

# Geologically Speaking

A Michigan Section AIPG Publication

## Inside This Issue:

CMU & WSU Student Chapter News

MI AIPG 2023 Golf Outing

Regulatory Roundup!

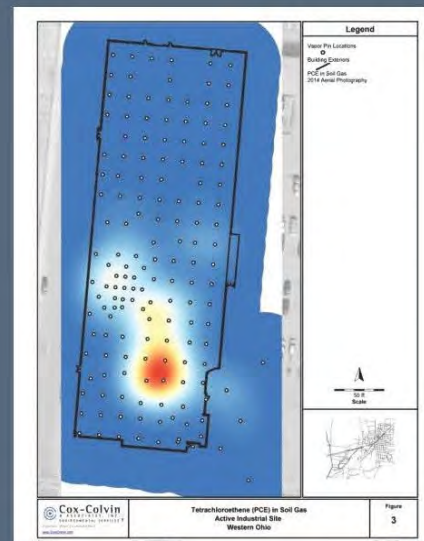
Geology in Michigan—Mini Field Guide: Sturgeon  
River Gorge Falls

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Amy Hoeksema, CPG

Consumers Energy

Tel. (517) 740-2710

[amy.hoeksema@cmsenergy.com](mailto:amy.hoeksema@cmsenergy.com)



## VICE PRESIDENT

Ashley Miller, ECP

EGLE

Tel. (906) 235-7435

[millera65@michigan.gov](mailto:millera65@michigan.gov)



## TREASURER

Jason Lagowski, CPG

Brown and Caldwell

Tel. (517) 304-3910

[jlagowski@brwncald.com](mailto:jlagowski@brwncald.com)



## SECRETARY

Ashton Bullock, ECP

Rocket Mortgage

Tel. (734) 260-4179

[abull426@gmail.com](mailto:abull426@gmail.com)



## ECP LIAISON

Sienna Meekhof, ECP

SME

Tel. (616) 970-0914

[sienna.meekhof@sme-usa.com](mailto:sienna.meekhof@sme-usa.com)



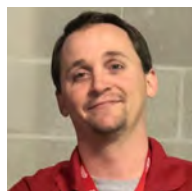
## PAST PRESIDENT

Kalan Briggs, MEM

EGLE

Tel. (517) 930-5227

[briggsk2@michigan.gov](mailto:briggsk2@michigan.gov)



## NEWSLETTER EDITOR

Adam Heft, CPG

WSP USA

Tel. (517) 886-7400

[adam.heft@wsp.com](mailto:adam.heft@wsp.com)



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**Front Cover:** Jacobsville Sandstone outcrop at Presque Isle Park in Marquette. Photo by Adam Heft, 2010. The Jacobsville Sandstone exhibits reduction zones, where the typical reddish color has been leached to white. In this case, the reduction zone, approximately three feet wide, is centered on a joint in the rock and extends underwater into Lake Superior.

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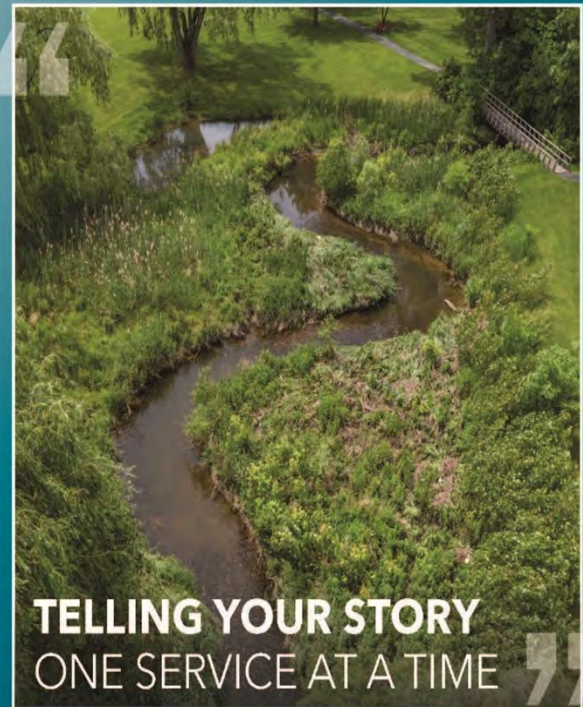
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## Geology Crossword #15 Solution

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
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| N |   | T |   |   |   |   | H |   |   |   | I |   |   | P | N |   |   |   |   |
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| D |   |   |   |   |   |   | C |   | N |   | E |   |   | B | L | U | E | B | E |
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

## Across

1. A lake, town, and Formation
6. Copper bearing sedimentary rock
8. Rises from its own ashes
9. A precipice
11. A golden lasso
12. A foreign \_\_\_\_\_
13. Michigan's only active iron mine
15. Two under par
18. A type of cement
24. Growing ocean
25. Hill of thrills

## Down

1. Home of the Vikings
2. To neither side
3. It struck back in 1980
4. "The fifth"
5. Our flag stands for it
7. A winner
10. First US postmaster general
14. A brand of butter
16. Kent County gypsum producer
17. Michigan glutton
19. Proud to be one
20. First state
21. To look after, not stew about
22. Cheap Monopoly property
23. Hancock ski hill

# From the President's Desk

During this season of hope, gratitude, remembrance and renewal, there is a leadership message for all of us – *Focus on the moment!* Too often, we focus on future promises, commitments, resolutions, or intentions without pausing to express our appreciation and love for others in the moment. I was reminded of this when I was at a cousin's funeral last fall. Tim had brain surgery a year ago and miraculously made it through. The funeral should have been a somber occasion, but there were so many stories of how he fully lived his life, that it was more of a joyful celebration especially since his family was able to be with him for another year. I heard of their adventures and saw a picture of my cousin on a giant jack-a-lope that I absolutely must find!! Afterwards, I reflected on the fact that I fully intended to go see him, but other commitments took priority and unfortunately, he passed before I could tell him how much I loved and appreciated him. That nagging thought of whether he knew how much he was loved and admired really got me thinking that there is no time like the present moment to speak up. "Silent gratitude isn't much to anyone" *Gertrude Stein*.

It may be too late to go back to the past and say what was left unsaid or to do what was left undone, but we can start today remembering to take a moment to appreciate those who are making a difference right now. Who is that teacher or mentor that makes an impact on your life or the friend that is always there for you? Who inspires you to be better or that helps you with important decisions? Yes, there will be promotions, advancements, more responsibility, goals to be met, and rocks to find. But take this moment to recognize and remember those that matter for who they are not just simply what they do.

I like this quote by Margaret Cousins: "Appreciation can change a day, even change a life. Your willingness to put it into words is all that is necessary". And so, I encour-



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age you to use your words, open your heart and extend a special thanks "in the moment" when you come across those who give of themselves to open their hearts and ears to listen. All those colleagues, family, friends, and clients who touch our lives with inspiration, aspiration, kindness, and care – take a moment and change their day and possibly their life, with your words of recognition.

From my family to yours, may you all have a happy, healthy, successful New Year! I am very excited to be back for another term as your 2024 AIPG Michigan Section President. Reach out anytime – I would love to hear from you and look forward to seeing you at our meetings!

*Amy*

## Support our Sponsors!

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# Secretary's Report

*The Michigan section AIPG Executive Committee meets monthly on the first Friday with a few deviations due to schedules. During the monthly one-hour meetings, Executive Committee board members have discussed and planned various topics, highlighted by month below:*

2023 is now behind us, and we are looking forward to a successful 2024 for the Section. The 2024 Executive Committee will have a couple of new members with Ashton Bullock joining as Secretary and Garrett Link as the pending ECP representative. Congratulations to both. The Section enters the year in a strong financial position and with great student participation throughout the year. Student membership is the future of the Section. I was fortunate to be able to attend the Annual Meeting this year and was impressed by the number of students present and the quality of the posters they presented. It was also impressive to acknowledge the members that have been with the Section for more than 20 years and in some cases 30+. Having served the Section previously and again for the next four years, I encourage all members to be willing to make a time commitment in helping lead the Section, so consider running for office in 2025. The Section has a lot to be proud of over the years with multiple members being elected to the National

## Section Website Reminders

The Michigan Section has created a database of geologic photographs on our website. Please submit photographs that you are willing to share to Adam Heft at [adam.heft@wsp.com](mailto:adam.heft@wsp.com). Don't forget to include your name and a short explanation of what the photograph depicts. The photographs will be uploaded to the website periodically.

If you have suggestions on other items that should be included on the History page, please let a member of the Section Executive Committee know.

Executive Committee. Our own Sara Pearson is the President Elect and will serve in 2024-26. Adam Heft is the National Editor.

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# Post-COVID Geology Field Trips



Field trips are integral to a geology student's academic career. They allow students to go out and see the geologic features and formations that they have been studying in classrooms for weeks on end. Google is a wonderful resource for students, but nothing online will ever compare to the real-life majesty of billion-year-old mountains. To stand on

honest, hearing geology was a major that let me go on field trips was, at first, a very important part of the reason I signed the major. I wanted to do more than just sit in my room and read textbooks. I wanted to do something. Anything.

The COVID-19 pandemic stopped all trips from happening, and I wasn't able to go on any until I was already



Photo 1: CMU's Field Methods class lead by Dr. Mona Sirbescu (3rd in on the right) at Pictured Rocks. October 5th, 2023. Photo credit: Taylor Slyker.

the shoulders of gods and look out over the land and really see with your eyes the passage of millions of years in an instant. But what happens then when a global pandemic shuts this whole experience down? What then happens to the young geologist that is robbed of the chance to experience real-world geology?

I was a freshman at Central Michigan University when we first went into lockdown. I remember being sent home for spring break and being told by school officials to not return for the rest of the school year. I fell into a deep depression for most of the following school year, only leaving my dorm room to find food, which was usually chicken nuggets and fries. It wasn't until I officially became a geology student in the middle of my sophomore year that my quality of life finally started to improve. To be perfectly

a senior. This meant that the first time I got the opportunity to go on a geology field trip was last fall. A class led by Dr. Mona Sirbescu was traveling to the Upper Peninsula of Michigan for four days and three nights. I had taken the class the year prior when COVID restrictions were still in place, so I wasn't able to leave the classroom for the entirety of the semester. When I heard about the trip, I knew right away I needed to find some way join. That was when I heard Dr. Sirbescu was looking for drivers.

As of today, I have been a driver on three separate geology field trips, starting with that first trip to the UP. Every single one was an unbelievable adventure that has been extremely beneficial to my academic career so far. Recently, I joined Dr. Sirbescu for a second time on the trip up north as a driver. We left from Mt. Pleasant on



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Photo 2: CMU Student Joy Youngblood walking on a large pile of iron ore waste from the Republic Mine. Photo credit: Taylor Slyker.



Photo 3: The view from atop Jasper Knob in Ishpeming, MI : Taylor Slyker.

Thursday, October 5th early in the morning and headed for the Mackinac Bridge. The trip took us to so many amazing geologic hotspots such as Pictured Rocks Lakeshore, the Black Cliffs of Marquette, and Jasper

Knob. For three days, we visited old iron, diamond, and gold mines and learned about not only the geologic history of the region, but the economic importance of the geology.

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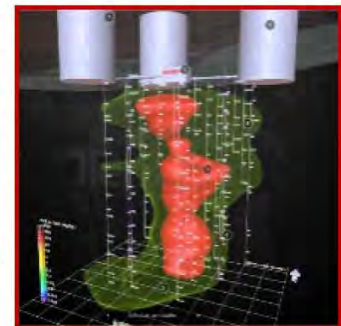
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I still am in awe of some of the geologic features I got to see not once, but twice, and all because I took my education into my own hands. If I never asked Dr. Sirbescu if

they need help, even just to drive. We as young geologists deserve an education filled with hands-on geologic experiences like those before us. We deserve the same



Photo 4: Geology students and Dr. Mona Sirbescu (front) studying a large outcrop outside of Ishpeming, MI: Taylor Slyker.

I could be a driver for her trip, I would never have had the amazing experiences I have had in the past two years. I will be forever grateful to Dr. Sirbescu for allowing me to join her and her classes. I urge every student who had their opportunity to attend geology field trips as an undergraduate taken away by the pandemic to reach out to professors. Ask if they have any trips coming up, and ask if

level of education as the geologists before us, and sometimes that comes through volunteering to drive a bus of undergraduate geology students to the Upper Peninsula of Michigan.

Article written by Taylor Slyker

## Students - Reminder

Don't Forget: Each Student Chapter must submit two articles for publication in *Geologically Speaking* each year to qualify for Section funding.

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# Where in Michigan?

The October 2023 edition of *Geologically Speaking* featured a photograph Ocqueoc Falls in Presque Isle Township. The rock is the Middle Devonian Rockport Quarry Limestone. Kevin Ringwelski correctly identified the photograph.

This edition of *Geologically Speaking* features a new photograph **at right** - not the photo on the cover page. The first person to correctly identify what the photograph depicts (feature name, location, formation, and age) will win AIPG swag! Submit your entry via email to the editor; only one per person per issue please.

Don't forget to check out the feature article "Geology in Michigan" in this issue (as well as the last several editions) that presents a geologic feature of interest as a mini field guide. One of the best parts about being a geologist is field trips, and we are hoping that in your travels around the state or country you include these featured spots as a stop. Why not incorporate them into a family vacation or bring friends who may not be geologists and share these locations that make Michigan unique? We hope you enjoy reading about it, and more importantly, go see it in person! We invite you to share unique geologic features that you know about and submit a "mini field guide" to share with our members in future editions.



## Invitation to Our Members!

### Do you have a case study to share?

The Michigan Section AIPG promotes knowledge sharing and would like to feature case studies from projects where others may benefit from successes as well as lessons learned. We feel as professionals that learning from each other is a great opportunity that AIPG offers our members. AIPG offers connection with other professionals and their experiences in the work we do every day. This case study represents what we would like to offer more to our members, not only as a way to solve problems, but unify us as professional geologists. Additionally, do you have a suggestion for other types of information to share that would be of interest to our membership?

Please send your case studies and suggestions for future publication in upcoming editions of *Geologically Speaking* to the Editor.

## Update Your Information!

Please be sure that you continue to receive the Section's *Geologically Speaking* publication and other announcements. Submit an updated e-mail address to Adam Heft at [adam.heft@wsp.com](mailto:adam.heft@wsp.com). If you move or change places of employment, don't forget to send your new contact information to both the Section and to National. If you are not receiving announcements directly from the Editor, it is because your email address is not up to date with the Michigan Section or because your IT group may classify it as junk or a bulk sending.

Please help the Editor by making sure that your email address doesn't bounce when the next announcement is sent. And be sure to cc Dorothy Combs, National AIPG Membership Director at [aipg@aipg.org](mailto:aipg@aipg.org) when you update your contact information. Thank you!

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# AIPG Student Chapter at Wayne State University—Fall 2023 Report



Wayne State University's AIPG Student Chapter has grown greatly over the last year. This has allowed us to take the solid foundation that has been built and execute on what the group does best. Such as increasing member participation, increasing student numbers, creating fun social events, and creating fund new ways to fundraise. Our primary goal this year was to provide exposure to the more professional side of the field that is not always present in the classroom. Such as inviting guest speakers from the field, like Charles Ramsay, to come visit and talk with us.

## Bake Sales and Cider Donuts

One of our first initiatives as an organization this year was to find ways to increase awareness of our group on campus and within our department. We quickly agreed that we needed to continue our bake sales that were such a hit last year. Baked goods were sold alongside our mineral collection, some of which we had collected from our group's trips, such as our trip to Yellowstone Trip last May. The main goal of these Bake Sales is not to fundraise, but to increase awareness. A large number of people have engaged with us here and have subsequently joined our Chapter's monthly meetings.



Photo 1: AIPG members enjoying cider and donuts at Yates Cider Mill. Photo provided by Paul Allen.

throughout the year. Our Chapter met at Yates Cider Mill in Macomb County one beautiful Saturday afternoon for cider and donuts. The cider mill is absolutely gorgeous, especially with the early fall colors, and we were all excited to spend the day exploring. Yates is always busy, and that Saturday was no exception. Countless families and couples were enjoying the day as colonial American reenactors played period instruments for the crowd. Although a more socially focused event, it was refreshing to see everyone outside of school simply enjoying the day without the backdrop of something more academic.

## Guest Speaker, Charles Ramsay!

We had the amazing opportunity to host a guest speaker on Oct 6th here at Wayne State. The guest speaker was Charles Ramsay of Envirostat, Inc. He is a leading figure in the field of Environmental Sampling. He had been the guest speaker at the AIPG meeting at Schoolcraft College last spring and was so impressed with our Chapter that he wanted to visit. We were stoked to have him. It was a more informal event, where each student had the opportunity to ask him questions about his field of work. Every student present learned a lot more about how the field of remediation works in practice rather than in theory. He gave us a crash course on his methodology, while prefacing the field is not perfect, and that we should always be pushing to improve it.



Photo 2: Guest Speaker Chuck Ramsey and WSU Chapter President Paul Allen comparing hair and shirt styles. Photo provided by Paul Allen.

We also made an effort to hold more social events

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### Fossil Hunt! Rockport MI

Wayne State AIPG members spent a weekend at the Rockport Quarry in Alpena, MI gathering various Devonian period fossils and rocks with interesting formations. This event began as a trip conducted the year prior and the group was very eager to return to Alpena with new knowledge of the area and the types of specimens we would be able to find there. Coordinating amongst ourselves, we were able to establish carpooling, lodging, and provide equipment useful for our day in the field. Members were able to collect samples until sunset, at which point we departed for dinner and later returned for stargazing, as the site was also an established dark sky preserve. Overall, the group had enjoyed collecting over 100 pounds of samples for the future Chapter fundraisers as well as personal collections, and members are excited for future field days and overnight trips.



Photo 3: AIPG members on a weekend trip fossil hunting in Alpena, MI. Photo provided by Paul Allen.

### Geology Bike Tour

Professor Scott Burdick organized a geologic bike tour of Detroit with the AIPG helping get students to come for the ride. We made several stops, including an art installation near the McGregor Memorial Conference Center on WSU's campus. Here one can find all three of the rock types: igneous, metamorphic, and sedimentary. Professor Burdick explained the locations of some of the quarries and the geologic history of those particular rocks. Another stop was made at the Detroit Science Center where there is a small rock garden outside the entrance. A curious employee came out to talk to us and was very excited to see Professor Burdick taking students out for the day and was more than happy to give us more details about the garden and rocks within it. Before heading deeper into the city, we headed across the street to the DIA where Professor Burdick talked about the book-matched marble slabs covering the outside of the building and the quarry they were mined from in Vermont. The rest of the tour

was spent biking down the Dequindre cut to Detroit's downtown to look at the stone used to build many of the buildings and monuments within the city. It was a fantastic tour with a lot of good information and a great opportunity for the AIPG to do something in our own backyard.

### Chapter Future and End of the Year Trip

The chapter recently announced our end of the year trip, which will go to Colorado Springs, CO. Our end of the year trip is a tradition for the WSU AIPG chapter, and we are excited to continue it. One of the first things members asked when we gathered at the beginning of this year was if we would do a trip again. We are stoked to have the opportunity to do this once again and we are looking forward to learn as much about the local geology as we can. Many new members joined our Chapter after the success of last year.



Photo 4: AIPG members and Professor Scott Burdick touring Detroit via bike, visiting notable rocks used in buildings and structures throughout Detroit. Photo provided by Paul Allen.

Given how willing our members are to get involved, we feel we are set up for success and are thrilled for what the rest of the year has in store for us.

## Minerals for Sale!

Long-time Michigan mineral collector and dealer, Bill Micols, is selling his lifetime collection of material. Bill is in Milford. For additional details, please see the full-page flyer on the following page.

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# Geology in Michigan – Sturgeon River Gorge Falls

*Editor's Note: This field guide first appeared in the Q2 Edition of Geologically Speaking...*

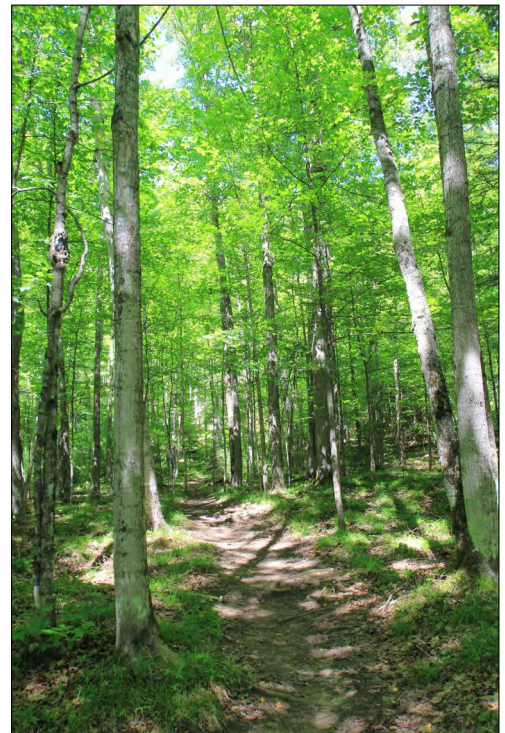
Latitude: 46°38'32.87"N; Longitude: 88°41'36.79"W

Section 16, T49N, R35W, Houghton County

## Directions

From the Broad Street/US-41 intersection in L'Anse, go south on US-41 approximately 7.7 miles and turn right onto Baraga Plains Road/Prison Camp Road. Proceed west 5.95 miles to the "T" intersection, which is still Baraga Plains Road. Head south for 1.36 miles to Gorge Cut-off Road and turn right (west). Follow the road for about 1.64 miles to the "T" intersection with Forest Service Road 553 and turn left. Continue straight/southwest for 1.05 miles to Forest Service Road 2200 (Sturgeon Gorge Road). Turn Right and follow the road north for 2.5 miles to the hairpin bend to the right (northeast).

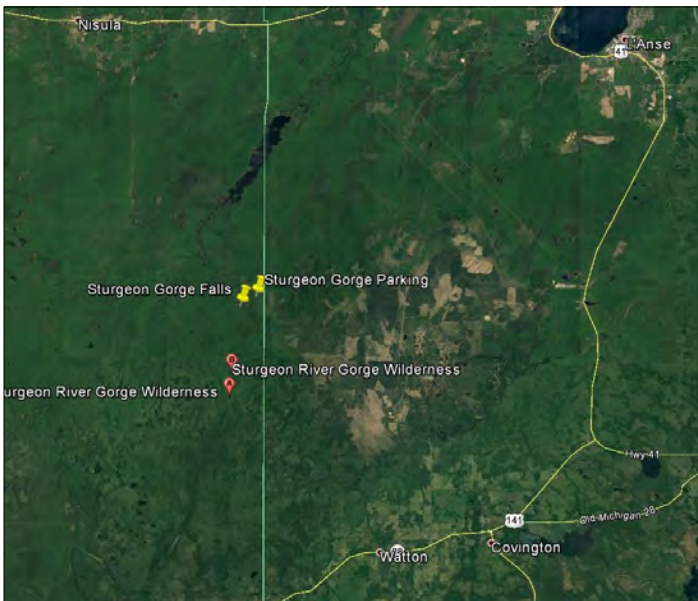
Take the first left onto Forest Service Road 193 (NF 2210) and drive for 0.6 miles Figure 1 and 2 depict the location. The parking lot for the falls gorge is on the right-hand side of the road. You will need to cross the road and follow the trail to the falls and gorge. The



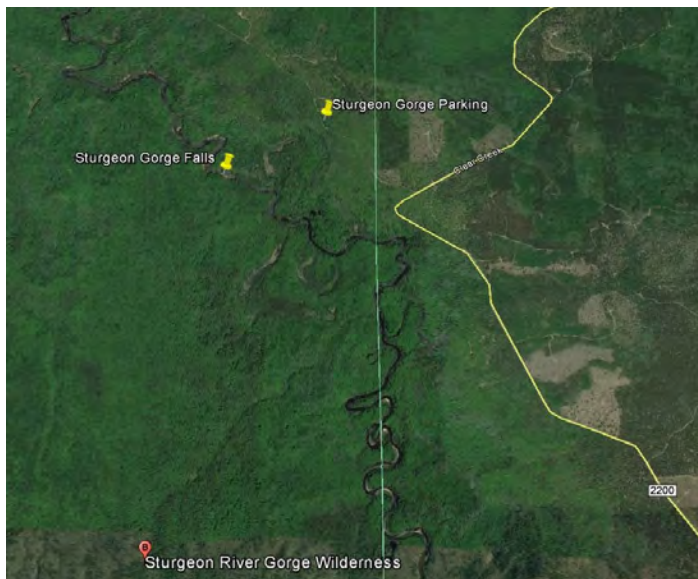
**Photo 3:** Sturgeon River Gorge trail.

unimproved trail (Photo 3) is approximately one mile in length to the falls, and has some significant elevation changes. The trail comes out onto the top of the falls, but you can continue downstream.

Once you reach the gorge area, you will note that the river has a small, two-foot drop over a sandstone ledge (Photo 4). The river narrows and enters a basalt gorge with a three-foot drop (Photo 6). The main falls is an approximately 20 foot-drop over basalt (cover page photo). The river channel widens after the main falls and flows



**Figure 1:** Map showing the location of the Sturgeon River Gorge Area in relation to L'Anse. Source: Google Earth Pro.



**Figure 2:** Map showing a close up of the Sturgeon River Gorge Area. Source: Google Earth Pro.



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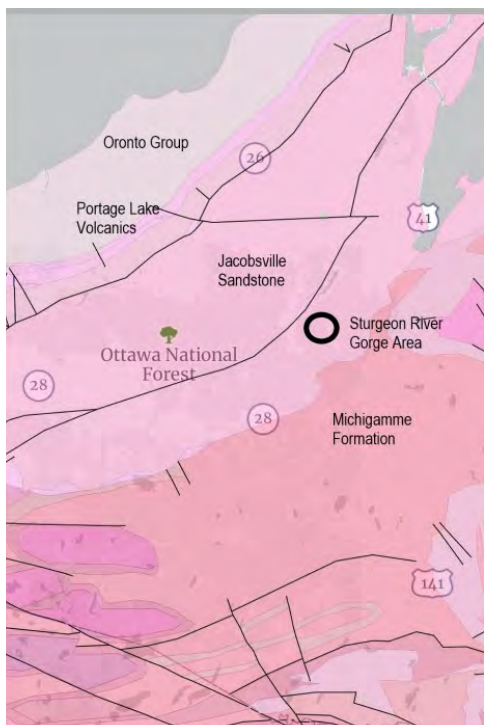
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**Photo 4:** Sturgeon River and the two-foot sandstone ledge.

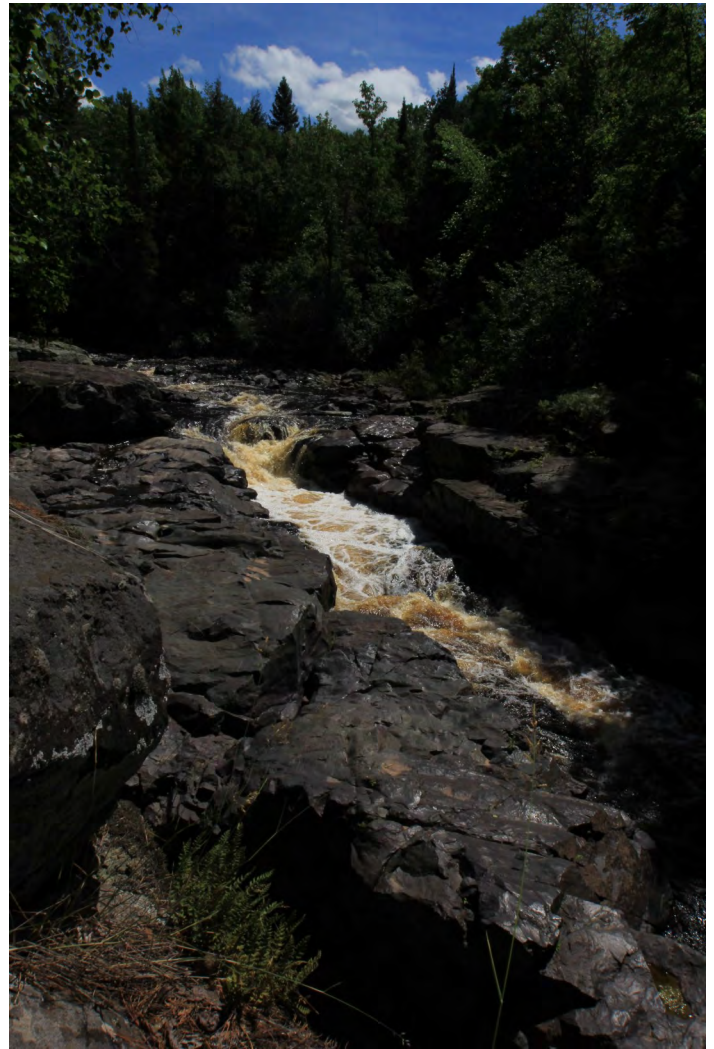
between sandstone cliffs. Sandstone outcrops for about a half-mile downstream.

## Michigan's Deepest Canyon



**Figure 5:** Map showing the bedrock geology of the region. Source: Rockd app.

The Sturgeon River Gorge is Michigan's deepest canyon. Situated within the 14,000-acre Sturgeon River Gorge Wilderness Area of the Ottawa National Forest, there is plenty to explore including stunning waterfalls, rapids, ponds, oxbows and terraces along a 13-mile section of the river. In



**Photo 6:** Sturgeon River and the three-foot drop into the basalt area.

addition, the North Country National Scenic Trail runs immediately adjacent to the wilderness on its eastern boundary. Outdoor enthusiasts can plan on hiking, primi-



**Photo 7:** Downstream contact between the Portage Lake Volcanics and the Jacobsville.



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**Photo 7:** Jacobsville Sandstone and boulders of the Portage Lake Volcanics downstream of the main falls.

tive camping, canoeing, whitewater kayaking, hunting, and fishing.

## Geology

This location features two separate geologic formations of Precambrian age: The Middle Keweenaw and Portage Lake Volcanics and the Jacobsville Sandstone.



**Photo 8:** Jacobsville Sandstone downstream of the main falls.

The Sturgeon Falls cataract is comprised entirely of the Portage Lake Volcanics, while the Jacobsville Sandstone is encountered a short distance upstream (south) and downstream (north) of the main falls. The current versions of the bedrock maps (Figure 5) do not correctly represent the geology of the outcrops at the Sturgeon River Gorge area, as the Portage Lake Volcanics are not shown.



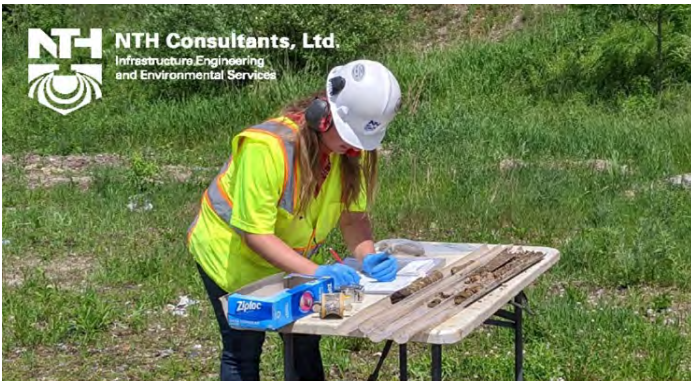
**Photo 9:** Mining Jacobsville Sandstone at the Kerber-Jacobs Quarry circa 1897. Source: Wikipedia.

The Portage Lake Volcanics formed during middle Keweenaw time, approximately 1.1 billion years ago. Hundreds of basaltic flows formed a series thousands of feet thick. During cooling, each flow evolved quantities of gas, which formed bubbles and rose to the top of the flow. As the flow cooled, some of the gas became trapped within the flow tops and formed vesicles. Later infilling of the vesicles produced amygdaloids.

The Portage Lake Volcanics at this location is fine-grained basalt flow material with three amygdaloidal zones. The basalt strikes northeast-southwest with a 10- to 15-degree dip to the northwest. The amygdules are filled with quartz, chlorite, calcite, chalcedony, and epidote. The flows are reportedly 45 percent andesine, 20 percent augite, 25 percent chlorite, five percent ilmenite, and two percent epidote. The lath-shaped andesine is altering to epidote and kaolinite.

The Jacobsville Sandstone is generally a coarse-grained feldspathic sandstone stained red by iron, reddish to reddish brown in color, and having white "reduction zone" spots around bedding planes, joints, and other more permeable parts of the rock. It is believed to have formed between about 600 and 950 million years ago.

The contact between the Portage Lake Volcanics and the Jacobsville Sandstone at the Sturgeon River Falls shows that the Portage Lake Volcanics were tilted, weathered, and eroded prior to deposition of the Jacobsville.



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## Rock Fun Facts

The Portage Lake Volcanics are found primarily in the western Upper Peninsula from the tip of the Keweenaw Peninsula southwest through Ontonagon and Gogebic Counties. It was the host rock (along with the Copper Harbor Conglomerate) to the significant native copper

deposits mined from about 1840 to the 1960s. Approximately 95 percent of all copper mined came from a zone about 26 miles long, and primarily within northern Houghton County. It is estimated that 13 billion pounds of copper were mined from Michigan's copper district. Despite this enormous amount of mined copper, it is believed that two-thirds of the copper deposit remain in the ground!

# Coming Events

**January 27-February 11, 2024:** Tucson Gem, Mineral, & Fossil Showcase, Tucson, Arizona.

**February 6, 2024:** Student/ECP Webinar Series "Launching Your Geoscience Career". 3 pm EST; Click on the [ZOOM LINK](#) to attend. No CEUs are included.

**February 16-17, 2024:** AIPG National Executive Committee Meeting (Hybrid) and field trip, Richmond, VA. For details and an invite, email Cathy Duran at [cld@aipg.org](mailto:cld@aipg.org).

**March 15, 2024:** AIPG National Executive Committee Virtual Check-In meeting. For an invite, email Cathy Duran at [cld@aipg.org](mailto:cld@aipg.org). All members are welcome.

**May 17-19, 2024:** Michigan Section Student Chapter Networking Weekend, Petoskey, Michigan. See attached flyer for details.

**June 8, 2024:** AIPG National Executive Committee Meeting (Virtual). For details and an invite, email Cathy Duran at [cld@aipg.org](mailto:cld@aipg.org).

**June 11-12, 2024:** Michigan Section AIPG 13th Environmental Risk Management Workshop, Data Driven Decision Making. Ralph A. MacMullan Conference Center, Roscommon, MI. Look for additional information in this edition of *Geologically Speaking*.

**August 10-13, 2024:** AIPG Annual Meeting, Durango, Colorado. Details forthcoming in Apr/May/June 2024 TPG.

# Welcome New Members!

The Michigan Section is continuing to grow. Please welcome the following new CPGs, Professional Members, Early Career Professionals, Associate Members, and Students:

Christopher Carew, CPG-12195; Joshua Bridges, ECP-1114; Spencer Sienkiewicz, ECP-1115; Janelle Myers, MEM-3590; Mary Sherwood, MEM-3579; Grace Babiarz, SA-12090; Sydney Bussineau, SA-12052; Andrew Chiles, SA-12091; Casey Dolen, SA-12086; Lili Faulkner, SA-12104; Sofia Foreman, SA-12075; Kristen Hasbrouck, SA-12100; Collin Houston, SA-12089; Ryan John, SA-12087; Ruth Kanipiau, SA-12105; Sara Kavousi, SA-12106; Joseph Kock, SA-12101; Stephanie List, SA-12069; Sydney Lockhart, SA-12092; Timothy McNamara, SA-12053; Chris Mitchell, SA-12040; Ashley Popko,

SA-12088; Ryan Schwiderson, SA-12067; Parker Shukwit, SA-12103; Lee Simmons, SA-12102; Erika Snell, SA-12085; Loren Solomon, SA-12042; and Stephen Udo, SA-12048.

To each of our new members, welcome to our Section! We encourage you to attend Section meetings and other events. You are also invited to provide information for the Member's Corner articles.

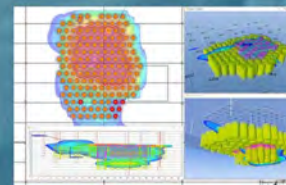
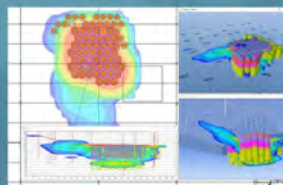
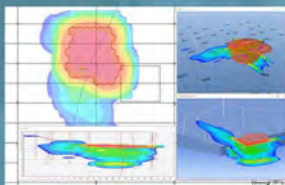
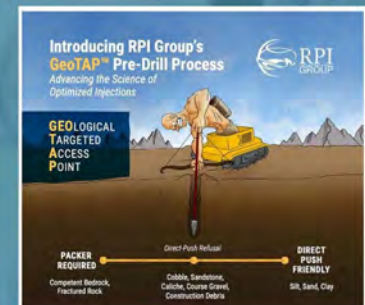


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# Regulatory Roundup

Happy New Year!

It seems with every new year we mark the milestones of the past year and look forward to setting goals, continuing work not yet completed, and making plans to address new issues and challenges. We learn from every experience and make notes on how to improve for the next time and keep doing more of what we do best.

The same is true with legislative activities and using the rules and regulations to solve environmental challenges seeking to always improve along the way and meet the goals of managing risks, promoting responsible use of resources, and protecting public health and the environment among others.

Some of the milestones for the last quarter of 2023 include:

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) announced in December 2023 that counties will soon be required to develop sustainable materials management plans per the amendments to Part 115, Solid Waste Management, of the Natural Resources and Environmental Protection Act, 1994 PA 452, as amended in December 2022. The plans are intended to focus on sustainable management including recycling and composting to work toward achieving the state's goal of a 45 percent residential recycling rate.

The "2023 Michigan State of the Great Lakes Report" from the Office of the Great Lakes was published in December 2023. The report highlighted the continued reduction in contaminants and progress on promoting healthy ecosystems.

The transfer of the Gelman Sciences 1,4-Dioxane groundwater contaminant plume in Ann Arbor, Michigan from EGLE to the United States Environmental Protection Agency (US EPA) and the National Priorities List was allowed by Governor Gretchen Whitmer in December 2023. The objective of the transfer is to be able provide more resources for monitoring and remediation.

In December 2023, EGLE announced that lead levels in Benton Harbor municipal drinking water supply were below the state and federal action level of 15 parts per billion for the second year in a row and all lead service lines have been replaced ahead of schedule.

In November 2023, Senate Bills [SB 393](#) and [SB 394](#) proposing to eliminate the Environmental Science Advisory Board and the Environmental Permit Review Committee were approved in the Senate Regulatory Affairs Com-

mittee and were passed to the House Natural Resources, Environment, Tourism and Outdoor Recreation Committee. House Bill [4826](#) intended to repeal the Environmental Rules Review Committee passed the House Natural Resource, Environment, Tourism and Outdoor Recreation Committee and was sent to the Senate Regulatory Affairs Committee.

Looking ahead to 2024, federal regulations on per- and polyfluoroalkyl substances maximum contaminant levels are anticipated to be established.

Several bills were introduced in 2023 that may receive further consideration in the House and Senate in addition to those that will be introduced in the upcoming months of 2024. We encourage you to watch for activity on these bills and to speak up and lend your knowledge of the science and professional experience and expertise to our lawmakers to help guide policymaking in our state and beyond. For more bill information and legislative activities, we encourage you to click the search tools.



Michigan legislative bill [search](#)



Michigan Administrative Code Rulemaking System [search](#).



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## Member's Corner

*The Member's Corner includes information about the Section's membership. This is your chance to provide information on where you are and what you are doing. Simply send the information to the Editor for inclusion in this section.*

*Get to know your new Section Secretary...*

Hello! My name is Ashton Bullock. I received my Bachelor of Science degree in Geology from Wayne State University in 2022. I have a background in passion for microscopy and experience with project management in asbestos and industrial hygiene. I am currently employed with Rocket Mortgage. I have been an active member of AIPG since I began as a student at Wayne State and look forward to growing with the organization as I serve on the Executive Committee. I am so honored to have this opportunity.

## Interesting Geology Links

*The Editor has received links to various interesting geology-related sites. Some of the more interesting links are included here. If you have any links to geology-related sites that you would like to share, please forward them (with a citation, if applicable) to the Editor.*

Thanks to Sara Pearson for sharing a site about Iceland Eruption in Hours or Days? Ground Continues to Rise Above Magma Chamber: <https://youtu.be/Qbx9ggG9nlc?si=XXvvVI9i6YCkvOt3>.

Here is another "fun" links:

Creation of the Great Lakes | How the Earth Was Made (S1, E7) | Full Episode | History: <https://www.youtube.com/watch?v=wztD2yxuyhl>.

## I Want To Publish Your Articles!



Hey everyone, I would like to encourage you to submit your articles for publication! As the Michigan Section Editor, and also the 2021-24 National Editor, I am working to put together two top-quality publications for our members. This is not a one person job. This is where you come in. I welcome your technical articles, case

studies, opinion pieces, mini field guides, and letters to the Editor.

The guidelines are pretty simple for articles for *Geologically Speaking*. All submissions must be professional and may not violate the AIPG code of ethics. They also may not have been submitted for publication elsewhere.

While most submissions will be accepted, we do not accept articles that are a sales pitch for a product or company.

The deadline for submitting articles for *TPG* is two months before the start of the quarter for which the *TPG* edition is published. Thus, February 1 is the deadline for the Apr/May/June edition.

Please submit your articles of no more than 3,200 words in MS Word format directly to me or to Dorothy Combs at National Headquarters at [aipg@aipg.org](mailto:aipg@aipg.org). All graphics (photos, figures, or tables) should be submitted in .jpg, .tiff or other standard format at 300 dpi. Please ensure your graphics are clean and easy to read to make things easier for the editorial staff. Complete information on submitting an article may be found on National's website at: <https://aipg.org/page/TPGInformation>.

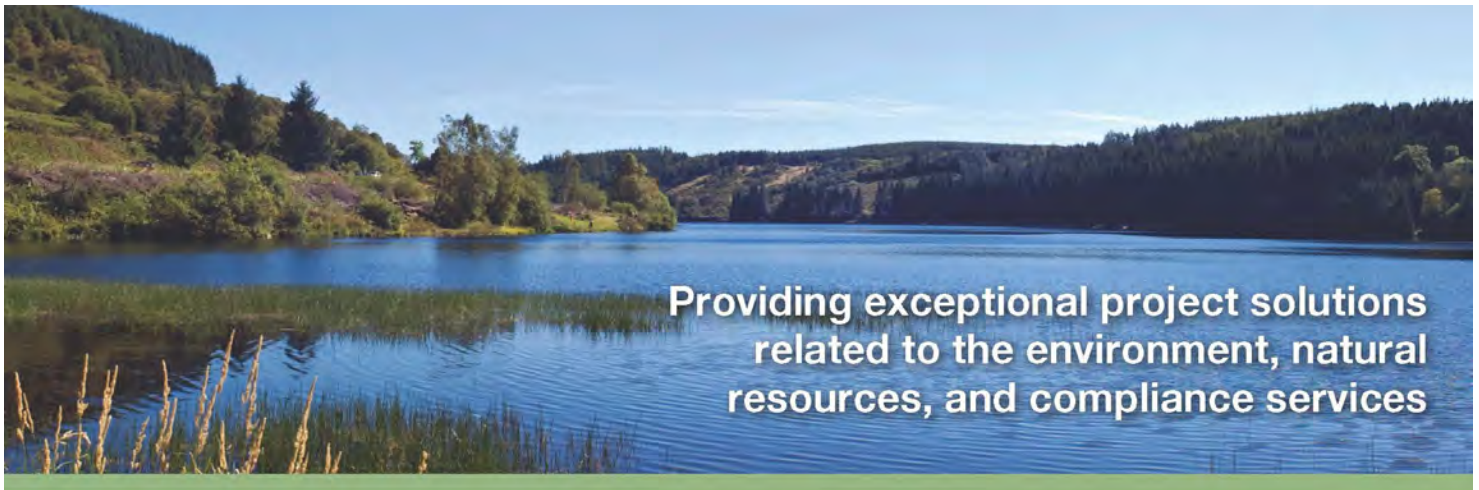
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# 2023 Golf Outing!

Playing golf with friends and coworkers on September 12, 2023, was the perfect way to mark the approaching end of the summer season. The 19th annual AIPG Michigan Section Golf Outing included 18 teams made up of a total of 72 players. Golfers came prepared to meet new people, support a worthy cause, and possibly gain some bragging rights, even though the course and green conditions were a little more difficult than we amateurs are used to. The event was once again hosted at the beautiful Fox Hills Golf Course on their prestigious, champion course **"The Golden Fox"** in Canton, Michigan. The forecast called for rain, but as we Michiganders know just wait five minutes and that will change. As the day went on the skies cleared up for the golfers. As usual, the event's net proceeds—which came to about \$4,700 in total—support many AIPG-sponsored awards and our affiliated student chapters.

Registration began bright and early at 7:30 AM. All players were greeted with an enthusiastic registration table comprised of excited volunteers and given a goodie bag that included golf balls, tee's, socks, and much more! Of course, we had to bring back the fan favorite "Vegas" themed hole along with mulligan purchases, putt-4-dough

The skill prize winners for longest drive for the women went to Pam Wheeler and for the men, Jacob Bloom. This year's big prize was a Mizuno Driver won by Bob Parsons. Golfers won other great prizes including a wedge set, digital and audio GPS devices, gift cards, golf gloves, minerals, flask and shot glasses and more! The 50-50 and prizes raffle raised a total of \$890, a total due in part to 50-50 winner Bob R. who graciously returned his winnings to AIPG (THANK YOU, BOB!). The fan favorite Vegas hole raised \$360, the putt-4-dough raised \$140, and the raffle baskets raised \$500. This would not be possible without our amazing sponsors. Congratulations to all the winners and to the rest; better luck and buy more raffle tickets next year!

The first-place team took home not only bragging rights, but also chipping nets to practice their game at home. The winning team from NTH Consulting included Cliff Andrews, Brian Trent, Andrew Santini, and Craig Johnson.

The second-place team from ERG consisted of Bob R., Craig Marlow, Chris Moffet, and Kim Ethridge. Their prizes included a case of different color Volvik® golf balls.

The third-placed team was made up of golfers from PM Environmental including Ryan Feeney, Kayla Snellenburger, Jacob Bloom, and Alan Nicols. Not only did this team enjoy making the podium they took home caddy shack towels.

Last but certainly not least rounding out the bottom was the Metiri foursome. This included golfers Celeste Holtz, Terry Obal, Jen Lagerbohm, and Ryan Scott. The valiant effort was rewarded with novelty animal head covers.

This event would not be possible without our amazing sponsors. They make a huge difference in the atmosphere of the event and make the event possible year after year. The sponsors are the reason this event will host its 20th anniversary next season. The sponsors include:

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Photo 1: A big swing from golfer Michael Rivard. Photo courtesy of Ellie Carlson.

contest, skins, longest drive, and closest-to-pin. Golfers also enjoyed the 50/50 raffle contest and the basket raffles.

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A big thanks also goes out to our **Gift Basket Sponsors**. The gift baskets were a huge hit and included items such as Beats headphones, cozy fall drinks, margaritas, gift cards, and much more.

- PM Environmental
- Stantec
- Merit Laboratories
- ERG
- Eurofins Test America
- Pace
- Atlas
- Metiri



Photo 2: Kalan Briggs goes to congratulate Kim Ethridge on making it to the finals in the Putt-4-Dough competition. Photo courtesy of Ellie Carlson.

Without all the volunteers' assistance and involvement, this event would not be successful. A big **Thank You!** goes out to:

- Karen Dowland of Job Site Services
- Gail Carr of Eurofins
- Lori Near of Metiri Group
- Melissa Craddock of Eurofins
- Laura Lambert of Michigan Department of Environment, Great Lakes, and Energy for everything behind the scenes and in front of the event
- Keri Ryan of Hamp Matthews & Associates for assisting with the Putt-4-Dough and photos
- Ellie Carlson of Wayne State University for assisting with registration, prizes, and much more

Finally, the Michigan AIPG Executive Committee would like to thank Kalan Briggs, President of the AIPG Michigan Chapter and our golf chairperson, for organizing the event. The money raised will be used to support chapter activities.

Please join us at the 20th annual outing on September 10th at the magnificent Fox Hills Club in Canton, Michigan, which features their championship Golden Fox course! Kindly let your associates and suppliers know and hit the range to bring your best game next year—or just show up.



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We truly could not have this event without our new and perennial supporters, so please think about sponsoring as well. Both the event webpage and the event flyer feature numerous sponsorship tiers. Along with their sponsorship, sponsors are asked to provide a gift basket with a minimum value of \$30, which will be raffled off among the remaining items.

Volunteers are also highly encouraged and very welcome!

This is a terrific way to celebrate the conclusion of a busy "summer field work" season and spend time with colleagues. Everyone is welcome, so please come and earn some bragging rights. Everyone is welcome to play; you don't have to be an avid golfer!

Registration for this year's event will be open on Wednesday,

January 26th, 2024 and can be completed at the event website here: [American Institute of Professional Geologists - 20th Annual Golf Outing \(eventregisterpro.com\)](https://www.eventregisterpro.com)

If necessary, a hard copy registration form, along with a check covering the registration costs, can also be submitted to Kalan Briggs at [briggsk2@michigan.gov](mailto:briggsk2@michigan.gov) or mailed to 630 Piper Road, Haslett, MI 48840. Feel encouraged to take advantage of the "Early Bird" discount if you register/pay for golf by August 1, 2024.

We look forward to another great event and hope to see everyone again later this year at our 20th anniversary event!

*Kalan*

## Did You Know?

*This article is intended to remind members of various aspects of AIPG and benefits of membership. If there is something you would like to see featured in this column, please contact the Editor...*

Section 2.3.1 of the National Bylaws outlines the requirements for the CPG Member Category. It states:

Beginning on December 3, 2019, the requirements for certification as a Certified Professional Geologist shall include:

1. Hold a baccalaureate or higher degree in a geological science, and a minimum of thirty-six semester hours or fifty-four quarter hours in geological sciences as recognized and approved by the Executive Committee; and at the discretion of the Executive Committee; acceptable continuing education to demonstrate a currency with technical, regulatory, and economic factors affecting the profession.
2. Have eight years or ninety-six months of experience in the practice of geology acceptable to the Executive Committee. A master's degree in geological science shall credit the applicant with one year or 12 months of professional experience, or a doctorate in geological science shall credit the applicant with three years or thirty-six months of such experience.
3. In lieu of 1 and 2 above, evidence satisfactory to the Executive Committee of the applicant's sound knowledge and proficiency in a field of geological science may be substituted.
4. Three years of the required experience in the practice of geology shall be in (a) position(s) of responsibility

defined as one in which the individual was depended on for significant participation, management, and decision-making, and that the applicant is capable of scoping, supervising, and checking relevant work to ensure it meets industry standards acceptable to the Executive Committee.

Applicants for Certified Professional Geologist shall affirm their adherence to applicable professional and ethical standards and shall provide acceptable references from either (1) at least three professional geologists who have personal knowledge of the applicant's qualifications, integrity, and conduct, at least two of whom are Certified Professional Geologists, or (2) a professional society that is specifically recognized for this purpose by the Executive Committee. In extraordinary circumstances, as an alternative to all or part of the foregoing, the National Screening Committee may require acceptable references from no fewer than six professional geologists who have personal knowledge of the applicant's qualifications, integrity, and conduct. ."

### AIPG Membership Applications

The application is now wholly online, making the process much easier and quicker to complete. In addition, the previous requirement that the application be sealed by a notary has been removed. This was a problematic requirement, particularly for international applicants, where notary services were sporadic at best.

**Many organizations support staff by paying for an AIPG membership—it is worth checking on this with your employer!**

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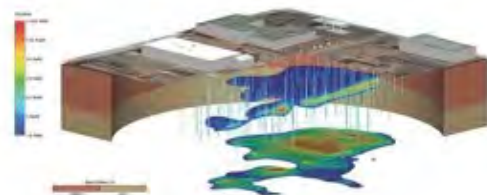
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# ASBOG Exams

The ASBOG Fundamentals of Geology (FG) and Practice of Geology (PG) Examinations are now administered using Computer Based Testing (CBT).

The FG and PG exams continue to be given during the third Friday in March and the first Friday in October each year. All examinees must be certified to take the examination at an approved Prometric/Iso-Quality Testing (IQT) testing facility. There are multiple testing centers located throughout Michigan.

Central Michigan University qualifies candidates to take the FG examination in Michigan and surrounding states. The next scheduled examination date is Tuesday, March 12, 2024, and Friday March 15, 2024. (Two days will be available to accommodate anticipated demand.)

There are three fees for taking the FG examination: \$50

CMU administration fee, \$200 ASBOG examination fee, and \$75 Prometric testing center seat fee. **For March, the deadline to apply through CMU is January 31st.**

Complete information on applying to take the FG exam is available at [se.cmich.edu/asbog](https://se.cmich.edu/asbog). Useful information to help prepare for the FG Exam can be found in the ASBOG Candidate Handbook, which is accessible on the ASBOG website.

## Member Input Sought

The Section Executive Committee is seeking input from members on a variety of topics. Do you have any suggestions regarding speakers/presentation topics that you would like to hear? What about field trips or other events? Some place you'd like to see us go, or something you think the membership would enjoy doing? Then

make your voice heard; please send your suggestions to one of the members of the Executive Committee; any of the seven members would be glad to hear from you. AIPG is your organization. Please help keep it relevant and interesting for all by participating.



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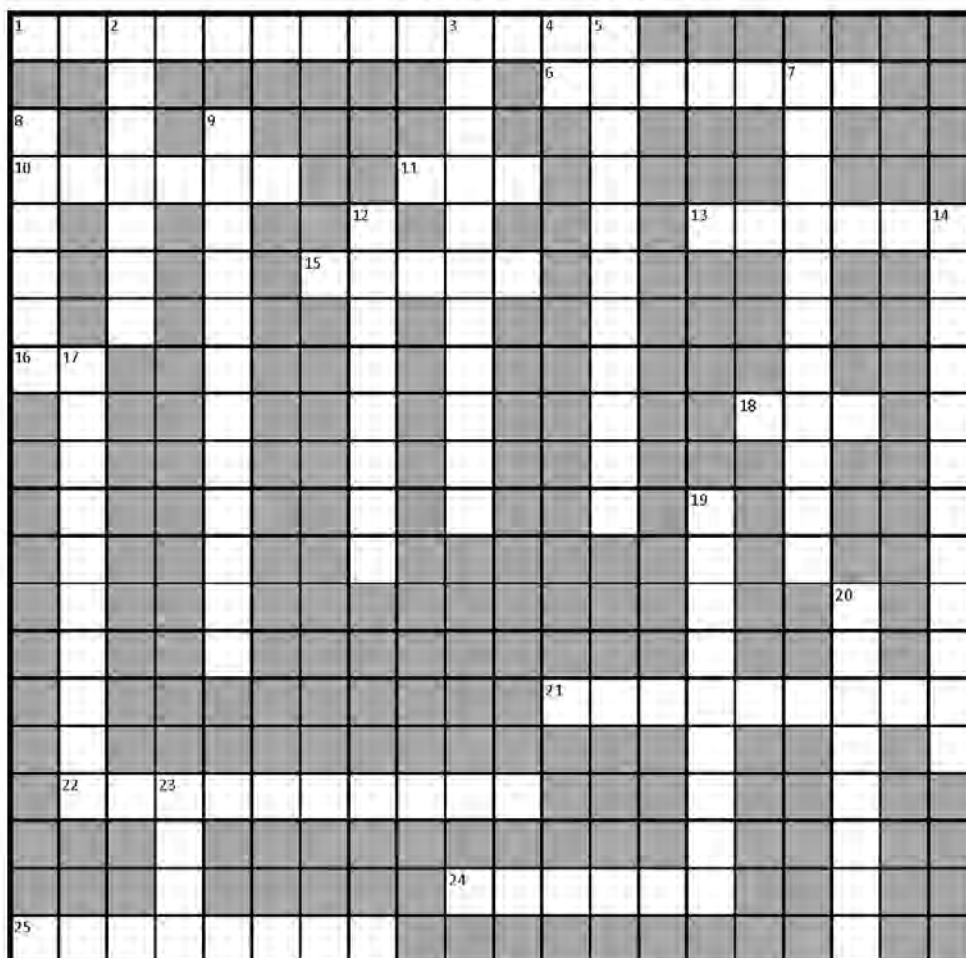
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## Geology Crossword #16



## Across

1. A process in cooling magma
6. Complex organic polymers in sediment
10. Lacking in oxygen for respiration
11. Analysis method using x-rays
13. Highly saline waters
15. When oxic and reducing agents combine
16. Education, abbr.
18. Spectroscopy method of analysis
21. Calcite dissolution occurs here
22. The maximum dissolved concentration
24. Something dissolved in a solvent
25. A plane of weakness

## Down

2. Not an exercise fad
3. Ocean layer between 200 and 1000 m
4. Something acceptable
5. Not a Matrix dynamic duo
7. A static condition
8. Unsaturated; not Vader
9. A diagram of someone to pay
12. Flaky white mica; altered feldspar
14. They love iron
17. Physical & chem. processes in sediment
19. Indicative of pressure solution
20. Symmetrical ingrowth of multiple crystals
23. Soft precipitate of calcium carbonate

\*The solution to this geology crossword will be included in the next edition of *Geologically Speaking*.



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## Many thanks to the Michigan Section AIPG Sponsors and Exhibitors!

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- And of course—*Geologically Speaking!*

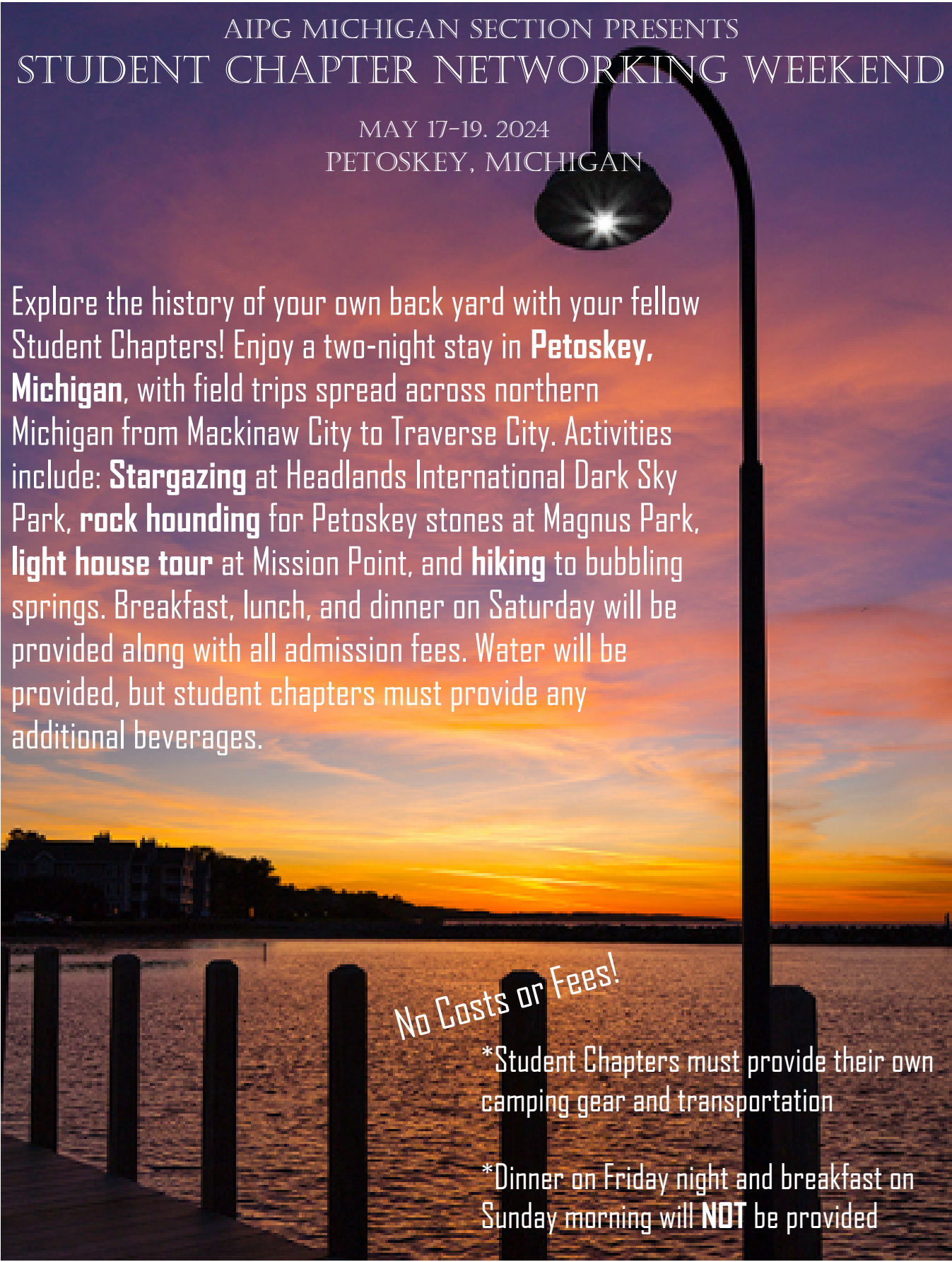


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# AIPG MICHIGAN SECTION PRESENTS STUDENT CHAPTER NETWORKING WEEKEND

MAY 17-19, 2024  
PETOSKEY, MICHIGAN

Explore the history of your own back yard with your fellow Student Chapters! Enjoy a two-night stay in **Petoskey, Michigan**, with field trips spread across northern Michigan from Mackinaw City to Traverse City. Activities include: **Stargazing** at Headlands International Dark Sky Park, **rock hounding** for Petoskey stones at Magnus Park, **light house tour** at Mission Point, and **hiking** to bubbling springs. Breakfast, lunch, and dinner on Saturday will be provided along with all admission fees. Water will be provided, but student chapters must provide any additional beverages.

*No Costs or Fees!*

\*Student Chapters must provide their own camping gear and transportation

\*Dinner on Friday night and breakfast on Sunday morning will **NOT** be provided