

Spring Newsletter

2026

Contents

01 President's Message

**02 Introducing the WI
Section Executive
Committee**

**06 Membership Benefit –
Geologize Course**

**07 Legislative and
Regulatory Updates**

**09 From the WI-AIPG
Chapter**

**10 Far From Boring, Yet
Close to Home**

14 Geology in the News

**15 AIPG National
Conference, Duluth, MN**

Wisconsin Section - AIPG



President's Message

Happy Spring, Earth Day, and Geologist Day! I just learned that the first Sunday in April each year is dedicated to the science of geology. If you haven't already, take a minute to reflect on what led you to pursue geology as a career, and how you can continue to hone your skills as a geologist.

I came into geology through soil science. With an undergraduate degree in soils, I accepted a master's degree research position exploring nitrate contamination in soil and groundwater under barnyards in central Wisconsin. This led me to study hydrogeology and land my first job as a hydrogeologist with an environmental consulting firm.

Various circumstances resulted in a rather diversified and circuitous career path over the years. Four years ago, I found myself back at the beginning, once again focusing on soil and hydrogeology within the environmental consulting field. With the encouragement of the small company I work for, last year I was licensed as a Professional Soil Scientist in Wisconsin and became an AIPG Certified Professional Geologist. This last month I took the ASBOG Professional Geologist exams and am anxiously awaiting the results!

As members of AIPG in Wisconsin, PG licensing is another important step within a geology career. If you are a young member, I encourage you to write your ASBOG exams as soon as you can and pursue your CPG with AIPG. These are credentials that will serve you well throughout your career. I can tell you from experience it will be easier to do it early! Nevertheless, if you are advanced in your career but have not pursued credentialing, I encourage you to do so. It is never too late, and it will help you to serve both the profession and the next generation of geologists.

Along with PG licensing in Wisconsin, new rules require continuing education to maintain your license. The AIPG National Conference August 29 to September 1 in Duluth, Minnesota is a great opportunity to meet this requirement, gain a greater understanding of the unique landscape we enjoy in the upper Midwest, and network with other geologists from Wisconsin and across the globe. In addition, we at Wisconsin AIPG are working on plans to provide regular training opportunities to assist you in maintaining your license while growing in the depth and breadth of your geological understanding. Stay tuned for more information and join us for the upcoming webinars.

Mike Travis, CPG 12347

2026 Wisconsin Section Officers

President

Micheal Travis, PhD, CPG
Travis@oakridgeeng.com

Vice President

Heather Hallett, PG, CPG
Heather.Hallett@foth.com

Secretary

Matthew C. Michalski, PG, MEM
mmichalski@reiengineering.com

Treasurer

Andrew Graham, PG, CPG, PE
Agraham@trccompanies.com

Member Screening

Steve Sletten PG, CPG
steve.sletten@gmail.com

Education Committee

Annalie Peterson, ECP
annalie.peterson2@wsp.com

Government Affairs Chair

Lanette Altenbach, PG, CPG
loldmill@gmail.com

Newsletter Editor

Paula Leier-Engelhardt, PG, CPG
pjleier@gmail.com

Introducing the Wisconsin Section Executive Committee

In addition to an introduction, each member provided a response to the question, “How long have you worked as a geologist or in a geology-related position, and what ‘change’ has occurred during that time that had the biggest impact in your career?”

President

Mike is a licensed Professional Soil Scientist, and a Certified Professional Geologist. He holds B.S. and M.S. degrees from UW-Stevens Point and a Ph.D. from Ben Gurion University, Israel. As Senior Scientist at Oakridge Engineering, Inc., he provides environmental expertise for dairy farms, landfills, non-metallic mines, and various other private and public entities. His experience blends knowledge of soil, hydrogeology, wastewater, and agricultural sustainability, which gives him a unique perspective as he serves clients in Wisconsin and surrounding states. Mike is particularly passionate about soil health and human health, and in his spare time enjoys building biologically and geologically healthy soil to grow fruit, vegetables, and livestock at his Eau Claire County farm.

MY FIRST FULL-TIME GEOLOGY POSITION WAS AS A HYDROGEOLOGIST IN 1989. PROBABLY THE BIGGEST IMPACT ON MY CAREER WAS A DECISION TO WORK AS AN ENVIRONMENTAL MANAGER IN THE LEATHER INDUSTRY, IN ORDER TO BE HOME EVERY NIGHT WHEN MY KIDS WERE YOUNG. WHAT FOLLOWED WAS A CIRCUITOUS CAREER PATH IN CHEESEMAKING, WASTEWATER RESEARCH, UNIVERSITY AG EXTENSION, AND BACK TO GEOLOGY. IT'S BEEN A FUN RIDE!
Micheal Travis PhD, CPG



2026 Wisconsin Section Officers

President

Micheal Travis, PhD, CPG
Travis@oakridgeeng.com

Vice President

Heather Hallett, PG, CPG
Heather.Hallett@foth.com

Secretary

Matthew C. Michalski, PG, MEM
mmichalski@reiengineering.com

Treasurer

Andrew Graham, PG, CPG, PE
Agraham@trccompanies.com

Member Screening

Steve Sletten PG, CPG
steve.sletten@gmail.com

Education Committee

Annalie Peterson, ECP
annalie.peterson2@wsp.com

Government Affairs Chair

Lanette Altenbach, PG, CPG
lloldmill@gmail.com

Newsletter Editor

Paula Leier-Engelhardt, PG, CPG
pjleier@gmail.com

Vice President

Hydrogeologist at Foth Infrastructure & Environment in Green Bay. She leads the hydrogeology/geology technical practice at Foth and provides support to a range of projects from landfill and mine project permitting/compliance to environmental remediation. She previously served as president of WGWA after moving to Appleton from Albany, NY where she worked for CDM Smith.



I HAVE WORKED AS A HYDROGEOLOGIST IN ENVIRONMENTAL CONSULTING/ENGINEERING FOR ALMOST 20 YEARS. THERE HAVE BEEN A LOT OF TECHNOLOGICAL ADVANCEMENTS IN THAT TIME AND ON A DAY TO DAY BASIS I USE A LOT OF AERIAL IMAGERY TO GET INFORMATION ABOUT SITES I'M WORKING ON. THE AVAILABILITY OF AERIAL PHOTOGRAPHY AND STREET VIEW FROM GOOGLE AS WELL AS DRONE PHOTOGRAPHY AND SURVEY DATA (BOTH IN-HOUSE AND PUBLICLY AVAILABLE) HAS COME A LONG WAY IN THE PAST COUPLE OF DECADES AND MAKES MY WORK MORE EFFICIENT. ALSO, IN GENERAL, THERE IS A LOT MORE INFORMATION AVAILABLE ON THE WEB THESE DAYS, SUCH AS HISTORICAL REPORTS ON SITES, GEOLOGIC REPORTS AND MAPS, BORING LOGS, FLOODPLAIN MAPS, PROPERTY OWNERSHIP/ZONING, ETC., ETC. IT'S MUCH MORE CONVENIENT TO FIND INFORMATION NOW AND AI IS QUICKLY CHANGING THE WAY WE INTERACT WITH ALL THAT DATA ON THE WEB.

Heather Hallett PG, CPG

Secretary

Hydrogeologist with REI Engineering, Inc in Wausau. He is part of REI's Environmental Team and acts as a project manager for multiple projects including site investigations, remediation, and case closure. Matt is a Wisconsin Registered Tank System Site Assessor, a Wisconsin Small Water System Certified Operator, Soil Tester, and part of REI's Emergency Spill Response Team.



I HAVE WORKED AS A GEOLOGIST OR GEOLOGIST RELATED POSITION FOR TWELVE YEARS. THE LARGEST CHANGE IN MY CAREER WAS WHEN I CHANGED EMPLOYERS FROM A FIRM THAT WAS VERY SPECIALIZED IN ONE MAIN AREA TO A FIRM THAT WORKS IN MULTIPLE AREAS AND HAS ALLOWED ME TO EXPLORE BROADER OPPORTUNITIES.

Matthew Michalski PG, MEM

2026 Wisconsin Section Officers

President

Micheal Travis, PhD, CPG
Travis@oakridgeeng.com

Vice President

Heather Hallett, PG, CPG
Heather.Hallett@foth.com

Secretary

Matthew C. Michalski, PG, MEM
mmichalski@reiengineering.com

Treasurer

Graham, PG, CPG, PE
Agraham@trccompanies.com

Member Screening

Steve Sletten PG, CPG
steve.sletten@gmail.com

Education Committee

Annalie Peterson, ECP
annalie.peterson2@wsp.com

Government Affairs Chair

Lanette Altenbach, PG, CPG
lloldmill@gmail.com

Newsletter Editor

Paula Leier-Engelhardt, PG, CPG
pjleier@gmail.com

Treasurer

Project Manager (half time) at TRC Environmental Corp., with over 35 years of experience. Currently, Andrew specializes in civil site development for renewable energy projects. Previous positions: Realtime Utility Engineers, Inc, IEA/RMT, and Vierbicher Associates. Andrew is a second-generation CPG and a former Wisconsin Section president.



I WOULD HAVE TO SAY I'VE ALWAYS HAD A GEOLOGIC RELATION TO MY WORK (ALMOST 40 YEARS), BUT THE BIGGEST CAREER CHANGE HAPPENED AROUND 20 YEARS AGO WHEN RENEWABLE ENERGY BECAME A VIABLE ALTERNATIVE TO FOSSIL FUEL GENERATION WHILE THE ENVIRONMENTAL REMEDIATION MARKET SLOWED WITH THE PHASE OUT OF THE PETROLEUM CLEANUP PROGRAMS. THIS ECONOMIC SHIFT CHANGED THE NATURE OF MY WORK FROM ENVIRONMENTAL REMEDIATION TO THE DEVELOPMENT OF CLEAN ENERGY.

Andrew Graham P.G, CPG, PE

Member Screening

Steve has a professional background addressing hydrogeology, airport planning, renewable energy, and air transportation decarbonization topics. His 30 plus years of experience includes addressing environmental science and technical issues in a consulting, industry, and regulatory capacity. He has a particular interest and background in sustainable aviation fuel development globally.



I HAVE WORKED IN A GEOLOGY-RELATED POSITION FOR 30+ YEARS. THE ADVANCEMENTS IN TECHNOLOGY TO COLLECT DATA IN THE FIELD, GPS AVAILABILITY, AND TO COMMUNICATE FROM THE FIELD CERTAINLY HAS BEEN ONE OF THE BIG IMPACTS THAT I HAVE SEEN OVER THE YEARS.

Steve Sletten PG, CPG

2026 Wisconsin Section Officers

President

Micheal Travis, PhD, CPG
Travis@oakridgeeng.com

Vice President

Heather Hallett, PG, CPG
Heather.Hallett@foth.com

Secretary

Matthew C. Michalski, PG, MEM
mmichalski@reiengineering.com

Treasurer

Andrew Graham, PG, CPG, PE
Agraham@trccompanies.com

Member Screening

Steve Sletten PG, CPG
steve.sletten@gmail.com

Education Committee

Annalie Peterson, ECP
annalie.peterson2@wsp.com

Government Affairs Chair

Lanette Altenbach, PG, CPG
lloldmill@gmail.com

Newsletter Editor

Paula Leier-Engelhardt, PG, CPG
pjleier@gmail.com

Education Committee

Annalie is an assistant environmental consultant with WSP in Madison, Wisconsin with interests in water flow and contaminant migration through soil and sediment.

She spends a lot of time in the field characterizing soil and sediment and sampling soils and groundwater for a variety of contaminants; as of late, a lot of PFAS sampling and investigations. When not in the field, she creates maps and 3D visualizations focusing on lithology and analytical data.

I'VE WORKED AS A GEOLOGIST 3½ YEARS. WHAT'S CHANGED: I SEE A LOT OF FOCUS ON PFAS AND OTHER EMERGING CONTAMINANTS, BUT MAYBE THAT'S JUST THE NATURE OF THE FIELD I'M IN. WHAT'S CHANGED FOR MYSELF IS I'M FINDING MORE INTEREST IN THE MINING WORLD. I HAVE ALSO A STRONG BACKGROUND IN SOIL SCIENCE AND I'M FINDING THAT DISCIPLINE WITHIN GEOLOGY (IF YOU WILL) HAS A LOT OF APPLICATION IN MINE CLOSURE SUCH AS SLOPE STABILIZATION DESIGN, COVER PLOT DESIGN AND MORE. I ALSO SEE A LOT OF AI IN CODING THAT GOES INTO GROUNDWATER MODELING, 3D VISUALIZATION AND EVEN THINGS LIKE MAPPING TASKS. IT REALLY IS CRAZY TO SEE THE EFFICIENCY AND AMOUNT OF WORK THAT CAN BE ACCOMPLISHED USING THESE NEW TOOLS.

Annalie Peterson ECP

Chair – Government Affairs

Environmental Consultant for LLA, LLC. Lanette's experience includes emergency response to environmental remediation, from initial site identification through redevelopment of properties into productive use. She has worked with private clients as well as local, state and the federal government. She currently participates in many of the public input opportunities offered by the Wisconsin Department of Natural Resources and regularly monitors state and federal rulemaking.

I HAVE BEEN A PRACTICING GEOLOGICAL ENGINEER FOR OVER 40 YEARS WITH AN EMPHASIS ON GEOLOGY AND THE ENVIRONMENTAL. I HAVE WATCHED THE ENVIRONMENTAL INDUSTRY GROW FROM NEARLY ITS INFANCY TO ITS CURRENT PHASE OF OPERATION. THERE HAVE BEEN MANY CHANGES ALONG THE WAY AND PICKING JUST ONE DOESN'T SEEM FAIR TO THE OTHER MILESTONES IN THE PATH. I THINK THE KEY IS TO BE FLEXIBLE (AS NEEDED FOR LIFE IN GENERAL) AND BE ABLE TO ROLL WITH CHANGES THAT OCCUR AND USE EACH CHANGE FOR IMPROVEMENT.

Lanette Altenbach, PG, CPG

2026 Wisconsin Section Officers

President

Micheal Travis, PhD, CPG
Travis@oakridgeeng.com

Vice President

Heather Hallett, PG, CPG
Heather.Hallett@foth.com

Secretary

Matthew C. Michalski, PG, MEM
mmichalski@reiengineering.com

Treasurer

Andrew Graham, PG, CPG, PE
Agraham@trccompanies.com

Member Screening

Steve Sletten PG, CPG
steve.sletten@gmail.com

Education Committee

Annalie Peterson, ECP
annalie.peterson2@wsp.com

Government Affairs Chair

Lanette Altenbach, PG, CPG
loldmill@gmail.com

Newsletter Editor

Paula Leier-Engelhardt, PG, CPG
pjleier@gmail.com

Newsletter Editor

Paula recently retired as Principal Geologist/President of HydroGeo Solutions LLC, with over 37 years of experience as a consulting geologist, much of that time dealing with the geology and hydrogeology of landfill sites. Projects included landfill siting, soil and groundwater contamination, compliance, and site restoration for both private and government clients. Future plans include traveling to Scotland to see Siccar Point and attend the opening of the Scottish Geology Festival.



I BELIEVE THE BIGGEST CHANGE WAS USING COMPUTERS AND SOFTWARE TO DEAL WITH DATA. WE ARE INUNDATED, NAY, BOMBARDED WITH DATA, AND HAD TO DEVELOP WAYS TO COMPARE AND SUMMARIZE DIFFERENT TYPES OF DATA, DETERMINE WHAT WAS SIGNIFICANT, AND FINALLY COME UP WITH AN ANSWER. I THOUGHT THE ABILITY TO PUT THINGS INTO A SPREADSHEET WAS A GAME CHANGER. THEN CAME SPECIALIZED SOFTWARE THAT SAVED HOURS OF TIME, FOLLOWED BY BIG DATA ANALYTICS, TO TODAY ASKING CHATGPT FOR AN ANSWER, A SUMMARY, OR TO DRAFT AN EMAIL. IT WILL BE INTERESTING TO SEE HOW SCIENCE AND ENGINEERING EVOLVE AS THESE TOOLS CONTINUE TO BE USED.

Paula Leier-Engelhardt PG, CPG

AIPG Membership Benefit - Geologize Course

The American Geosciences Institute, in partnership with the AIPG Foundation, is offering AGI Member Societies FREE access to the online course "Practical Geocommunication." As a member of AIPG, you may enroll at no cost.

Valued at \$400 per person, this course provides practical, research-based strategies to help geoscientists become more effective and impactful communicators. In today's environment, the ability to clearly articulate the value and relevance of geoscience to the public and decision-makers is essential.

HOW TO GET FREE ACCESS TO THE TRAINING

1. Visit the AGI society landing page [here](#).
2. Click on the 'AGI Access' button.
3. Register for the course (Free)
4. On the right, click 'Have a coupon?'
5. Enter the code 'aipg-agi-pggz-2324' to remove the price.
6. Begin learning!

Please note: This code is reserved exclusively for AIPG members and should not be shared outside the organization.

The course includes interactive lessons, quizzes, and direct engagement with the instructor, Dr. Haydon Mort, through online forums. Completion qualifies for nine hours of Continuing Professional Development, and participants receive a certificate upon finishing the course.

We encourage you to take advantage of this valuable opportunity.

Wisconsin Regulatory Updates

Legislative and Regulatory Update

Lanette Altenbach

Wisconsin Regulatory Updates

Wisconsin Department of Natural Resources

- *Updated Vapor Quick Lookup Tables* (RR-0136) and *History of Changes to Vapor Quick Lookup Tables* (RR-0137). Both documents are dated March 2026
- Additionally, a web-based form has been developed by the WDNR to aid environmental professionals. It is titled *Vapor Intrusion Building Evaluation* (Form 4400-011). It can be completed and submitted online, or a PDF can be downloaded and completed, then submitted through the RR programs Submittal Portal.
- Public comments were received on the planned revisions to RR-0152 *Soil Cleanup Standards Guidance*. This document is being revised to update the Wisconsin residual contaminant levels to meet the newly updated Federal Standards.
- April 21, 2026, WDNR hosted the last of five “Back to Basics” training sessions. “*Updating Continuing Obligations after Closure*” was conducted via Zoom. Recordings can be found in the training library. For past training and presentations see: [RR Program Presentations & Training Library | | Wisconsin DNR](#) Most of the prior presentations are recorded and slides may be available.
- For upcoming opportunities see [RR Program Presentations & Trainings | | Wisconsin DNR](#). “Issues and Trends” are generally held over the lunch hour from 11:30 AM to 1:00 PM. The training series planned for 2026 include:
 - June 24, 2026 -- “Using Monitored Natural Attenuation in Cleanup of Contamination”
 - July 16, 2026 -- “Deep Dive into Vapor Intrusion: Application of RR-800”
 - September 17, 2026 -- “Conduit Vapor Intrusion: Application of RR-649 and RR-800”
- WDNR has been updating their BRRTS database. For the past several years, the WDNR has been diligently trying to scan each project file they have and double checking each BRRTS # for location accuracy, etc. Once complete, the entire database will be migrated to a new, more robust system. No timeline was provided as to when this will be done. Please note that updates to other GIS maps have also occurred and

Federal Updates

more info is available about sites open and closed on these DNR applications.

PFAS

Two new PFAS laws were signed into law by the Governor.

WI Act 201 - Provides grant programs to help Wisconsin communities address PFAS contamination especially in drinking water.

WI Act 200 - Provides the funding for the grant programs.

Some of the new funding opportunities include sampling drinking water at schools and daycares that use their own well and sampling high-capacity irrigation wells, biosolids, sludge, wastewater and landfill leachate for PFAS. Together, these bills are a critical step toward ensuring that Wisconsinites have access to safer water and to reduce exposure to PFAS through the environment.

The acts also authorize the hiring and funding of staff to administer the PFAS grant programs. Because new programs and hiring take time, the WDNR plans to use some funding as early as late fall 2026 to provide for community and private water well sampling while the remaining grant programs are planned for 2027 and beyond.

[PFAS | Wisconsin DNR](#) - general PFAS page with links

[PFAS External Advisory Group | | Wisconsin DNR](#) – with links to past meeting presentations and recorded meetings.

Other Guidance and Training Resources

The Interstate Technology & Regulatory Council maintains a website and has various webpages on several environmental and industry topics.

At this link: [Guidance & Documents - ITRC | ITRC](#) recent guidance documents are listed by date of publication (newest first).

ITRC also offers webinars and the training schedule is here: [Online Training - ITRC | ITRC](#) Recordings of past training are available at the Clu-in website here: [CLU-IN | Training & Events > Archived Webinars & Podcasts](#)

Federal Updates

US EPA Regional Screening Level Calculator and Vapor Intrusion Screening Level Calculator webpages were updated in mid-March 2026.

From the WI-AIPG Chapter

Webinar – The Glacial History of Wisconsin, through the Lens of the New (2025) Statewide Glacial Geology Map

On October 23, 2025, WI-AIPG was pleased to sponsor a 'tour' by Dr. Kent Syverson, UW-Eau Claire professor and one of the co-authors of this new map published by the Wisconsin Geologic and Natural History Survey: [M512 - Quaternary Geology of Wisconsin](#). If you missed the presentation, you may view it on the [AIPG YouTube channel](#).



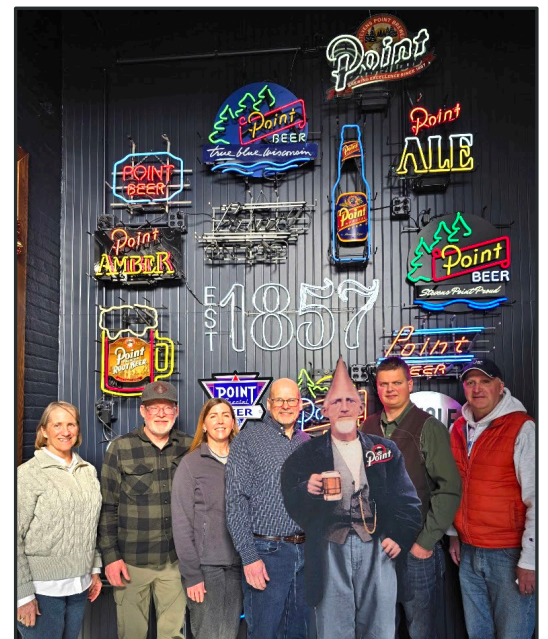
WI-AIPG presented Dr. Syverson with a mounted copy of the new map in appreciation. And the effort was appreciated, as he had not yet picked up one of the maps for himself.

WI-AIPG Executive Committee

In January the WI-AIPG Executive Committee gathered at the historic Stevens Point Brewery in Stevens Point, Wisconsin, for a tour of the facility and a productive brainstorming session to discuss future activities for the chapter. Your input is welcome. Please reach out to any member of the committee with your input, ideas, or concerns. We want to hear from **you**!

WI-AIPG Executive Committee attendees (L to R):

Paula Leier-Engelhardt, Mike Travis, Heather Hallett, Andrew Graham, Nicholas C. Point, our gracious host (present only in spirit), Matthew Michalski, and Steve Sletten.



Far From Boring, Yet Close to Home

After 44 years of marriage to a geologist and unwittingly becoming the best sample Sherpa ever, my husband knows there is no hope in dissuading me from any geology-related project I cook up. So, when I announced that as a long-term goal, I was going to collect a rock from each Wisconsin county (there are 72, in case you were wondering), he put his head in his hands and said, "When do you want to start?"

What neither of us counted on was finding hidden treasures that the average Wisconsinite may not realize exist in the state. So, allow me to introduce you to some of the places we have discovered, and some of the people we have met along the way.

*-----
In case you were wondering, as of January 1, 2026, I have visited 32 of the 72 Wisconsin counties.*

Wood County – Adventure on Palmers Bluff

Paula Leier-Engelhardt

We were spending Easter weekend with friends that have two boys, ages five and seven. By afternoon, they had reached critical sugar saturation. Dad says, "We got run some energy out of these guys, let's go to Powers Bluff. Plus, there's rocks there, that will make Paula happy."

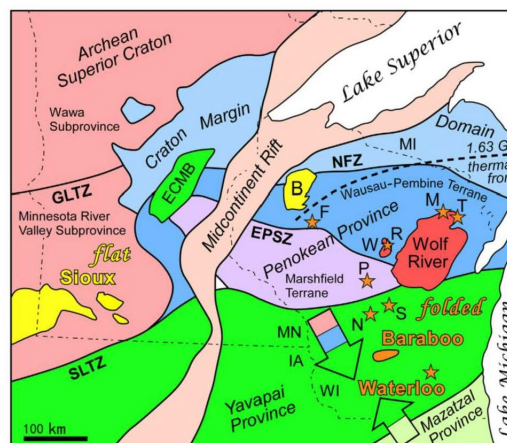
Well, I'd say everyone is going to win on this little adventure.

Powers Bluff is the highest point in Wood County (elevation 1,472 feet; walking up that should take the edge off that sugar rush). It is a monadnock, formed in the early Pleistocene (that's right, the Wisconsin Glaciation never touched this part of Wood County). And it turns out that there is also a fair amount of cultural history there.

So, what bedrock formation outcrops at Palmers Bluff? The Baraboo Quartzite! We are 75 miles north of Baraboo -- Wood County, you are always full of surprises.

If you drew a triangle with the towns of Arpin, Veedum, and Vesper at the corners, Palmers Bluff is inside the triangle, and there are active quarries near Vesper and Veedum accessing the Baraboo interval quartzites. (By the way, there are other smaller quarrying operations in the area that also appear to tag the Baraboo. Maybe don't ask how I might know that. . .).

Regionally, the Baraboo Interval refers to an episode of sedimentation of red siliciclastic sediment locally more than 1.5 km thick and covering an area of more than 300,000 km². The deposition occurred between 1643±11 Ma and 1506±2.7 Ma. To give you an idea of the area once covered by Baraboo Interval sediments, there are flat-lying, undisturbed outcrops of these formations in Barron and Rusk counties (Barron Quartzite), as well as the Sioux Quartzite found near the intersection of South Dakota, Minnesota, and Iowa.



Geological map of Precambrian terranes and the Wolf River batholith in the southern Lake Superior region (modified from Romano et al., 2000; Holm et al., 2007a; Holm et al., 2007b; Whitmeyer and Karlstrom, 2007). Baraboo Interval quartzites to the northwest (in yellow) are flat-lying, and those to the southeast (in orange) are folded. Quartzite abbreviations: B, Barron; F, Flambeau; M, McCaslin; N, Necedah; P, Powers Bluff (including Veedum and Vesper); R, Rib Mountain; S, Seven Sisters; T, Thunder Mountain. Arrows illustrate generalized sediment transport directions for Baraboo Interval quartzites, with provenances indicated by colors. Other abbreviations: ECMB, East Central Minnesota Batholith; EPSZ, Eau Pleine shear zone; GLTZ, Great Lakes tectonic zone; NFZ, Niagara fault zone; SLTZ, Spirit Lake tectonic zone; W, Wausau syenite-granite complex (in red). (From Fig. 1, Malone et al., 2025)

Let's just tell it like it is, orogenies are messy.

The deposition of the Baraboo Interval began after the Mazatzal Orogeny (1600 Ma), and before the deformation and metamorphism of the Pinware-Baraboo-Picuris orogen. This recently described and newly recognized orogen formed a complex, diachronous, convergent boundary from eastern Canada (Pinware Orogeny) to the midcontinent (Baraboo Orogeny) to the southwest United States (Picuris Orogeny), from 1520 to 1340 Ma.

Just to further complicate things, there is evidence that deformation and sedimentation in the Baraboo Hills may have spanned both the Mazatzal and Baraboo/Picuris orogenies. (Orogenies are messy like that)

What this does mean is the emplacement of the Wolf River Batholith at approximately 1450 Ma was likely not the sole cause of the deformation observed in the Baraboo Quartzite in Wisconsin. (Another piece of commonly accepted geologic wisdom can go down the drain.) Rather, the Baraboo Interval sediments were deformed, and the Wolf River Batholith and other granites like it were emplaced, along this complex convergent boundary between approximately 1520-1500 Ma.

And what about cultural history?

Powers Bluff was known as Tah-qua-kik, or Skunk Hill by the Potawatomi. Starting in the mid-1800s, the Chippewa, Menominee, Winnebago, and Potawatomi tribes were under significant pressure to leave and give up their lands to white settlers moving into central Wisconsin to farm. With the Treaty of 1833, the Potawatomi lost the last of their Wisconsin ancestral lands, and relocation began to a reservation first located in Iowa, then later Kansas.

In the 1850s, some Potawatomi leaders moved their people to Shunk Hill where no one would bother them, as it was hard to get to, surrounded by marsh and wetlands, and no one wanted it as no farmland existed there. A community lived and thrived there, relying on hunting, trapping, gathering, trading, and some farming until 1930, when the last inhabitants left and Wood County took ownership of the property. Today all that remains are two dance circles and cemeteries, testaments to a people fleeing the threat of removal from their lands. It has been developed into a county park with hiking trails and a tubing hill. The county is under pressure to find ways to develop the area for responsible recreation while preserving and honoring those areas considered sacred to the Potawatomi.

I crawled up on an outcrop to take a look. Dark gray to dark red. . .that might be bedding 2-3 inches thick, but maybe its cleavage? If its bedding, it is almost vertical. Which way is up? What's this more massive, reddish cherty stuff shot full of quartz veins?

Wonder what it looks like over. . .

“What are you looking at?”

It is one of my loyal acolytes.



Using my famous geologist's hands trick to (unsuccessfully) explain bedding and cleavage.

Photo: Steve Engelhardt

“The rocks.”

“Why? What's its name?”

“The Baraboo Quartzite.”

“What's this? (handing me a chunk of white quartz vein)”

“Quartz.”

“Not Baraboo?”

My acolytes ask tough questions and keep me honest.



Bedding or cleavage?
You be the judge.

*Photos: Steve Engelhardt and
Paula Leier-Engelhardt*

We eventually leave, some of us to eat more chocolate bunny ears, me with a pocket full of rocks that the boys were sure I needed and that I didn't dare drop while still in their sight without making them feel bad.



Photo: Steve Engelhart

We walked down a trail flanked with towering sugar maples. The ramps were beginning to emerge and some of the braver spring ephemeral flowers were showing up on south-facing slopes.

And as we walked, it became easy to understand why people made this their home.

References regarding the Baraboo Quartzite and Palmers Bluff include:

- Malone, D., Zambito, J., Baumann, S, and Malone, J., 2025, 77th Tri-State Geological Field Conference and 38th Great Lakes SEPM Field Conference, Black River Falls, Wisconsin, [Field Trip Guidebook](#).
- Stewart, E.E., Stewart, E.K., Crouch, K.A., Aleksey, M., Brengman, L.A., and Fitzpatrick, W.A., 2025, Geology of the Baraboo Hills, Sauk and Columbia Counties, Wisconsin: [Wisconsin Geological and Natural History Survey Bulletin 120](#), 43 p., 1 pl., scale 1:50,000
- Perkins, C., 1998, [Understanding the Natural and Cultural Significance of Powers Bluff: Implications for Park Interpretation and Design](#); University Of Wisconsin-Stevens Point, 129 p.

Geology in the News

Geology in the News

WGNHS Year in Review

Check out the Wisconsin Geological and Natural History Survey [2025 Year in Review](#). It summarizes the main geological mapping projects, groundwater studies, data preservation efforts, and outreach activities during the past year, plus you can learn about how the WGNHS serves the residents of Wisconsin by delivering timely and accurate earth-science information.

Geology of Jewelry

If you are someone like me who has always viewed a jewelry store as just another outcrop, only cleaner, this webinar is for you. It is hosted by AAPG's Women's Network, the Association for Women Geoscientists Lone Star Chapter, and the Midwest GeoSciences Group, the same collaborators who also brought us *The Geology of Coffee* and *The Geology of Surfing*. Go to the AAPG Women's Network YouTube channel for the entire *Geology Of...* series.

<https://www.youtube.com/@aapg womens network2259/playlists>

The Groundwater Project – Making Groundwater Understandable

The Groundwater Project has its roots in 2015 after the University of Calgary initiated the transfer of rights for the famous textbook *Groundwater* (Freeze & Cherry, 1979) back to their authors. To advance the state of the science worldwide, the authors then agreed to provide free downloads of the original text and translations through the Hydrogeologists Without Borders website.

This initiative provided the inspiration for the much larger Groundwater Project aimed at updating and expanding the coverage of the original book. The Groundwater Project was initiated in 2017 and registered in 2019 to cover nearly all aspects of groundwater relevant to both developed and developing countries. It is an excellent, and free, resource for classic and new texts on hydrogeology, plus numerous interactive educational tools.

<https://gw-project.org/>

"A Paleontologist's Dream"

Determining the age of rocks that contain fossils by directly dating preserved dinosaur eggshells.

<https://scitechdaily.com/a-paleontologists-dream-the-breakthrough-that-changes-how-we-date-dinosaurs/>

Another theory on the formation of the Grand Canyon. . .
[but not everyone agrees.](#)

AIPG National Conference

Duluth, MN

Technical sessions
and field trips

AIPG 63rd National Annual Conference August 29- September 1, 2026

We're excited to welcome you to the 63rd AIPG Annual Conference, set along the breathtaking shores of Gichigami (Lake Superior). This year's event offers an exceptional blend of field experiences, opportunities to engage and connect with fellow geoscience professionals and industry experts, and a full lineup of expert-led technical sessions designed for geoscientists, students, and professionals across the industry. Details can be found on the [AIPG web page](#).



The field trips offered will be led by people who have been working in the area for years and will provide valuable insights into the geology of the ore deposits in Minnesota. Get an introduction to classic outcrops of Minnesota, learn the latest interpretations on the formation of the Duluth Complex, or go for a bike ride on the Munger Trail (*note from the Newsletter Editor: I have been on field trips with these experts, and I know you will not be disappointed*).

The Conference Planning Committee will be announcing various scholarship opportunities for student and early career professional (ECP) members. Stay tuned for more information – see you in Duluth!