection and Analysis Summary**  
**Air Sampling Event**  
**Wausau Superfund Site**  
**Wausau, Wisconsin**  
**March 2023**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters	Comments
IA-230301-RA-01	Bridge Clinic	air	03/01/2023	12:41	Select VOC	
IA-230301-RA-02	200 E Wausau Ave - South Storage	air	03/01/2023	12:57	Select VOC	
MH-230301-RA-01	MH1283	air	03/01/2023	15:47	Select VOC	
MH-230301-RA-02	MH1140	air	03/01/2023	16:09	Select VOC	
MH-230301-RA-03	MH9122	air	03/01/2023	16:23	Select VOC	
IA-230301-RA-03	Building A	air	03/01/2023	14:38	Select VOC	
IA-230301-RA-04	Building B	air	03/01/2023	15:06	Select VOC	
SS-230302-RA-01	SS-6	air	03/02/2023	09:35	Select VOC	
SS-230302-RA-02	SS-7	air	03/02/2023	10:09	Select VOC	
SS-230302-RA-03	SS-4	air	03/02/2023	11:52	Select VOC	
SS-230302-RA-04	SS-5	air	03/02/2023	12:07	Select VOC	
SS-230302-RA-05	SS-3	air	03/02/2023	13:27	Select VOC	
SS-230302-RA-06	SS-3	air	03/02/2023	13:27	Select VOC	Duplicate of SS-RA-05
SS-230302-RA-07	SS-2	air	03/02/2023	13:43	Select VOC	
SS-230302-RA-08	SS-1	air	03/02/2023	13:56	Select VOC	

## Notes:

VOC - Volatile Organic Compounds

Select VOC - subset of carbon tetrachloride, chloroform, cis-1,2-dichloroethene, tetrachloroethene, trichloroethene, and vinyl chloride

**Validated Analytical Results Summary  
Air Sampling Event  
Wausau Superfund Site  
Wausau, Wisconsin  
March 2023**

<b>Location ID:</b>	<b>200 E Wausau Ave - South Storage</b>	<b>Bridge Clinic</b>	<b>West of MH9122</b>	<b>MH1140</b>	<b>MH1283</b>
<b>Sample Name:</b>	<b>IA-230301-RA-02</b>	<b>IA-230301-RA-01</b>	<b>MH-230301-RA-03</b>	<b>MH-230301-RA-02</b>	<b>MH-230301-RA-01</b>
<b>Sample Date:</b>	<b>03/01/2023</b>	<b>03/01/2023</b>	<b>03/01/2023</b>	<b>03/01/2023</b>	<b>03/01/2023</b>

Parameters	Unit					
<b>Volatile Organic Compounds</b>						
Carbon tetrachloride	µg/m3	--	--	--	--	--
Chloroform (Trichloromethane)	µg/m3	--	--	--	--	--
cis-1,2-Dichloroethene	µg/m3	1.03 UJ	1.03 U	1.03 U	1.03 U	1.03 U
Tetrachloroethene	µg/m3	5.81 J	11.7	1.82 J	5.06	2.47
Trichloroethene	µg/m3	1.22 UJ	1.22 U	1.22 U	2.54	0.670 J
Vinyl chloride	µg/m3	0.808 UJ	0.808 U	0.808 U	0.808 U	0.808 U

## Notes:

U – Not detected at the associated reporting limit

UJ – Not detected; associated reporting limit is estimated

J – Estimated concentration



**Validated Analytical Results Summary  
Air Sampling Event  
Wausau Superfund Site  
Wausau, Wisconsin  
March 2023**

<b>Location ID:</b>	<b>SS-6</b>	<b>SS-7</b>	<b>Building A</b>	<b>Building B</b>	<b>SS-1</b>	<b>SS-2</b>
<b>Sample Name:</b>	<b>SS-230302-RA-01</b>	<b>SS-230302-RA-02</b>	<b>IA-230301-RA-03</b>	<b>IA-230301-RA-04</b>	<b>SS-230302-RA-08</b>	<b>SS-230302-RA-07</b>
<b>Sample Date:</b>	<b>03/02/2023</b>	<b>03/02/2023</b>	<b>03/01/2023</b>	<b>03/01/2023</b>	<b>03/02/2023</b>	<b>03/02/2023</b>

Parameters	Unit						
<b>Volatile Organic Compounds</b>							
Carbon tetrachloride	µg/m3	--	--	1.54 U	0.461 J	1.19 J	420
Chloroform (Trichloromethane)	µg/m3	--	--	1.16 U	1.16 UJ	1.16 U	185
cis-1,2-Dichloroethene	µg/m3	1.03 U	1.03 U	1.03 U	1.03 UJ	1.03 U	184
Tetrachloroethene	µg/m3	849	115	--	--	--	--
Trichloroethene	µg/m3	20.2	2.98	1.62	2.33 J	236	21900
Vinyl chloride	µg/m3	0.808 U	0.808 U	0.808 U	0.808 UJ	0.808 U	0.808 U

## Notes:

U – Not detected at the associated reporting limit

UJ – Not detected; associated reporting limit is estimated

J – Estimated concentration

Table 2

**Validated Analytical Results Summary  
Air Sampling Event  
Wausau Superfund Site  
Wausau, Wisconsin  
March 2023**

Location ID:	SS-3	SS-3	SS-4	SS-5
Sample Name:	SS-230302-RA-05	SS-230302-RA-06	SS-230302-RA-03	SS-230302-RA-04
Sample Date:	03/02/2023	03/02/2023 Duplicate	03/02/2023	03/02/2023

Parameters	Unit				
<b>Volatile Organic Compounds</b>					
Carbon tetrachloride	µg/m3	0.591 J	0.661 J	1.54 U	0.674 J
Chloroform (Trichloromethane)	µg/m3	36.4	40.2	1.16 U	20.1
cis-1,2-Dichloroethene	µg/m3	1.03 U	1.03 U	1.03 U	1.03 U
Tetrachloroethene	µg/m3	--	--	--	--
Trichloroethene	µg/m3	6.70	7.29	424	6640
Vinyl chloride	µg/m3	0.808 U	0.808 U	0.808 U	0.808 U

Notes:

- U – Not detected at the associated reporting limit
- UJ – Not detected; associated reporting limit is estimated
- J – Estimated concentration

Table 3

**Analytical Method and Holding Time Criteria  
Air Sampling Event  
Wausau Superfund Site  
Wausau, Wisconsin  
March 2023**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Select Volatile Organic Compounds (VOC)	TO-15	Air	-	30

## Note:

Select VOC - subset of carbon tetrachloride, chloroform, cis-1,2-dichloroethene, tetrachloroethene, trichloroethene, and vinyl chloride

## Method Reference:

TO-15 - "Compendium of Methods for the Determination of Toxic Organic Compounds in Air", EPA-625/R-96/010b, January 1999.

Table 4

**Qualified Sample Data Due to Zero Pressure Left in Summa Can  
Air Sampling Event  
Wausau Superfund Site  
Wausau, Wisconsin  
March 2023**

Parameter	Sample ID	Analyte	Qualified Result	Units
VOC	IA-230301-RA-02	cis-1,2-Dichloroethene	1.03 UJ	ug/m3
		Tetrachloroethene	5.81 J	ug/m3
		Trichloroethene	1.22 UJ	ug/m3
		Vinyl chloride	0.808 UJ	ug/m3
VOC	IA-230301-RA-04	Carbon tetrachloride	0.461 J	ug/m3
		Chloroform (Trichloromethane)	1.16 UJ	ug/m3
		cis-1,2-Dichloroethene	1.03 UJ	ug/m3
		Trichloroethene	2.33 J	ug/m3
		Vinyl chloride	0.808 UJ	ug/m3

## Notes:

VOC - Volatile Organic Compounds

J - Estimated concentration

UJ - Not detected; associated reporting limit is estimated

# Data Verification Report

November 10, 2023

<b>To</b>	OJ Ojinaga, GHD	<b>Project No.</b>	003978
		<b>Email</b>	grant.anderson@ghd.com
<b>From</b>	Grant Anderson/mg/5	<b>Contact No.</b>	612-524-6836
<b>Project Name</b>	Wausau Superfund Site		
<b>Subject</b>	Analytical Results and Data Verification Air Sampling Events Wausau Superfund Site Wausau, Wisconsin August and September 2023		

*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

## 1. Introduction

This document details a data verification of analytical results for air samples collected at the Wausau Superfund Site during August and September 2023. Samples were submitted to Pace Analytical Services, LLC (Pace), located in Minneapolis, Minnesota. Samples were analyzed at Pace’s Mount Juliet, Tennessee laboratory. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes and laboratory control samples (LCS).

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the document entitled:

1. "National Functional Guidelines for Organic Superfund Methods Data Review", EPA 540-R-20-005, November 2020

Item 1. will subsequently be referred to as the "Guidelines" in this report.

## 2. Sample Holding Time and Preservation

The sample holding time criterion for the analyses are summarized in Table 3. The sample chain-of-custody documents and the analytical reports were used to determine sample holding times. The samples were prepared and analyzed within the required holding time.

The samples were properly preserved and stored by the laboratory at the required temperature.

### **3. Laboratory Method Blank Analyses**

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

Laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

With the exception of trichloroethene, all method blank results were non-detect. Table 4 lists the method blank detection. Associated sample data are qualified as noted in the table.

### **4. Surrogate Spike Recoveries**

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the above criteria.

### **5. Laboratory Control Sample Analyses**

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained all compounds of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

### **6. Analyte Reporting**

The laboratory reported detected results down to the reporting limit (RL) for each analyte. Non-detect results are presented as non-detect at the RL in Table 2.

### **7. Conclusion**

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualification noted herein.

Regards,



**Grant Anderson**  
Digital Intelligence - Data Management - Data Validator

Table 1

**Sample Collection and Analysis Summary**  
**Air Sampling Event**  
**Wausau Superfund Site**  
**Wausau, Wisconsin**  
**August and September 2023**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters
G-230829-RA-01	SG-2	air	08/29/2023	11:02	Select VOC
IA-230913-RA-01	SS-1	air	09/14/2023	09:36	Select VOC
IA-230913-RA-02	SS-2	air	09/14/2023	09:33	Select VOC
IA-230913-RA-05	SS-5	air	09/14/2023	09:10	Select VOC
IA-230913-RA-11	SS-11	air	09/14/2023	09:04	Select VOC
G-230913-RA-01	SG-1	air	09/13/2023	13:17	Select VOC
SS-230914-RA-01	SS-1	air	09/14/2023	12:25	Select VOC
SS-230914-RA-02	SS-2	air	09/14/2023	12:07	Select VOC
SS-230914-RA-03	SS-3	air	09/14/2023	11:45	Select VOC
SS-230914-RA-04	SS-4	air	09/14/2023	14:04	Select VOC
SS-230914-RA-05	SS-5	air	09/14/2023	13:54	Select VOC
SS-230914-RA-08	SS-8	air	09/14/2023	12:15	Select VOC
SS-230914-RA-09	SS-9	air	09/14/2023	11:57	Select VOC
SS-230914-RA-11	SS-11	air	09/14/2023	13:45	Select VOC
SS-230914-RA-12	SS-12	air	09/14/2023	13:36	Select VOC

## Notes:

VOC - Volatile Organic Compounds

Select VOC - carbon tetrachloride, chloroform, cis-1,2-dichloroethene, trichloroethene, and vinyl chloride

Table 2

**Validated Analytical Results Summary  
 Air Sampling Event  
 Wausau Superfund Site  
 Wausau, Wisconsin  
 August and September 2023**

<b>Location ID:</b>	<b>SG-1</b>	<b>SG-2</b>	<b>SS-1</b>	<b>SS-1</b>	<b>SS-11</b>	<b>SS-11</b>	<b>SS-12</b>	<b>SS-2</b>
<b>Sample Name:</b>	<b>G-230913-RA-01</b>	<b>G-230829-RA-01</b>	<b>IA-230913-RA-01</b>	<b>SS-230914-RA-01</b>	<b>IA-230913-RA-11</b>	<b>SS-230914-RA-11</b>	<b>SS-230914-RA-12</b>	<b>IA-230913-RA-02</b>
<b>Sample Date:</b>	<b>09/13/2023</b>	<b>08/29/2023</b>	<b>09/14/2023</b>	<b>09/14/2023</b>	<b>09/14/2023</b>	<b>09/14/2023</b>	<b>09/14/2023</b>	<b>09/14/2023</b>

<b>Parameters</b>	<b>Unit</b>								
<b>Volatile Organic Compounds</b>									
Carbon tetrachloride	µg/m3	1.74	25.2 U	1.54 U	21.7	1.54 U	0.542 J	1.26 U	1.54 U
Chloroform (Trichloromethane)	µg/m3	0.686 J	19.5 U	1.16 U	7.11	1.16 U	183	0.978	1.16 U
cis-1,2-Dichloroethene	µg/m3	0.416 J	15.9 U	1.03 U	5.55	1.03 U	2.50	0.793 U	1.03 U
Trichloroethene	µg/m3	103	21.4 U	0.852 J	1760	1.85	9540	24.1 U	2.74
Vinyl chloride	µg/m3	0.511 U	10.2 U	0.808 U	0.511 U	0.808 U	0.511 U	0.511 U	0.808 U



Table 2

**Validated Analytical Results Summary  
Air Sampling Event  
Wausau Superfund Site  
Wausau, Wisconsin  
August and September 2023**

Location ID:	SS-2	SS-3	SS-4	SS-5	SS-5	SS-8	SS-9
Sample Name:	SS-230914-RA-02	SS-230914-RA-03	SS-230914-RA-04	IA-230913-RA-05	SS-230914-RA-05	SS-230914-RA-08	SS-230914-RA-09
Sample Date:	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023	09/14/2023

Parameters	Unit	SS-2	SS-3	SS-4	SS-5	SS-5	SS-8	SS-9
<b>Volatile Organic Compounds</b>								
Carbon tetrachloride	µg/m3	552	0.575 J	1.26 U	1.54 U	1.26 U	280	28.3
Chloroform (Trichloromethane)	µg/m3	192	28.1	1.62	1.16 U	38.3	28.2	26.1
cis-1,2-Dichloroethene	µg/m3	159	0.793 U	0.793 U	1.03 U	0.805	0.793 U	0.793 U
Trichloroethene	µg/m3	30600	4.41	140	1.37	3170	105	75.0
Vinyl chloride	µg/m3	0.511 U	0.511 U	0.511 U	0.808 U	0.511 U	0.511 U	0.511 U

Notes:  
 U - Not detected at the associated reporting limit  
 J - Estimated concentration

**Table 3**

**Analytical Method and Holding Time Criteria  
Air Sampling Event  
Wausau Superfund Site  
Wausau, Wisconsin  
August and September 2023**

<b>Parameter</b>	<b>Method</b>	<b>Matrix</b>	<b>Holding Time</b>	
			<b>Collection to Extraction (Days)</b>	<b>Collection or Extraction to Analysis (Days)</b>
Select Volatile Organic Compounds (VOC)	TO-15	Air	-	30

**Note:**

Select VOC - carbon tetrachloride, chloroform, cis-1,2-dichloroethene, trichloroethene and vinyl chloride

**Method Reference:**

TO-15 - "Compendium of Methods for the Determination of Toxic Organic Compounds in Air", EPA-625/R-96/010b, January 1999.

Table 4

**Qualified Sample Results Due to Analyte Concentrations in the Method Blanks  
Air Sampling Event  
Wausau Superfund Site  
Wausau, Wisconsin  
August and September 2023**

<b>Parameter</b>	<b>Analyte</b>	<b>Analysis Batch</b>	<b>Blank Result *</b>	<b>Sample ID</b>	<b>Original Result</b>	<b>Qualified Result</b>	<b>Units</b>
VOC	Trichloroethene	2134307	36.2	SS-230914-RA-12	24.1	24.1 U	ug/m3

## Notes:

- \* - Blank result adjusted for sample factors where applicable
- U - Not detected at the associated reporting limit
- VOC - Volatile Organic Compounds

# Data Verification Report

April 18, 2024

<b>To</b>	OJ Ojinaga, GHD	<b>Project No.</b>	003978
		<b>Email</b>	grant.anderson@ghd.com
<b>From</b>	Grant Anderson/mg/7	<b>Contact No.</b>	612-524-6836
<b>Project Name</b>	Wausau Superfund Site		
<b>Subject</b>	Analytical Results and Data Verification Air Sampling Event Wausau Superfund Site Wausau, Wisconsin February and March 2024		

*The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.*

## 1. Introduction

This document details a data verification of analytical results for air samples collected at the Wausau Superfund Site during February and March 2024. Samples were submitted to Pace Analytical Services, LLC (Pace), located in Minneapolis, Minnesota. Samples were analyzed at Pace’s Mount Juliet, Tennessee laboratory. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes and laboratory control samples (LCS).

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the document entitled:

1. "National Functional Guidelines for Organic Superfund Methods Data Review", EPA 540-R-20-005, November 2020

Item 1. will subsequently be referred to as the "Guidelines" in this report.

## 2. Sample Holding Time and Preservation

The sample holding time criterion for the analyses is summarized in Table 3. The sample chain of custody document and the analytical report were used to determine sample holding times. The samples were prepared and analyzed within the required holding time.

The samples were properly preserved and stored by the laboratory at the required temperature.

### **3. Laboratory Method Blank Analyses**

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

Laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

### **4. Surrogate Spike Recoveries**

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC) determinations were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries met the above criteria.

### **5. Laboratory Control Sample Analyses**

LCS or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

### **6. Analyte Reporting**

The laboratory reported detected results down to the laboratory's sample-specific method detection limit (MDL) for each analyte. Positive analyte detections less than the reporting limit (RL) but greater than the sample-specific MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this report. Non-detect results were presented as non-detect at the RL in Table 2.

## 7. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Regards,

A handwritten signature in black ink, appearing to read "Grant Anderson". The signature is written in a cursive style with a large initial "G".

**Grant Anderson**  
Digital Intelligence - Data Management - Data Validator

Table 1

**Sample Collection and Analysis Summary  
Air Sampling Event  
Wausau Superfund Site  
February and March 2024**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters	Comments
SS-240213-RA-01	SS-1	air	02/13/2024	10:45	Select VOC List 1	
SS-240213-RA-02	SS-2	air	02/13/2024	11:03	Select VOC List 1	
SS-240213-RA-03	SS-5	air	02/13/2024	12:09	Select VOC List 1	
SS-240213-RA-04	SS-11	air	02/13/2024	12:30	Select VOC List 1	
SS-240213-RA-05	SS-13	air	02/13/2024	12:38	Select VOC List 1	
SS-240213-RA-06	SS-14	air	02/13/2024	12:48	Select VOC List 1	
IA-240212-RA-01	SS-1	air	02/13/2024	9:49	Select VOC List 1	
IA-240212-RA-02	SS-2	air	02/13/2024	9:53	Select VOC List 1	
IA-240212-RA-03	SS-11	air	02/13/2024	10:07	Select VOC List 1	
IA-240212-RA-04	SS-5	air	02/13/2024	10:09	Select VOC List 1	
IA-240212-RA-06	SS-13	air	02/13/2024	10:11	Select VOC List 1	
IA-240327-EB-01	SS-15	air	03/27/2024	14:00	Select VOC List 2	
IA-240327-EB-02	SS-2	air	03/27/2024	14:18	Select VOC List 2	
SG-240327-EB-03	SG-3	air	03/27/2024	14:55	Select VOC List 1	
SS-240328-EB-04	SS-15	air	03/28/2024	12:01	Select VOC List 2	

Notes:

VOC - Volatile Organic Compounds

Select VOC - List 1: tetrachloroethene, trichloroethene, cis-1,2-dichloroethene and vinyl chloride

- List 2: carbon tetrachloride, chloroform, cis-1,2-dichloroethene, trichloroethene and vinyl chloride

Table 2

**Validated Analytical Results Summary  
Air Sampling Event  
Wausau Superfund Site  
Wausau, Wisconsin  
February and March 2024**

Location ID:	SG-3	SS-1	SS-1	SS-11	SS-11	SS-13	SS-13	SS-14	
Sample Name:	SG-240327-EB-03	IA-240212-RA-01	SS-240213-RA-01	IA-240212-RA-03	SS-240213-RA-04	IA-240212-RA-06	SS-240213-RA-05	SS-240213-RA-06	
Sample Date:	03/27/2024	02/13/2024	02/13/2024	02/13/2024	02/13/2024	02/13/2024	02/13/2024	02/13/2024	
Parameters	Unit								
<b>Volatile Organic Compounds</b>									
Carbon tetrachloride	µg/m3	--	0.576 J	1.54 U	0.498 J	0.825 J	0.572 J	1.54 U	1.54 U
Chloroform (Trichloromethane)	µg/m3	--	1.16 U	1.16 U	1.16 U	141	1.16 U	1.16 U	1.16 U
cis-1,2-Dichloroethene	µg/m3	1.03 U	1.03 U	1.03 U	0.979 J	5.63	1.03 U	1.03 U	1.03 U
Tetrachloroethene	µg/m3	109	--	--	--	--	--	--	--
Trichloroethene	µg/m3	1.07 J	2.39	87.3	1.93	11000	7.18	1160	28.6
Vinyl chloride	µg/m3	0.808 U	0.808 U	0.808 U	0.808 U	0.808 U	0.808 U	0.808 U	0.808 U



Table 2

**Validated Analytical Results Summary  
Air Sampling Event  
Wausau Superfund Site  
Wausau, Wisconsin  
February and March 2024**

Location ID:	SS-15	SS-15	SS-2	SS-2	SS-2	SS-5	SS-5	
Sample Name:	IA-240327-EB-01	SS-240328-EB-04	IA-240212-RA-02	SS-240213-RA-02	IA-240327-EB-02	IA-240212-RA-04	SS-240213-RA-03	
Sample Date:	03/27/2024	03/28/2024	02/13/2024	02/13/2024	03/27/2024	02/13/2024	02/13/2024	
Parameters	Unit							
<b>Volatile Organic Compounds</b>								
Carbon tetrachloride	µg/m3	1.54 U	1.54 U	0.794 J	487	1.54 U	1.54 U	0.527 J
Chloroform (Trichloromethane)	µg/m3	1.16 U	1.16 U	1.16 U	155	1.16 U	1.16 U	4.63
cis-1,2-Dichloroethene	µg/m3	1.03 U	1.03 U	1.03 U	158	1.03 U	1.03 U	1.03 U
Tetrachloroethene	µg/m3	--	--	--	--	--	--	--
Trichloroethene	µg/m3	0.970 J	2640	214	20100	3.74	1.16 J	2010
Vinyl chloride	µg/m3	0.808 U	0.808 U	0.808 U	0.808 U	0.808 U	0.808 U	0.808 U

Notes:

- U - Not detected at the associated reporting limit
- J - Estimated concentration

Table 3

**Analytical Method and Holding Time Criterion  
Air Sampling Event  
Wausau Superfund Site  
Wausau, Wisconsin  
February and March 2024**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Select Volatile Organic Compounds (VOC)	TO-15	Air	-	30

Note:

Select VOC - List 1: tetrachloroethene, trichloroethene, cis-1,2-dichloroethene and vinyl chloride

- List 2: carbon tetrachloride, chloroform, cis-1,2-dichloroethene, trichloroethene and vinyl chloride

Method Reference:

TO-15 - "Compendium of Methods for the Determination of Toxic Organic Compounds in Air", EPA 625/R 96/010b, January 1999.