

Fall Newsletter

2026

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Wisconsin Section - AIPG



President's Message

As we head into the fall season, with kids back to school and university students back to classes, it's a good time to consider our continuing education as professionals.

As you know, Wisconsin recently began requiring professional geologists to complete approved continuing education hours during each license biennium. Our Wisconsin-AIPG Section annual meeting on October 21st at noon will highlight this requirement with a presentation by Trevor Nobile, a member of the state geology board. He will share background on the rules as well as discuss what continuing education opportunities can be used for credit. Look for the link to the meeting in this newsletter.

Looking forward to the annual meeting, I encourage you to take the time to attend. It is a small investment in your commitment to growing your skills as a geologist, not just for the legal license requirements, but to apply your craft to the needs of our society and world.

Mike

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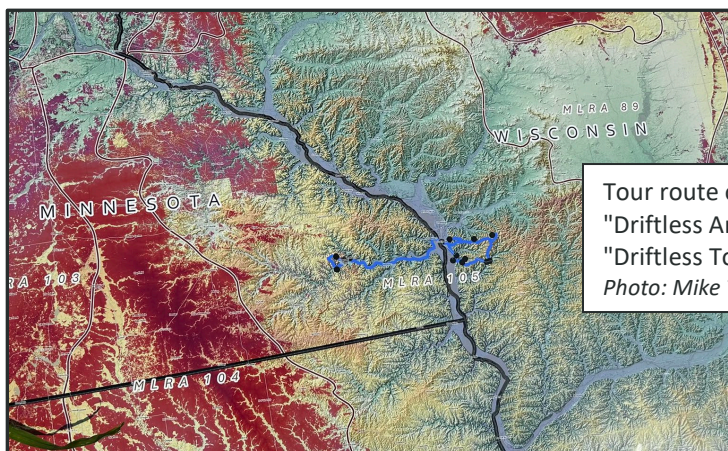
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Field Trips and Continuing Education Just Go Together

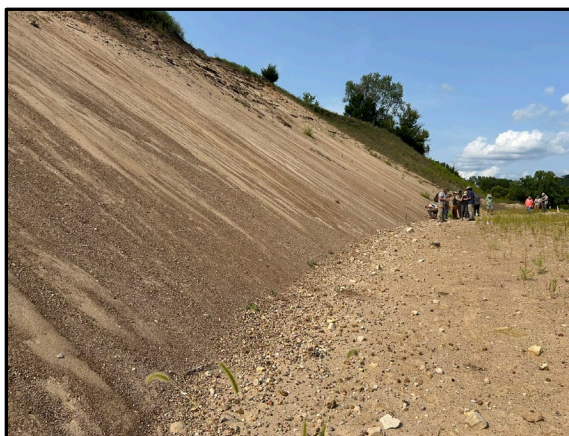
Micheal Travis – CPG 12347

Although our formal education and initial experience provide us with the foundation to practice as professional geologists, continuing education deepens our understanding of our trade and broadens our network of colleagues who can help us solve day-to-day issues in our specific area of practice. I had two such opportunities this summer.

In early August I attended the Wisconsin Society of Professional Soil Scientists (WSPSS) joint field trip with our Minnesota colleagues. Over two days we explored the soils and geology of the Driftless Region of Wisconsin and the similar, but distinctly different, region across the river in Minnesota.



Tour route of the Wisconsin "Driftless Area" and Minnesota "Driftless Topography."
Photo: Mike Travis



Above: Glacial sand deposit in the Minnesota Driftless Topography. Right: Loess capped residuum over limestone bedrock in the Wisconsin Driftless Region.

Photos: Mike Travis



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Field Trips and Continuing Education (cont.)

Then, at the end of August I attended the AIPG National Conference in Duluth. The conference began with meetings with the national executive committee and representatives from chapters across the country. I was impressed with the dedication of our national leaders and challenged by the activities of many of the state sections. I came away with ideas of how your Wisconsin section can better serve the local membership and promote our profession. Abstracts to all the presentations can be accessed online: <https://aipg.org/page/2026NationalConference>

Field trips are always a highlight of the AIPG National Conference, and this year was no exception. I was able to participate in three field trips (one of which I helped lead). We explored the Precambrian geology of northern Minnesota through the "Classic Outcrops" tour. Dean Peterson and George Hudak were exceptional leaders as they described the ancient events that led to some of the most important mineral reserves in the world. On the last day of the conference, around 30 geologists mounted bikes and rode 26 miles to explore the Geology of the Munger Trail. Alex Steiner and George Hudak provided explanations of the geology on stops along the bike path from Duluth to Jay Cooke State Park. The third outing was a canoe trip on Pokegama River/Bay, a part of the St. Louis River estuary, led by Chris Kelm, me, and Lake Superior Estuarine Research staff. Surrounded by wild rice, we found ourselves paddling downstream against a seiche, as high pressure on the northern portion of Lake Superior pushed water into the estuary, which caused the river to flow backward!



BOTH THE WSPPS SOIL TOUR AND THE AIPG CONFERENCE WERE EXCEPTIONAL EXPERIENCES THAT HELPED ME CONTEXTUALIZE THE SOIL AND GEOLOGY THAT I ENCOUNTER IN MY WORK, DEEPENED MY UNDERSTANDING OF THE EFFECT OF SPECIFIC GEOLOGICAL PROCESSES, AND WILL HELP INFORM PROJECT SPECIFIC DECISIONS THAT I MAKE IN MY DAILY WORK. THE NETWORKING OPPORTUNITIES WERE INVALUABLE AS I ENJOYED CONNECTING WITH OTHER SOIL SCIENTISTS AND GEOLOGISTS THROUGH MUTUAL INTERESTS, BOTH PERSONAL AND PROFESSIONAL.

Above: Canoe trip on Pokegama Bay, St. Louis River Estuary of Lake Superior. Below: A stop at the Soudan banded iron formation with tour leaders Dean Peterson and George Hudak.

Photos: Mike Travis

Regulatory Updates

Legislative and Regulatory Update

Lanette Altenbach

Environmental

Wisconsin Governor signed Acts 200 and 201 into law providing funding for and guidelines for upcoming rules for grants to address PFAS in communities.

The Wisconsin Department of Natural Resources will administer grants to provide the PFAS funding and is in the process of writing administrative rules to govern how the grants will be awarded and administered.

The grants will be:

- 1) PFAS Community Grants to test or address PFAS in several drinking water situations.
 - a. Testing for PFAS – private wells; public or private day care, elementary and secondary schools; high-capacity irrigation wells; and wastewater, leachate and biosolids associated with a municipal-owned landfill
 - b. Installing treatment on water systems to remove PFAS
- 2) Airports and Industrial processors

EPA has proposed to provide states with funding to address PFAS, but no timeline for when this will happen. And the EPA has proposed a two-year extension of the time to comply with MDLs for PFOS and PFOA by indicating that this is ultimately in the public interest to keep water treatment costs low.

Mining and Petroleum Sectors have likely seen executive orders and other proposed rule changes. One proposed rule is to shorten the time to approve mineral rights to parties for exploration. Other executive orders speak to mineral ownership as well as import and export. However, none of these current rules affect the geology or the actual mineral associations found in nature.

Professional Geologists

Professional Geologist licensing requires a bachelor's degree in geology or related geoscience, passing the ASBOG FG and PG examinations, and accumulating professional experience. Approximately 31 states require licensure requirements for experience years, continuing education, and state-specific exams vary by jurisdiction. Twelve of the licensure states have continuing education requirements ranging from 8 to 30 continuing education credit hours.

Wisconsin Section- AIPG Annual Meeting and webinar October 21st

Learn about new education
requirements for Wisconsin
professional geologists

Wisconsin Section-AIPG Annual Meeting

Virtual meeting – Thursday, October 21st, 12:00-1:30 pm

Please join us for a brief business meeting, followed by a presentation by Trevor Nobile on the new continuing education requirements for Wisconsin professional geologists.

The presentation will discuss the history behind these changes and the rules revision process, along with what the new rules mean. Part of the “what it is and what it’s not” section will dissect the code to discuss expectations and standards. The changes are relatively straightforward and designed to be flexible. Trevor will also be discussing the general workings of the Wisconsin Examining Board of Professional Geologists, Hydrologists, and Soil Scientists, how to present new recommendations and considerations to the board, and the process to apply for a position on the board.

Trevor Nobile is a licensed professional geologist in Wisconsin and Florida with 20 years of combined government and private sector experience in both technical and leadership roles. After starting his career in environmental consulting, he transitioned to public service. He is currently the Deputy Director for the Remediation & Redevelopment Program at the Wisconsin Department of Natural Resources. Trevor is also the Chair of the Wisconsin Examining Board of Professional Geologists, Hydrologists, and Soil Scientists, being first appointed in 2021. He earned a bachelor’s degree from the University of Wisconsin-Stevens Point and a master’s degree from Florida Atlantic University.

If you are interested in learning more, join in on October 21st and bring any questions you may have on these new requirements.

Zoom Meeting

<https://us06web.zoom.us/j/81449125921?pwd=sABco3pUbgaK7UTuRSK6XthsvsSNgS.1>

Meeting ID: 814 4912 5921

Passcode: 952935

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.

Jackson County – Transition Zones

Paula Leier-Engelhardt

Transition zones are places of tension.

Such areas mark where changes begin to occur between well-recognized faunal communities, or soil types, and yes, rock types. Not a sharp, delineated line, rather think of it as an area you walk through, thinking, "OK, changes are occurring. . .still happening. . .and now it's definitely different". Parts of Wood, Marathon, Jackson, Clark, Eau Claire, Chippewa, Dunn, Barron, and Polk counties fall into what I consider Wisconsin's geologic transition zone. These areas were not part of the Pleistocene Wisconsin glaciation (35,000-11,000 years ago), but there is evidence of Illinoian and even pre-Illinoian glaciation. And then let's talk about bedrock. The outcrops of Cambrian and Ordovician sandstones explain themselves. . . and then you find iron formation (?). Here's a granite - is this part of the Wolf River complex, or is it Penokean? And where exactly is the Archean Marshfield Terrane? I was going to need an expert for Jackson County, and luckily, I found a guy.

In October 2025 the combined 77th Tri-State Field Conference and 38th Great Lakes SEPM Field Conference was held in Wisconsin, with the first day focusing on Jackson County. We were led by Dr. David Malone, on the faculty at Illinois State University, who also has deep family ties to the Black River Falls area, the home base for the conference.

Perfect. Looking forward to hearing the latest interpretations on the origins of these formations along with stories of childhood misadventures!

Driving from the eastern part of the state on Highway 29, then going cross-country to Black River Falls, the hardwoods gradually decrease to be replaced by pine barrens. The land begins to feel not just dry, but almost like it's been *toasted*. The soils have their origin in the eroded Cambrian sandstones and glacial sands. In contrast, where these somewhat thin sandy soils were developed in low spots on top of relatively impermeable rock, peat bogs formed interspersed amongst the pine forest. (A bit of trivia; Jackson County is the third largest producer of cranberries in Wisconsin with almost 16% of the total state's production in 2025 and between 5,000 and 7,000 acres of cranberry bogs). James Hutton said, "Soil is the living bridge between rock and life", and in this transition zone that is Jackson County you begin to see what he meant.

As I discovered in Eau Claire County, many times the accessible outcrops of the oldest bedrock were to be found along rivers and streams, which meant we would be spending time along the Black River. The river was named La Riviere Noire by French explorers, after the dark color of its waters due to the many peat bogs it flows through. The city of Black River Falls was founded in the early 1800s as a lumber town. A dam was built near the falls and powered the lumber

Oh for sure, that's Penokean. . .

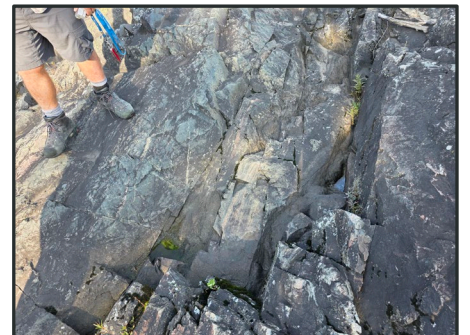
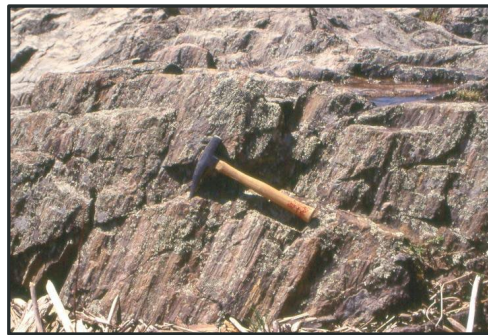
mills and the town's growth. In 1911, this dam and the falls itself were destroyed in a flood. The dam was rebuilt, and our first stop was just on the outskirts of the town below the dam.

The outcrop along the river was granite, or monzogranite to be precise. It was remarkably homogenous, showed no fabric whatsoever, and reminded me of the red granite in Montello. This stuff practically screamed, "I'm Penokean!" Sure enough, analyses of zircons from this granite yield an age of 1850 Ma. As there is no deformation apparent, the granite was believed to have been emplaced when the Marshfield Terrane accreted to the Pembine-Wausau terrane.



Close up of the monzogranite (*from the Tri-State Field Guide, 2025*) and our intrepid group scrambling over the outcrop (*Photo - Paula Leier-Engelhardt*).

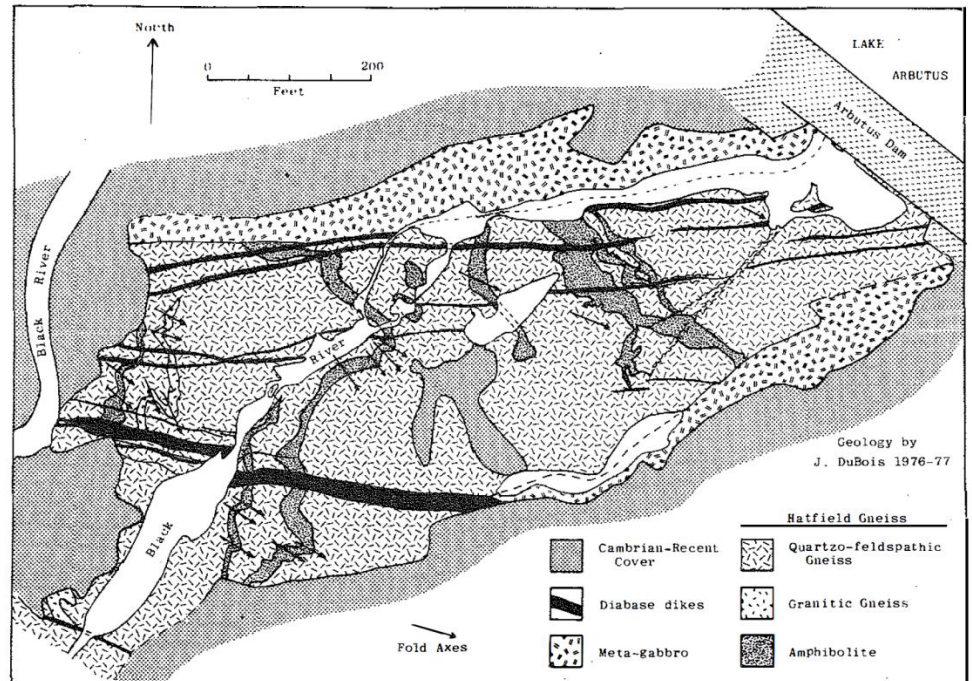
About 11 miles northeast of Black River Falls was our next stop at Lake Arbutus Dam on the Black River. Below the dam is the largest Archean exposure in Wisconsin (finally, standing on the Marshfield Terrane!). The principal lithology is the Hatfield Gneiss, a complexly interlayered sequence of granitic to tonalitic gneiss with concordant layers of amphibolite. This succession is interpreted to have formed from an interlayered sequence of volcanic flows, pyroclastic rocks, and sills. This sequence has been complexly folded and then intruded by gabbro (seen on the north and south ends of the outcrop). Both the Hatfield Gneiss and the gabbro are Archean in age, with the gabbro being about 20 million years younger than the Hatfield Gneiss. As the deformational fabric of the gneiss does not pervade the gabbro, it suggests the gabbro was emplaced after the Archean deformation concluded.



Left: Hatfield Gneiss (*from the Tri-State Field Guide, 2025*).
Right: Gabbro intruding the gneiss (*Photo: Paula Leier-Engelhardt*).

*Brings back memories of
field camp. . .*

To further complicate things, the gneiss has been crosscut by a series of diabase dikes of unknown age (potentially latest Penokean or younger?). The dikes have been faulted, and it was fascinating to observe the brittle faulting features overprinting the ductile features in the gneiss and seeing the changes along strike. Structurally, this outcrop is every bit as interesting as the better-known outcrops of the Baraboo Hills. Instructors, bring your field classes here!



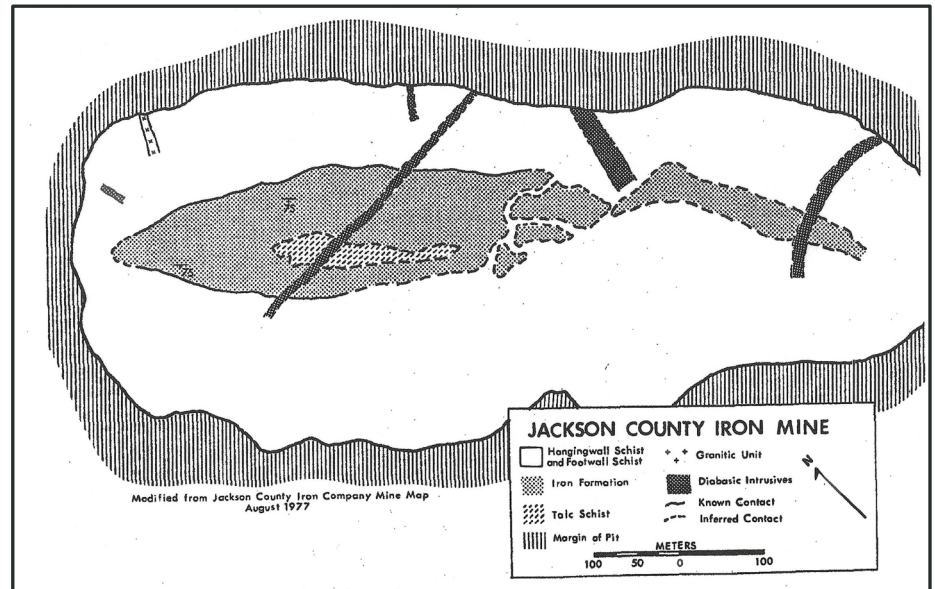
Geologic map of the Hatfield Gneiss at Lake Arbutus Dam. *From Brown et al. (1983)*

Our next stop was Wazee Lake County Park, formerly the Jackson County Iron Mine. Wazee Lake (wazee is taken from the Ho-Chunk language, meaning "tall pine") is where the open pit of the mine was located, and is the deepest lake in Wisconsin with a maximum depth of 355 feet. A lovely white sand beach has been constructed (thank you again, Cambrian sandstones) and the lake has become a prime scuba diving destination because of its deep, clear water. Visibility averages 30-40 feet in the summer, and a diver can view the remains of mining operations such as the haul roads.

Iron formation outcrops occur as low, isolated mounds in Jackson County and are part of an east-west trending magnetic anomaly several miles long. The Jackson County iron deposits have been known since 1839, nine years before Wisconsin became a state. The first, and short-lived, blast furnace was constructed along the Black River in 1856. New York Iron Company constructed their own blast furnace in 1882, but competition from the richer, higher-grade resources in Minnesota and Michigan made maintaining production difficult. In 1939, Inland Steel commenced additional exploration, which was put on hold until the 1960s, when the advances in low grade (taconite) technologies made mining economically feasible here. Construction of the Jackson County mine began in 1967, and the first pellets were shipped by rail in November 1969 to the steel mills near Gary, Indiana. The mine closed in 1983 because of the crash

in domestic steel markets. Pumps removed 800 gallons of water a minute from the quarry while in operation. It didn't take long for it to fill.

As the mine is now flooded, the geologic map available of the area was produced during mining operations.



General geologic map of the Jackson County Iron Mine while in operation, circa 1980.
From Brown et al. (1983).

The metasedimentary rocks forming the iron formation have been isoclinally folded and plunge vertically. The principal ore mineral is magnetite, and through deep weathering, oxidized to hematite. A sheared and recrystallized schist surrounds the iron formation, and a zone of talc schist within the iron formation may have been structurally emplaced. Seeing this in outcrop is no longer possible, and that is a little sad. However, the scavenger hunt of exploring the spoil piles can stem one's disappointment



Sample of the iron formation
at one of the spoil piles.

(Photo: Paula Leier-Engelhardt)

Who doesn't love an iron formation!?

This iron formation had always been thought to be Archean in age, but recent zircon analyses indicate an age of early Paleoproterozoic. In fact, the detrital zircon data suggests their source area has a Wyoming Archean provenance. This would be compatible with the theory of the Marshfield Terrane rifting from the Wyoming province during the early Paleoproterozoic. The Wazee iron formation and associated strata were the continental margin succession deposited during this rifting event. The Marshfield terrane collided with the Superior province during the Penokean orogeny, during which these continental margin strata were then deformed, metamorphosed, and intruded by younger tonalitic rocks.

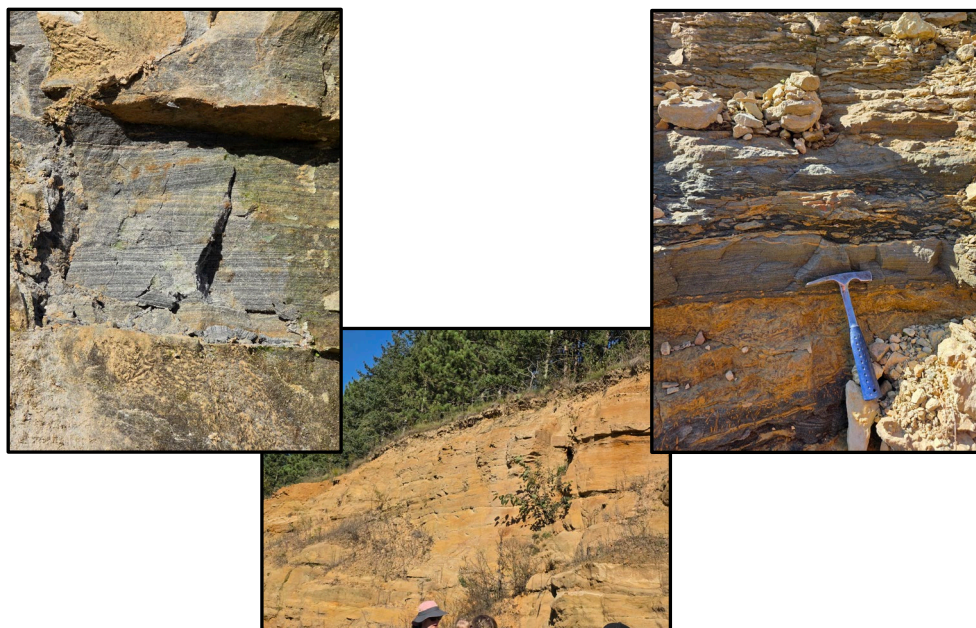
The final stop of the day was the abandoned Battle Point Road quartzite quarry, where it was hotter than blazes, nowhere near any cooling body of water like we had gotten used to, and truly in the middle of nowhere. Honestly, how did anyone find this? It's like this outcrop went into the witness protection program.

The outcrop was also some of the most beat up rock I have ever seen - a pink, brecciated quartzite shot full of white quartz veins and heavily silicified. It is believed to be equivalent to the lower part of the Baraboo Formation, and zircon data indicate the strata was derived from underlying proximal basement. Trying to observe any kind of primary sedimentary features required a lot of squinting, fuzzing of eyes, and wishful thinking. Perhaps this outcrop should just be left in peace. . .



Silicified and brecciated
Baraboo interval quartzite.
Seems appropriate that it is
found on Battle Point Road
From Tri-State Field Guide, 2025

The second day of the field trip found us in near-by Trempealeau County looking at Cambrian and Ordovician sandstones and carbonates. Viewing these outcrops seem like visiting old friends. The glauconitic sandstones and interbedded shales of the Eau Claire Formation. . . the pure quartz sandstones of the Wonewoc Formation prized for industrial sand use. . . my favorite outcrop of the flat pebble conglomerates in the Lone Rock Formation.



L to R: Eau Claire Formation, Wonewoc Formation, Lone Rock Formation.
(Photos: Paula Leier-Engelhardt)

Episodes of mountain building, bracketed by long periods of erosion.
Wearing down.
Creation of the new.
Such are transitions. . .

References:

[Brown, B.A. C. \(Ed.\), 1983](#), Three Billion Years of Geology: Archean, Proterozoic, Paleozoic and Pleistocene Geology of the Black River Valley. Prepared for 47th Tri-State Geological Field Conference: Wisconsin Geologic and Natural History Survey. Field Trip Guidebook No. 9.

[Malone, D. \(Ed.\), 2025](#), 77th annual Tri-State / 38th Annual Great Lakes Section - SEPM Field Conference Field Trip Guidebook.

Geology in the News

Geology in the News

Cretaceous turd-ducken

A fossil feather from the age of dinosaurs may explain why only some birds survived. [Who had this on their bingo card for 2026](#)

What's the oldest river in the world?

How do you date such a moving thing? [The answer is not an easy one.](#)

Stones and Bones

National Geographic has a new weekly newsletter [Stones and Bones](#), a great summary of the latest in popular geologic news – and you don't need a subscription to National Geographic! In the September 10, 2026, edition: Can you correctly draw a T.rex?

So you can't draw one. . .

[But you could walk in its tracks.](#) Read about the first trackway attributed to a T.rex, found in the Hell Creek Formation of North Dakota.

Researchers Retrieve the Deepest-Ever Rock Core From Beneath Antarctica's Ice
[The 748-foot-long sediment core](#) contains a record of roughly the past 23 million years, including periods when the planet's surface temperature was hotter than it is today.

The long-lost chirps of Jurassic insects

With artificial intelligence and careful modeling of fossilized wings, researchers reproduced how some extinct, katydid-like insects [might have made noise.](#)

A Meteorite Crashed Into a New Jersey Home in 2024

Scientists now say it contains some of the [building blocks of life.](#)

AIPG Member Benefits

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- **Forestry Suppliers**
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- **UPS®**: Save up to 65% off Air and 42% off Ground shipments and receive continued FREE UPS Smart Pickup® Service
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 - Phone: 800-373-9697

Employment and Recruiting

- Free resume posting
- Job Listings posted on National website and many section websites

Student & ECP Opportunities

- **Free resume posting & reviewing**
 - Resume reviews are done by a 3rd party company
 - Most **mentors** would be happy to review a resume