

Geologically Speaking

A Michigan Section AIPG Publication

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Regulatory Roundup!

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Section Officers

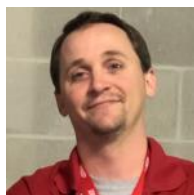
PRESIDENT

Kalan Briggs, MEM

EGLE

Tel. (517) 930-5227

briggsk2@michigan.gov



VICE PRESIDENT,

Amy Hoeksema, CPG

Consumers Energy

Tel. (517) 788-1985

amy.hoeksema@cmsenergy.com



TREASURER

Ashley Miller, ECP

EGLE

Tel. (906) 235-7435

millera65@michigan.gov



SECRETARY

Jason Lagowski, CPG

Brown and Caldwell

Tel. (517) 304-3910

jlagowski@brwnncald.com



ECP LIAISON

Joseph Swarz, ECP

AECOM

Tel. (947) 226-0898

joseph.e.swarz@gmail.com



PAST PRESIDENT

Mellisa Powers-Taylor, MEM

US Army

Tel. (517) 977-7873

mellisapowers@gmail.com



NEWSLETTER EDITOR

Adam Heft, CPG

WSP USA

Tel. (517) 886-7400

adam.heft@wsp.com



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Front Cover: The Big Sable Lighthouse in Ludington State Park.
Photo by Sara Pearson, 2021.

The logo for WSP GOLDER, with 'WSP' in a stylized white font and 'GOLDER' in a clean, sans-serif white font, set against a red background.

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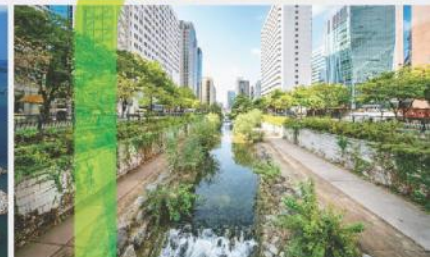
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Geology Crossword #12 Solution

M	A	U	N	A	K	E	A			V			C				S		
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					T													S	
P	A	H	O	E	H	O	E												

Across

1. World's tallest mountain
5. Bedding component
7. Fertile volcanic soil
9. Hazy air pollution
11. Not sedentary
12. Largest known volcano
15. Destroyed Pompeii
16. Airfall material
19. Volcanic collapse crater
21. Sleeping
22. ___ Fish!
23. Blocky type lava
24. A combination like bourbon and beans
25. A brand of soap
26. A piece of partly burned wood or coal
27. Ropy type lava

Down

1. Largest Hawaiian volcano
2. Thick like honey
3. Not just for ice cream
4. Built of droplets
6. Reach the top
8. Long pass in football
10. Active Hawaiian vent
13. Dead, like the mastodon
14. Famous 1883 eruption
15. Surficial opening for lava
17. Fine glass-like strands
18. Subsurface molten rock
19. Mixed type substance
20. Medieval protective gear
22. Usually sulfurous

From the President's Desk

Greetings AIPG Michigan Chapter! Cheers to the rejuvenating season of Spring and to the onslaught of exciting field work. Let's embrace this season with taking advantage of the enthusiasm of our students and Early Career Professionals (ECPs). For some, this will be their first experience learning what it takes to be a geologist "out in the wild" logging soil, evaluating groundwater, or classifying core. We all should harness their energy and allow it to propel us to a successful field season.

As AIPG continues its student and ECP outreach, we often find ourselves engaged in conversations that truly display how eager and excited "the next generation" proves to be. Universities do so much to prepare students for the professional world, but one item that is difficult to teach is how to be a professional in general and just how big the field of work is as they begin their careers. Some of the intangible skills that we learn throughout our career are skills that these individuals are anxious to learn how to develop. These skills include, but of course are not limited to, networking, communicating, and developing a work ethic and constitution that will net them very successful career paths and make them a value to any company or regulatory agency.

For those of us who are privileged enough to have an established or growing career, and have been able to acquire some of these pivotal skills along the way, I believe it is in our best interest to be the primary catalyst for these individuals to rely on for enhanced development. Regardless of how we acquired these skills, our industries are better served if we can propel them to learn these skills more rapidly than perhaps we had.

Now you may be thinking, "Catalyst? Propel? Those are just 5-dollar words and a lot easier said than done." To which I completely agree, but providing these environments and learning how to create this type of engagement is perhaps a skill that we need to develop or grow further into. These skills can be built in a lot of different ways, but the primary mechanism that sums up a lot of it, is mentoring. Mentoring is an invaluable dynamic that a lot of groups attempt with formal constructs or programs but does not necessarily require a robust plan. All successful mentoring dynamics are hinged upon trust and a willingness to provide real focus and attention, even if the time committed is minimal. Mentoring can be very informal and can be as minimal as inclusion. Inviting a student or ECP to a call, event, or meeting can be a significant opportunity to the individual that the experienced staff may not realize. However, we should not stop at a minimal effort, but instead take a concerted effort as the products and work we produce is a sum of the whole, and we are only as great as the lowest common denominator within our teams.

Check Out the AIPG Mentoring Program

Mentoring is an experience that promotes personal growth, creates meaningful connections, and sparks creative innovations. AIPG offers an opportunity to connect mentees with mentors. To sign up for the program is easy and can be done when paying your annual dues or updating your online profile. You may check the box on your paper dues renewal form that you send in via mail or log into your account at www.aipg.org and update your member profile. Be sure to check whether you would like to be a mentor or mentee and the fields of expertise. The system allows individuals to search for people with similar interests and connect via email. Check it out today!

Now this cannot only be directed at the experienced, but substantially requires full engagement from our ECPs and students. These opportunities are directly defined by the mantra, "you only get out what you are willing to put in." The mentees need to rely on their enthusiasm and energy to take advantage of any time an experienced professional is willing to spare and indirectly supply the motivation to milk the opportunities for all that they are worth. It starts with you.

I challenge everyone to seek an individual(s) with little or no career experience and embark upon the quest of mentoring. As someone who has reached the mid-level era of my career, I am lucky enough to call, and have benefited from, many individual mentors, and I am also excited to continue building my mentee pool. This dynamic should not be limited to one individual as we all benefit from all perspectives. There is a lot to learn and gain from these relationships, albeit professionally in our work environments, or even personally taking home the satisfaction knowing that you are a catalyst for success.

I hope your 2023 continues to be effective, progressive, and impactful, and wish you further success.

Kalan

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- Worldwide experience in PFAS investigation, risk assessment and treatment
- Conducted largest PFAS investigation ever performed with 15,000 samples, investigating 80 mile segment of river

Secretary's Report

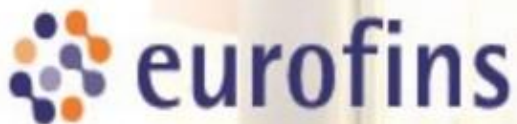
The Michigan section AIPG Executive Committee meets about every month on the first Friday with a few deviations due to schedules. During the monthly one-hour meetings, Executive Committee board members have discussed and planned various topics, highlighted by month below:

If you recall from the last Secretary Report, I am one of the newest members of the current Executive Committee, though this is my second round supporting the organization. The executive board has continued to meet on a monthly basis and it's a pleasure to report that the Section's house is in good order. At our committee meetings we hear that latest happenings with the student chapters which to be honest are the future of our organization. The future looks bright, but we need to continue to encourage our student members to become

full members once they graduate. In addition to fulfilling the role of Secretary, I am supporting the team of volunteers working on updating our Section website. Our goal is to have a modern, functional, streamlined and easy to navigate landing page which will provide the membership with the latest Section news along with lots of familiar information and useful resources. One of the new planned features will be the ability to register for Section events directly through the webpage rather than using a 3rd party vendor. Stay tuned for future updates once we get closer to rolling it out later in 2023.

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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...

Most of our members probably know who the current National President is. But do you know who all of the former Presidents were, or even how many there have been? The following is a list of those individuals that have served as President of AIPG through the years.

1963-1965 Martin Van Couvering, California

1966 Ben H Parker, California

1967 Alan C. Tester, Colorado

1968 John T. Galey, Iowa

1969 R. Dana Russell, Illinois

1970, Henry H. Neel, California

1971 Robert R. Berg, Texas

1972 Neilsen Rudd, California

1973 Adolf U. Honkala, Virginia

1974 Frank B. Conselman, Texas

1975 Arthur O. Spaulding, California

1976 John D. Haun, Colorado

1977 John A. Taylor, Oklahoma

1978 Grover E. Murray, Texas

1979 Edward E. Rue, Illinois

1980 James R. Dunn, New York

1981 John W. Rold, Colorado

1982 M. O. Turner, Texas

1983 Larry D. Woodfork, West Virginia

1984 Dean Grafton, Texas

1985 Ernest K. Lehmann, Minnesota

1986 Travis H. Hughes, Alabama

1987 Charles J. Mankin, Oklahoma

1988 Sam R. Evans, Texas

1989 Richard J. Proctor, California

1990 Susan M. Landon, Illinois

1991 Hayden H. Murray, Ohio

1992 Daniel N. Miller, Jr., Wyoming

1993 William L. Fisher, Texas

1994 Russell G. Slayback, Connecticut

1995 Richard C. Fountain, Florida

1996 Robert K. Merrill, Texas

1997 Jonathan G. Price, Nevada

1998 Stephen M. Testa, California

1999 Thomas G. Fails, Colorado

2000 Dennis Pennington, Pennsylvania

2001 Robert H. Fakundiny, New York

2002 Lawrence A. Cerrillo, Colorado

2003 Richard M. Powers, Florida

Students - Reminder

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

Send the articles to Adam Heft at adam.heft@wsp.com.

WANTED!

Your Articles for *The Professional Geologist*

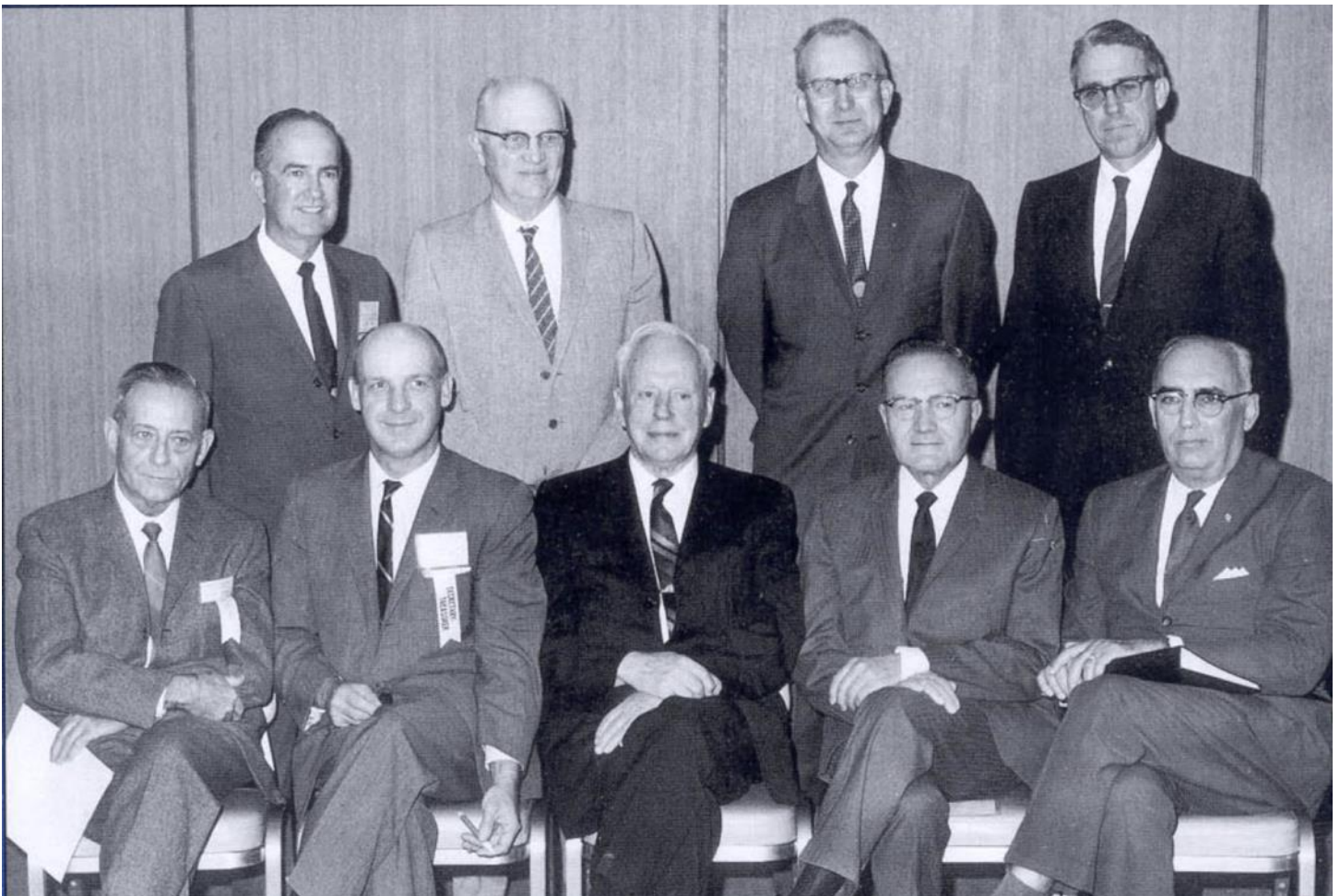
- Technical
- Opinion
- Peer-Reviewed
- Letters to the Editor

Please submit your draft article to the Editor, Adam Heft at: adam.heft@wsp.com. Technical requirements may be found on the AIPG website.

2004 Robert G. Corbett, Illinois
2005 Robert G. Font, Texas
2006 Larry C. Weber, Tennessee
2007 Kelvin J. Buchanan, Nevada
2008 Daniel J. St. Germain, New Jersey
2009 John L. Bognar, Missouri
2010 Michael D. Lawless, Virginia
2011 Samuel Gowan, New York
2012 Barbara H. Murphy, Arizona
2013 Ronald J. Wallace, Georgia
2014 Raymond W. Talkington, New Hampshire
2015 J. Foster Sawyer, South Dakota
2016 Helen V. Hickman, Florida
2017 Adam W. Heft, Michigan
2018 R. Douglas Bartlett, Arizona

2019 Keri A. Nutter, Alaska
2020 J. Todd McFarland, Tennessee
2021 Nancy J. Wolverson, Nevada
2022 Matthew J. Rhoades, Kansas
2023 Dawn H. Garcia, Arizona
2024 Shanna A. Schmitt, Minnesota

Do you know who is pictured in the photograph below? Look for the answer in the next edition of Geologically Speaking. And did you notice how many of these individuals have been from Michigan? In about a month and a half, the current election for next years' President Elect will be over, and we'll know who the 2025 National President will be. Make sure that you have cast your vote, as Michigan's very own Sara Pearson is one of the candidates!



The First National Executive Committee, 1963-65. Photo Credit: A History of AIPG 1963-2004, front cover.



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Coming Events

June 1, 2023: Deadline for submittals for the Michigan Section Andrew Mozola Memorial Scholarship.

June 8, 2023: EGLE Remediation and Risk Management Webinar, 12:00-1:00 pm. Mala Hettiarachchi P.E. will be speaking on Microplastics: Risk Management Removal, and Source Reduction.

June 13-14, 2023: Michigan Section AIPG Environmental Risk Management Workshop at the Ralph A. MacMullan Conference Center in Roscommon.

July 6-18, 2023: Adventure Iceland Tour #1 with Dr. Tamie Jovanelly.
www.icelandgeologytours.com. **TRIP FULL!**

July 25 to August 6, 2023: Adventure Iceland Tour #2 with Dr. Tamie Jovanelly.
www.icelandgeologytours.com.

August 8-11, 2023: Brownfields 2023. To be held at the Huntington Place Convention Center in Detroit. Additional information can be found at <https://brownfields2023.org/2022/08/brownfields-2023-detroit-michigan/>.

August 12, 2023: Michigan Section AIPG Summer Field Trip to the South Rockwood Quarry.

September 12, 2023: 19th Annual Michigan Sec-

tion AIPG Golf Outing. Fox Hills Golf Course in Canton. Registration is open. See flyer in this edition of *Geologically Speaking* for additional details and registration information.

September 16-19, 2023: AIPG 60th Anniversary Conference. Covington, KY. Details are in the Apr/May/June edition of *TPG*.

October 6, 2023: ASBOG Fundamentals of Geology and Practice of Geology Exams offered at Pro-metric/Iso-quality Testing Facilities in Michigan.

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.

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:

Katrina Barauskas, SA-11680; Jesse Bishop, SA-11668; Brett Bogedain, SA-11612; Carrie Butske, SA-11670; Julia Daniel, SA-11684; Ariel Dorogi, SA-11674; Eleanor Durkee, SA-11681; Rebecca Florida, SA-11638; Andrew Gelderloos, ECP-0986; Leah Gies, MEM-3450; Amartya Kattamalavadi, SA-11679; Julia Koza, SA-11666; Sabrina Lanker, SA-11667; Kum Lor, SA-11677; Tanner McDonald, SA-11636; Madeline Mennenga, ECP-0991; Olivia Mitchell, SA-11618; Julie Nitz, SA-11683; Nathaniel Okkonen, ECP-0984; Chanh Park, SA-

11665; Sauradeep Purkayastha, SA-11640; Jasmine Ross, SA-11622; Julia Rudlaff, SA-11675; Anna Sauer, SA-11633; Ashley Scott, SA-11678; Luke Singer, SA-11610; Taylor Slyker, SA-11682; Heather Smith, AS-0203; Emily Stonge, SA-11676; Evan Sutherland, SA-11669; and Ryan Vannier, MEM-3448.

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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AIPG Michigan Section 19th Annual Golf Outing

September 12, 2023 Golf Outing
Fox Hills – Golden Fox Golf Course
***SAVE THE DATE**



Ready, Set, Go! Golf carts at Fox Hills; photo from Fox Hills Golf Course photo gallery.

Greetings everyone! I am pleased to announce that this year's golf outing is scheduled and will be held on September 12th once again at the beautiful Fox Hills club and will feature their championship Golden Fox course in Canton, Michigan! The Michigan Section is deep in the planning phases for our 19th Annual AIPG Golf Outing. Please spread the word to your suppliers and fellow colleagues, and plan to bring your A-game, drivers, polished irons, and fancy putters (or just be willing to play 18 holes and have a good time!). The rolling picturesque landscape and rolling topography paired with an excellence in design and construction will make the engagement suitable for the stiffest of competition and cozy enough for us humans to just enjoy.

Please also consider a sponsorship this year as we really could not have this event without our new and perennial sponsors. There are several different levels of sponsorship listed on the event page and event flier. These sponsorship opportunities offer great exposure to some of the most influential professionals in our industry. Sponsors are also requested to include with their sponsorship a gift basket of at least \$30 in value that will be raffled off with the rest of the prizes. Last year we raised approximately \$280 from the gift baskets alone and we are ready to beat that amount with an even better event this year!

All money raised is put toward the Michigan Section's awards programs and helps support our student chapters.

To ensure continued success, please join us by; participating, sponsoring, soliciting sponsors, and/or donating prizes or items. Volunteers are also highly encouraged and very welcome!

This event is a great opportunity to spend time with colleagues and celebrate the closing end of a busy "summer field work" season here in our beautiful state of Michigan. It is open to everybody, so please come and take advantage of the opportunity as so many others have done in the past. You need not be an avid golfer to participate; all are welcome!

The registration is open and can be completed at the event website here: <https://www.eventregisterpro.com/event/americaninstituteofprofessionalgeologists-1>. 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 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, 2023.

We hope to see you on September 12, 2023!

Editor's Note: Registration and information flyer for the 2023 Michigan Section AIPG Golf Outing can be found at the end of this edition of *Geologically Speaking*...

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2. Opportunities & Constraints
3. Develop Integrated Framework Plan
4. Implement
5. Measure, Assess & Adapt
1. Visioning

PFOS Concentration in Surface Waters (ng/l)
• <12 (2007) - based
• <12 (2007) - based
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Where in Michigan?

The October 2022 and January 2023 editions of *Geologically Speaking* featured photographs that were not identified. Both photos were from the lower Tahquamenon Falls. The rock at this location is the Chapel Rock member of the Cambrian aged Munising Sandstone.

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. 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 when you update your contact information. Thank you!

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Student Chapter News

E The EMU AIPG student chapter, a.k.a. GeoClub, has been slowly ramping up our activities now that winter finally seems to have come to a close. Within the last month, three major events happened.

First, several members of our chapter staffed a booth and did public outreach at the Michigan Gem and Mineral Society Show in Jackson, Michigan on March 17-19th. We used this opportunity to educate the general public about geology and offered some samples we had collected on past trips in exchange for donations. We met many great people from all walks of life who all shared one thing: a love for rocks. The GeoClub raised enough money from this event to help fund a summer camping trip. While we are still unsure of where we will go, I know one thing for sure: we will have fun as a club doing it.

Our Sedimentology and Stratigraphy class went to Grand Ledge on Sunday, March 26, 2023 to measure an outcrop and explore the local geology. We practiced sketching the outcrop and taking field



Our booth at the Jackson Rock and Mineral Show. Photograph by Colin O'Neil.

notes. I'm hoping to come back to the park to get ready for this summer's field camp experience.

The EMU AIPG Student Chapter members traveled to an old quarry near Milan, Michigan, on Saturday, April 1st, 2023, to collect fossils. Some rock samples collected on that day will be used by the EMU AIPG student chapter for future rock shows.

EMU paleontology professor Dr. Steve LoDuca runs a trip to this site every semester and it is always popular with geology students.

A few members volunteered to help Dr. Gelasch teach the Geology Merit Badge to almost 40 Scouts at the EMU Merit Badge Day on April 1st. Scouts learned the basics of geology, the importance of minerals and rocks to society, and visited the rock garden in the basement of Mark Jefferson to learn more about Michigan rocks. Finally, plans are in the works to use the money raised throughout the year to plan an extended camping trip to the Upper Peninsula or geode hunting trip to western United States.

The chapter also held officer elections for the 2023-24 school year. The new officers are listed below and we look forward to next year.

President: Rose Allen

Vice President: Ariel Dorogi

Treasurer: Ali Yassiin


Secretary: Lee Trumbull

Members-at-Large: Jenna Thompson and Olivia Mitchell

Article by Colin O'Neil, former EMU Student Chapter President



A group photograph taken at Fitzgerald Park in Grand Ledge. Photograph by Steven LoDuca.



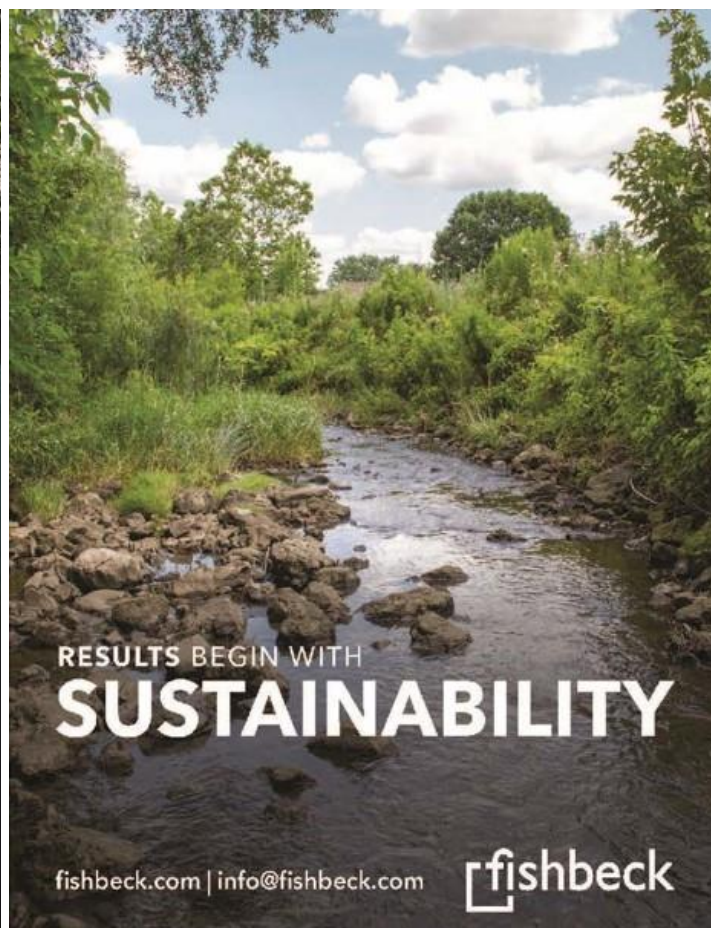
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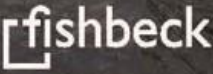
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Finding Remnants of a Past Mining Era...



My name is Max Stange, and I am a senior undergraduate geological engineering student at Michigan Tech. As many Michiganders know, the Upper Peninsula (UP) is a beautiful place, but also very remote. This statement is even more true for the UP's Keweenaw Peninsula, home territory for Michigan Tech students. It can be difficult to find ways to occupy oneself on the weekend around here. But for me, a geoscience student, it is Heaven. I like to spend a lot of

years, hundreds of underground copper mines have come and gone, leaving behind traces of their existence in the form of poor rock piles and shaft footings. Using a metal detector, I spend my weekends combing through these piles finding pieces of copper that the miners left behind.

While finding the copper is fun, I much more enjoy meeting the local "old-timer" rockhounds and hearing their stories. In many cases, their entire family worked the mines that we are now collecting from. It is amazing to hear first-hand stories about the mines, much of which can't be found in any history books. When I talk to the "old-timer" rock hounds, nearly every one of them says: "Man, you should have seen this pile 30 years ago. It won't be around too much longer". The poor rock piles left by the mines have been subject to extensive crushing by local excavation and aggregate companies. I have personally seen entire piles disappear in a matter of weeks. Many of these piles are thousands of cubic yards. This makes me wonder, would I have ever gotten interested in the mining history if there were no piles to collect?

I started by collecting and slowly learned about the mine piles I visited. It was the process of collecting that sparked my interest. Just as offering mine tours help create interest, collecting on rock piles evokes the same reaction. It is one thing to visit these historic sites, but to dig in the dirt and "mine" the piles for copper goes a pretty long way when it comes to generating interest. Collecting on the piles gives an extra sense of just how impressive the mining operations were. Seeing the massive amounts of material that were often drilled and moved by hand is surreal. Whenever I find something, I always think about the story of that piece and how I am the first person to see and touch it since the miner who threw it in the ore cart. It is experiences and thoughts like these that allow me to connect to the mining history on a deeper, more personal level.

Organizations such as the Keweenaw County Historical Society, Quincy Mine Hoist Association, and others, seek to preserve and educate the public on historic mining locations. The Michigan Tech Archives documents the paper trails from the mining companies. However, there is not a single group or person that is saving these rock piles for the public to collect. Is the value per ton of crushed rock worth more than the pile's ability to stir up



Figure 1: An 8-inch copper chisel chip found by Max Stange at Cliff Mine in 2022. Chisel chips are strips of pure copper chiseled off by hand from a solid, pure copper vein in the mine. Photo by Cameron Crozier.

my free time exploring the Keweenaw while rock collecting.

The Keweenaw hosts many interesting geological formations, but I am most interested in the native copper. I am not the first to collect this copper. Over the past 200



Figure 2: View looking down from the top of the Central Mine rock pile. Decades ago, this pile existed well beyond where the cars are parked. Photo by Max Stange, 2022.

interest in historic mining and rock collecting? There are currently only a few public, collectible piles left in the Keweenaw. Hundreds of other piles now sit on private land waiting to be crushed. I don't claim to know a solution to this issue, nor do I think it is realistic to buy and save all of the piles for the public. It is a complicated issue to save seemingly useless rock piles. I only have one more summer in the Keweenaw and have been lucky enough to collect some of the piles before they disappear. I hope that some sort of solution arises so that myself and others can continue to collect and find interest in the Keweenaw's rich mining history years from now.

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.

No Member's Corner submittals were received for this edition of Geologically Speaking.



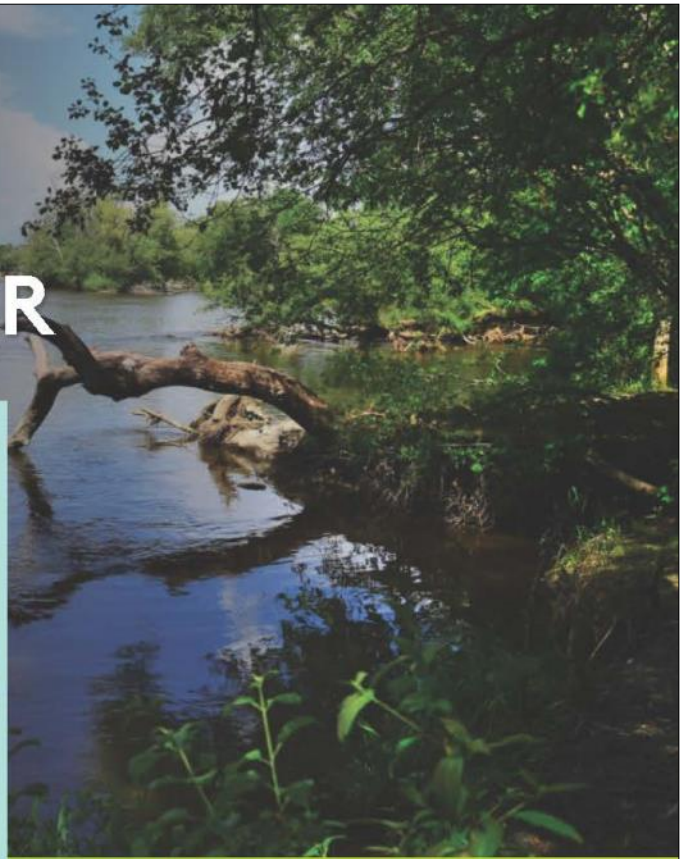
Figure 3: Champion #4 shaft house, Painesdale MI, October 2020. Photo by Max Stange.

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. 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.

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CMU Geology News – Sed/Strat/Structure Field Trip to Baraboo Wisconsin



Fifteen CMU students and two geology professors travelled to Baraboo, Wisconsin in April, 2023, on a combined Sedimentation and Stratigraphy and Structural Geology field trip. Rachael Agardy and Larry Lemke led the trip which included stops at Indiana Dunes National Park to observe modern depositional processes, along with many classic field localities in the Baraboo District to observe deformational features associated with the Baraboo Syncline as well as depositional features in the overlying Cambrian Galesville Formation and Tunnel City Group.

The structural geology students benefitted from taking a virtual StraboSpot field trip to Baraboo designed by Basil Tikoff at the University of Wisconsin-Madison two weeks prior to travelling to Wisconsin. In addition, they completed extensive studies of the geologic map and field guide in the weeks leading up to actually putting their boots on the ground in Baraboo so as to maximize the educational value of trip. Student favorite locations included Devil's Lake State Park, Parfrey's Glen, and Van Hise Rock.



Figure 1: CMU students near Elephant Rock in Devil's Lake State Park, Wisconsin. Photo by Max Stange, 2022.



Figure 2: Explaining the geologic map at Ableman's Gorge in Rock Springs, Wisconsin.

CMU Geology News – Three Geoscience Professors Honored

Three faculty in the Department of Earth and Atmospheric Sciences were recently honored for their academic achievements.



Wendy Robertson received a [CMU Excellence in Teaching Award](#) for demonstrating clear and sustained instructional excellence that effectively promotes student learning. Dr.

Robertson is an Associate Professor who is well known for her pioneering development of game-based learning,

including the recently published [Hydrologic Cycle Game](#).

Anthony Chappaz received a [CMU International Impact Award](#), which recognizes faculty who go above and be-

yond what is expected while engaging in teaching, scholarly activity, and service at the international level. Dr. Chappaz is a molecular geochemist who works with an extensive network of international researchers, mentors international students, and promotes professional and interpersonal connections among his international collaborators.

Natalia Zakharova was promoted to Associate Professor with tenure. Dr. Zakharova's research focuses on petrophysics and geomechanics with applications in energy resources, carbon sequestration, and tectonic rift basin development. At CMU, she established a Geophysics and Geomechanics Laboratory, actively participated in the International Ocean Discovery Program (IODP) Expedition 381, and teaches physical geology, geomath, geophysics, and geostatistics.





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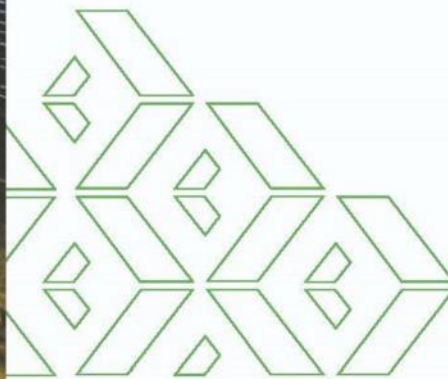
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Complete information on the scholarship is included in the flyer in this edition of *Geologically Speaking*.

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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 Mark Francek of Central Michigan University for sharing via the “Earth Science Site of the Week” emails. This edition features a few “fun” links.

This is a glacial lake outburst flood: <https://atlas.eia.gov/apps/5039a1a01ec34b6bbf0ab4fd57da5eb4/explore>.

Tornado at the base of La Palma Volcano: <https://www.youtube.com/watch?v=7OJi7HE7TSI>.

Japan's Okinawa Coastlines Struggling With Pumice Stones From Volcanic Eruption: <https://www.usgs.gov/media/images/overview-water-quality-principal-aquifers-0>.



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Regulatory Roundup

The first five months of the new year have been active legislative with several bills being introduced related to the environment. This start of the new legislative session includes a reintroduction of bills that were introduced during the previous session and many more new initiatives. We encourage our members to maintain awareness of bills that are introduced and moving through the legislative process and where there is opportunity, share your expertise to ensure that the science is well understood, and policies made include consideration of sound science.

The following list of bills, which does not include all, have been introduced this year and may be of interest to AIPG members.

[House Bill 4023: Underground Storage Tanks](#) – revises placement distances of underground storage tanks. This bill does not include certified professional geologists, only professional engineers, as professionals qualified to sign hydrogeological reports related to evaluating risks tanks may pose to drinking water supplies. Certified professional geologists are more than well qualified to sign these reports. We encourage you to inform your legislators of a CPG's qualifications to perform this work.

[House Bill 4083: Hazardous Products](#) – prohibits the use of perchloroethylene (PCE) in dry cleaning solvents.

[House Bills 4185 – 4190: Asbestos and Asbestos Emissions](#) – Package of bills related to penalties for asbestos-related violations, contracting for demolition contractors, fees, reporting and more.

[House Bill 4249: EGLE Funding](#) – Provides funding for the Department of Environment, Great Lakes and Energy appropriations for fiscal year 2023-2024.

[House Bills 4321 and 4325: Environmental Protections](#) – Provides criminal penalties and civil fines for unlawful dumping of garbage.

[House Bill 4344: State Management](#) – Prohibits awarding contracts to entities that economically boycott certain businesses.

[House Bill 4359: Environmental Protection](#) – Repeals act preempting local regulation of plastic bags and other containers.

[House Bill 4388: Environmental Protection](#) – Requires electronic submissions for registrations, notices, inspections and test reports, and other documentary information required under Part 211.

[House Bill 4444: Groundwater Contamination](#) – Prohibits waste injection wells.

[House Bill 4463: Shallow Wells](#) – Allows shallow wells drilled on personal property.

[House Bill 4466: Environmental Protection](#) – Prohibits releasing balloons into the atmosphere and provide civil fines.

[House Bill 4479 and 4480: Wastewater Treatment](#) – Regulates wastewater treatment systems and provides for assessments and evaluations.

[House Bill 4494: Sewage](#) – Requires “nonflushable” warning label for wipes.

[House Bill 4526 through 4528: Mining](#) – Provides sentencing guidelines for violation of intentional false state-

ment in a mining permit application or report and modifies conditions under which zoning ordinance may prohibit mining. Additionally, modifications to regulations for mining of sand and gravel operations are proposed.

[House Bill 4532: Lead Abatement](#) – Modifies certain definitions in lead abatement provision.

[House Resolution 52:](#) and [Senate Resolution 17: Toxic Waste Materials](#) – A resolution to encourage the United States Federal Government to increase transparency and notification standards around the transportation of toxic waste materials across state and community lines.

[Senate Bill 26: Air Pollution](#) – Utilizes civil and administrative fines to benefit communities affected by pollution.

[Senate Bills 152 and 153: Solar Facilities](#) – Requires the Michigan Public Service Commission to promulgate rules concerning community solar facilities and provides establishment of community solar facilities.

[Senate Bill 199: 2023-24 EGLE Appropriations](#) - Provides for 2023-24 fiscal year appropriations to the Department of Environment, Great Lakes and Energy.

[Senate Bills 225 and 226: Asbestos Abatement](#) - Requires public contracts for asbestos abatement projects under certain circumstances background investigation, public posting of certain information, and public hearings. Requires annual report on asbestos emissions program for demolition or renovation activity sufficiency of number of inspectors.

[Senate Bill 228: Pollution Prevention](#) - Repeals act preempting local regulation of plastic bags and other containers.

[Senate Bill 271: Renewable Energy](#) – Mandates use of 100% renewable energy sources by 2035.

[Senate Bill 275: Air Pollution](#) - Provides low-carbon fuel standard.

[Senate Bill 276: Electric Utilities](#) – Provides phaseout of certain coal-fired electricity-generating plants by 2030.

[Senate Bill 294: Environmental Protection](#) - Prohibits releasing balloons into the atmosphere and provide civil fines.

[Senate Bills 299 and 300: Wastewater Treatment](#) - Regulates onsite wastewater treatment systems and provides for assessments and evaluations.

[Senate Bill 327: Food Packaging](#) – Prohibits use of PFAS, bisphenols, and phthalates in food packaging.

[Senate Bills 88 and 89: Child Care](#) – Requires installations of filtration systems in child care centers and provides clean drinking water in schools and child care centers.

Rule promulgation is different from the legislative efforts. If you are interested in progress of rule sets, be sure to subscribe to the [EGLE calendar](#) for dates on upcoming public hearings and comment opportunities.

Additional news from EGLE is the announcement of the resignation of acting director [Dan Eichinger](#) who accepted a new role at Ferris State University and new Acting Director Aaron Keatley. Acting Director Keatley has served the role of chief deputy director for EGLE.

Mining of aggregates across the state is receiving signifi-



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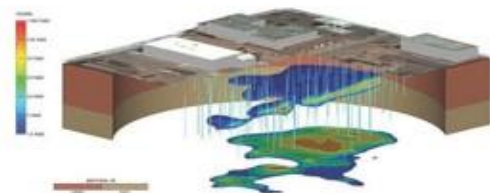
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cant attention. The following article from Gongwer News Service by Ben Solis was released on May 9, 2023.

Aggregates Industry, Environmental Advocates Square Off At House Panel

Several members of associations representing the aggregates industry and environmental advocates offered dichotomous testimony before a House panel taking up three bills that would give oversight of aggregate mining permitting to the state.

Before the House Regulatory Reform Committee on Tuesday was HB 4526 , HB 4527 and HB 4528 , sponsored by Rep. Pat Outman (R-Six Lakes), Rep. Tyrone Carter (D-Detroit) and Rep. Angela Witwer (D-Delta Township), respectively.

It was the first showing of the bills before the committee after being reintroduced last week, reviving the fight between some lawmakers and labor groups with local government organizations that took place last session over bills that did not make it to the governor's desk (See Gongwer Michigan Report, June 21, 2022).

While the aggregates industry, some unions and business groups have come out en masse to support package, environmental groups, local activists and some associations representing local governments were diametrically opposed to what the bills might do to local control over the permitting of mines in their area (See Gongwer Michigan Report, May 4, 2023; and Gongwer Michigan Report, May 3, 2023).

That said, the city of Inkster, which said it supported the bills, on Tuesday issued a retraction letter, noting that it would remove local authority, potentially negatively affecting businesses and residents, and bars municipalities from requesting changes.

Those same battle lines were drawn Tuesday before Regulatory Reform, with the industry claiming the local control aspect and intense political advocacy against it hindering growth in aggregates supply and the overall economy.

To that, activists and associations opposed to the legislation voiced continued concerns about not controlling their own community destinies free from noise, pollution and potential hazards. Those speaking against the bills also cautioned the sponsors, who they said were acting in good faith, not to pass legislation they claimed was written by and for the aggregates industry.

At the top of the meeting, Mr. Carter, the chair of the committee, extolled the sponsors' reasoning for putting the bills forward once again despite the controversy around the legislation that unfolded last year, while also thanking those on both sides of the issue for their willingness to engage in the process yet again.

Mr. Carter described the bills as "needed to lower the cost of road construction projects and save taxpayer dollars."

"This package is very much aligned with the commitment of the governor to fix our state's crumbling roads and infrastructure," he said. "I believe aggregate permitting reform is a huge part of our overall commitment to improving infrastructure. As you will hear today, the need for aggregate reform in Michigan is fundamental and critical. Crumbling roads (are) driving record demand for limited permitted aggregate sites. The rising costs of road construction will require immediate action to ensure we are making taxpayer dollars stretch as far as possible."

The multitude of attempts to move this legislation

through the years was a point of frustration for opponents.

"This is the third session, legislative session that I have been involved and speaking on these bills. We are here with a new set of legislators, a new year, same crap – point blank," said Jen Rigterink of the Michigan Municipal League. "We have been at the table a number of times trying to have discussions, actual meaningful discussions to solve problems. We're not saying that there's not an issue or some problems here that we can look at talking about and coming up with reasonable solutions to get at what the problems are. What you have in front of you, though, is a complete profit over people. And it's putting the industry front and center written by the industry for the industry here for you."

Doug Needham, executive director of the Michigan Aggregates Association, agreed with Mr. Carter in saying enacting state-controlled permitting handled entirely by the Department of Environment, Great Lakes and Energy would help solve a crisis in the aggregates industry. He also placed much of the blame at the feet of local governments either being slow to act or unwilling to permit new mine activity.


"We're in need of these bills because Michigan's crumbling infrastructure and strong economy is driving up demand for a limited amount of permitted aggregate," Mr. Needham said. "The statewide supply shortage is due to local units of government effectively blocking the opening of new mines, and they're doing this by using the very serious consequences language spelled out in PA 113 of 2011 ."

Mr. Needham asserted that the language was created as an honest attempt to give communities a standard to deny a permit if the mine in question would cause large consequences to the public wellbeing or health. But he said some communities like townships were denying permits based on concerns like more trucks on the road and intense local opposition, which he said now considers any effect on the community a "very serious consequence."

"This was not what was originally intended. As a result, they urge companies to go somewhere else to mine. It's very common for us to hear some version of, 'we understand we need the material. Just don't mine it here, go somewhere else,'" he said. "Unfortunately, we must find the material where it's located and this normally doesn't fit neatly into zoning processes. Sure, they can zone where 7-Eleven would be located or the size of a business sign, but we must mine where Mother Nature deposited the aggregate."

Among several questions, Rep. Mike Mueller (R-Linden) asked Mr. Needham, as it was a hot button issue, if his association would still consider supporting the packages if the Legislature made changes, specifically a permitting exemption for a Metamora Township gravel mine. The operation, if approved, would be built next to an Environmental Protection Agency Superfund site with polluted groundwater, leaving some community members concerned about the growth of plumes that sit underneath the site.

The Metamora Township site has been the flashpoint of this issue for years. Opposition there prompted the area's legislators, who are Republicans, to oppose statewide permitting, which in turn caused heartburn for the Republican-led Legislature about acting. Now, with Democrats in charge of the Legislature, that dynamic is gone.



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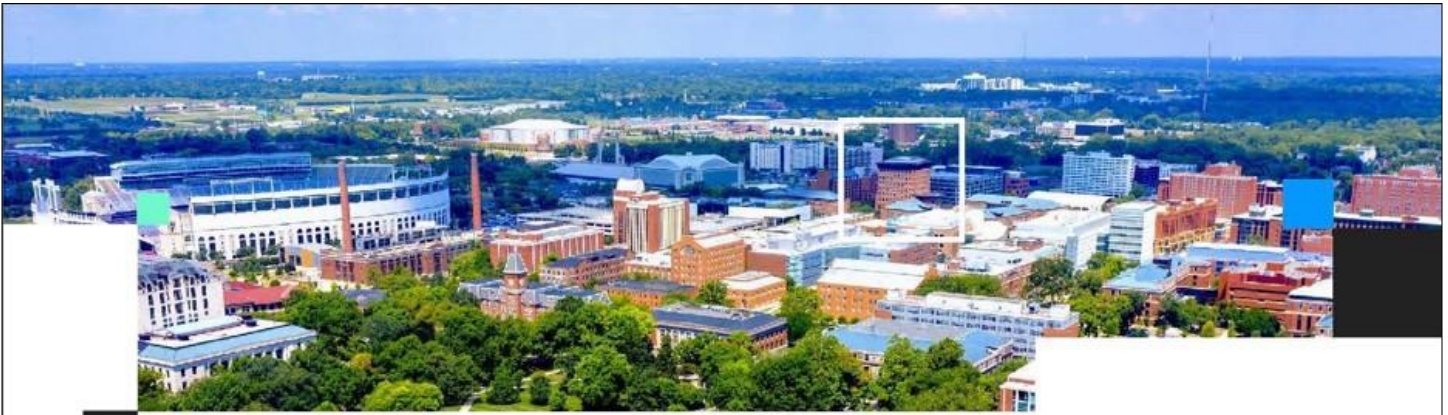
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Mr. Needham said his association opposed an exemption for a Metamora-based mine. Mr. Mueller pressed him a bit, asking if he believed the industry had gone as far as it was willing to compromise, to which Mr. Needham said the industry has made significant compromises while the bills were drafted.

Rep. Matthew Bierlein (R-Vassar) asked how many permits were denied over the last five years by a local government, to which Mr. Needham said it was hard to quantify because the reasons have all been different and some companies have just given up instead of completing the process or fighting the determinations of local governments.

Also speaking in favor of the bills on Tuesday was Lance Binoniemi, vice president of government affairs with the Michigan Infrastructure and Transportation Association, Kelly Kuiper of Great Lakes Excavating, Matt Double, vice president of USA Earthworks and the would-be Northstar Aggregates, which is locked in the court battle to work an existing mine.

Those opposed and speaking at Tuesday's committee meeting, in addition to Ms. Rigterink, were Judy Allen with the Michigan Townships Association, Andrea Brown from the Michigan Association of Planning and Megan Tinsley of the Michigan Environmental Council.

Each of them said in varying ways that the bills would be a detriment to communities attempting to regulate pollutants and noise, with effects on quality-of-life amenities and resources, and could upend placemaking efforts in communities that have a history of heavy industry or sprawl and were moving toward green and more habitable spaces.

Ms. Rigterink said the committee needs to look at the numbers presented by the aggregates industry claiming that there could be cost savings on road projects if mines are built closer to construction sites or Class A hauling roads, as she questioned whether it would equate real savings to taxpayers.

Several residents from the Metamora area also spoke in opposition, with some pleading with the committee to not move the bills forward if considerations for local con-

trol would be ignored.

EGLE Deputy Director Travis Boeskool was neutral on the package. He said EGLE has been reviewing the legislation for some time while also working with stakeholders. The department's focus, he said, has been to ensure that any potential state permitting program for aggregate mining operations is one that's structured in a way that can be administered effectively, while also being protective of public health, safety, and the environment.

Mr. Boeskool added that just this week, the department transmitted a number of comments and suggested changes to the sponsors' offices, trying to adjust aspects that affect those issues.

"Those suggestions run a pretty large gamut from small and really technical things, like how the contested case process might work to those with a larger impact, and including trying to shave some edges off areas that might be ripe for conflict with local residents," he said.

That includes issues surrounding the permit applications prescribed in the bills around existing mines, groundwater monitoring and habitat conservation so restoration efforts can take place following the use of the mine, which would be required afterward.

While it was unclear where the committee stood on the matter, Mr. Carter said the work was far from done and that it was clear more work was needed, whether that was by way of changes to the legislation through substitutions or amendments, or just a need for more public input.



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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/Jun 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. 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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European Patents: 3027562, 310519.



ASBOG Exam Update

ASBOG adopts Computer Based Testing for FG and PG Exams

As of March, 2023, the ASBOG Fundamentals of Geology (FG) and Practice of Geology (PG) Examinations are 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 throughout Michigan.

Central Michigan University qualifies candidates to

take the FG examination in Michigan and surrounding states. The next scheduled examination date is Friday, October 6, 2023.

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 October, the deadline to apply through CMU is August 15th.

Complete information on applying to take the FG exam is available at 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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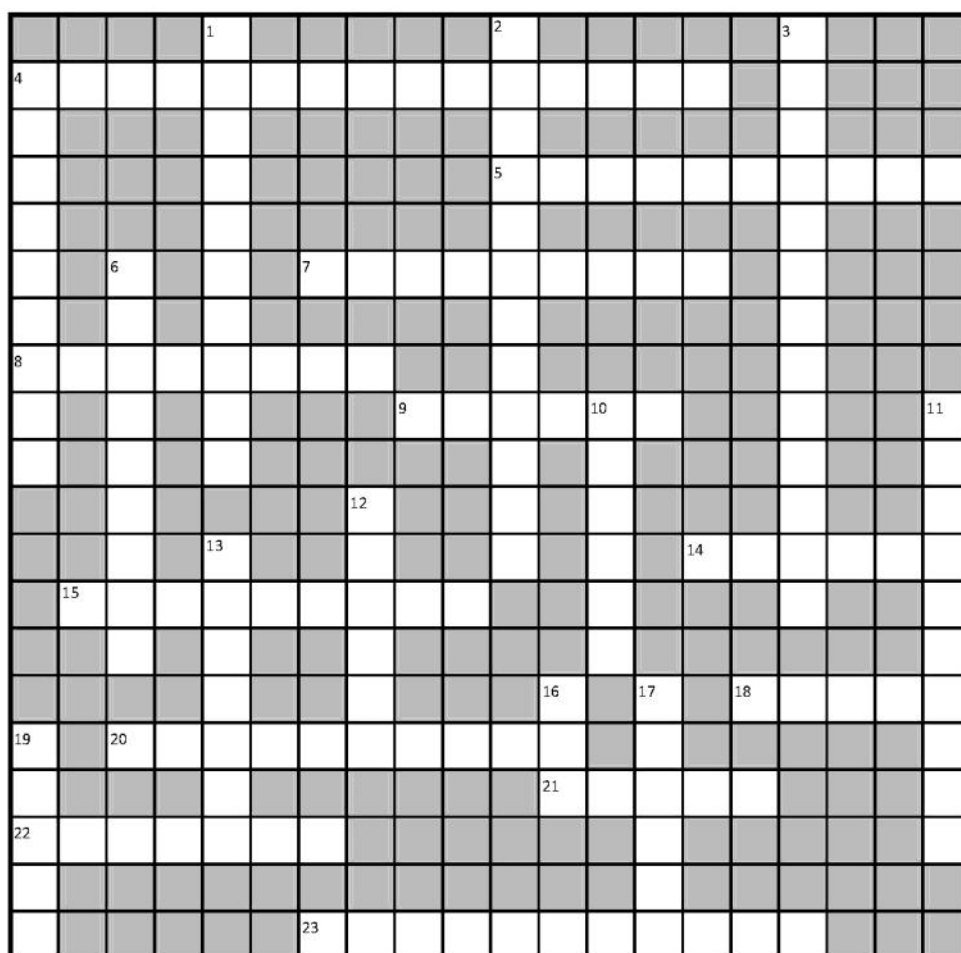
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Geology Crossword #13



Across

4. 2023 Q2 Editor's Column Subject
5. A measure of professional knowledge
7. All professional individuals are welcome
8. Typically retired member category
9. Highest Institute Award
14. First AIPG female President
15. An informal "teacher"
18. Presidential Certificate
20. A primary quality of several awards
21. Public Service Award
22. The first 743 members
23. Financial award for students

Down

1. Active interaction with ones peers
2. AIPG's First President
3. Takes over for President
4. Speaks for the Institute
6. Responsible for finances
10. Often a "slippery slope"
11. A solid base to build on
12. Responsible for publications
13. ECP Award
16. Primary publication
17. AIPG's guiding document
19. AIPG Board of Directors, abbrev.

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

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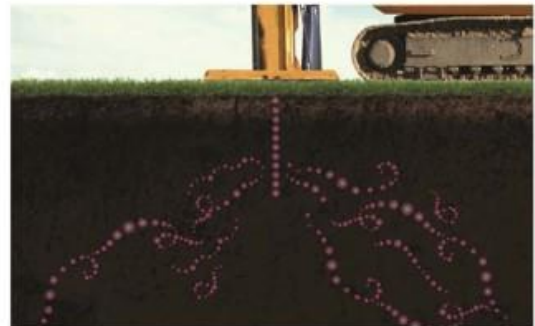
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2023 AIPG MICHIGAN SECTION ANDREW MOZOLA SCHOLARSHIP

The Michigan Section of the American Institute of Professional Geologists (AIPG) is committed to supporting undergraduate scholarships and has established the Andrew Mazola Memorial Scholarship to support undergraduate students majoring in geology with college education costs while encouraging student participation in AIPG.

Application Deadline and Award Date

Completed applications must be received by June 1, 2023. The scholarship awardee will be notified no later than June 30, 2023. The presentation of the scholarship shall be made to the student at the next scheduled Michigan Section meeting; the student awarded the scholarship is expected to attend the meeting.

**\$4,000 AWARD FOR AN
UNDERGRADUATE
STUDENT ENROLLED IN
AN ACCREDITED
MICHIGAN COLLEGE OR
UNIVERSITY**

ELIGIBILITY REQUIREMENTS:

- **At least a Sophomore**
- **Must be a student member of AIPG at the time of application**
- **Must have an overall GPA of 3.0 and a 3.5 or better in geology**

Students!

Why do you want to be a Geologist?

What was it that sparked your interest?

What are your career goals?

Do you participate in activities outside of the classroom that are geology related?

Apply today!

Basis of Awards

The scholarship award will be based on content and creativity of the cover letter, the letter of recommendation, and transcripts, as judged by the Scholarship Committee. Financial need is not a consideration for the basis of the award.

Application Process

1. Submit a cover letter introducing yourself and tell us why you want to be a geologist.
2. Submit a copy of your transcript (unofficial is acceptable) as documentation that you are a current student, and documentation indicating you have declared a major in geology/geoscience.
3. Submit a letter of recommendation from a geology/geoscience professor that provides an emphasis on your performance and activities in the classroom, in the department, and your character in how you work and help other students.

The application packet should be submitted to:

Attn: MI-AIPG Scholarship Committee Chair
Mr. Timothy B. Woodburne, CPG
Prein & Newhof
3355 Evergreen Drive, NE
Grand Rapids, MI 49525
e-mail: twoodburne@preinnewhof.com

Questions? Please contact Tim Woodburne at (616) 364-8491 or via e-mail.

19th Annual AIPG Michigan Section Golf Outing

Tuesday September 12, 2023

The 19th Annual AIPG Michigan Section Golf Outing promises to be another successful event. Proceeds generated from the outing benefit the AIPG K-12 Education Grant fund, which provides thousands of dollars to a variety of worthy projects every year. Your generosity has been and will continue to be the key to enabling organizations and schools to provide meaningful educational programs and activities in the Geosciences.

This event also offers our sponsors exposure to many of the most influential professionals in our industry. **Registration will be open on January 25, 2023.**

This year's outing will be once again at the beautiful Fox Hills and specifically their world class Golden Fox course in Plymouth, Michigan.

Place: Fox Hills – Golden Fox
8768 N. Territorial
Plymouth, MI 48170

Event: 18-Hole Scramble

Date: September 12, 2023

Registration: 7:30 to 8:15 am

Shotgun Start: 8:30

Registration

Register/Pay by **August 1**, \$700/foursome, \$200/Individual

Register/Pay after **August 1**, \$800/foursome, \$225/Individual

Golfer 1: _____

Golfer 2: _____

Golfer 3: _____

Golfer 4: _____

Registration and payments can be completed at the link below

<https://www.eventregisterpro.com/event/americaninstituteofprofessionalgeologists-1>

Additionally, registration can be done manually by completing this form and mailing it and a check to the information below. Please make sure to provide the point of contact for your foursome and the names of all golfers:

Make Checks to:
Michigan AIPG
630 Piper Road
Haslett, Michigan 48840
Attn: Kalan Briggs briggsk2@michigan.gov

Call 248-635-4576, or e-mail Kalan to reserve your place!

The AIPG-MI Section is a nonprofit 501(c)(6) Organization

Company: _____

Contact: _____

E-mail: _____

Phone: _____

Registration Includes: Continental Breakfast, green fees, range balls, lunch at turn, networking opportunities, and dinner. Also includes: 50-50 drawing, raffle prize baskets, and Grand Prize raffles along with other prizes including, Putt-4 Dough for \$2,500, men's and women's Longest Drive and Closest-to-Pin contests, and goodie bags for all participants!

19th Annual AIPG Michigan Section Golf Outing

Tuesday September 12, 2023

Sponsor Package Information

Sponsorship pricing levels are detailed below. We would like to humbly request that all sponsors assemble and donate a charity basket for raffling. Charity baskets can be of any theme and requested to be of minimum \$35 value (or more). Raffles tickets will be sold throughout the event with winners being drawn at the end of the event immediately following event ceremony and announcements.

Executive Sponsor - \$2,500 (2 available)

- 1 foursome and 33% discount for additional golfers
- Highest visibility signage at the event
- Corporate recognition at the awards presentation

Exclusive Dinner Sponsor- \$1,800

Investment includes:

- 1 foursome
- Signage at dinner
- Corporate recognition

Beverage Sponsor - \$800

Investment includes:

- Signage at the club house and on the beverage cart.
- Corporate recognition

Breakfast/Luncheon Sponsor - \$600

Investment includes:

- Signage at the breakfast and at the turn grill/tent.
- Corporate recognition

Hole-in-one Sponsor - \$600 (2 available)

- Signage on all Par 3 Holes.

If a golfer hits a hole-in-one, the prize will be, either \$10,000, a golf vacation or a deluxe set of irons.

Tee Box or Hole/Flag Sponsor - \$250 (25 available)

Investment includes:

- Choice of tee box or green signage

Skill Sponsor – \$300 (4 available)

Investment includes:

- Tee box signage
 - Corporate recognition
- “Longest Drive”, “Closest to Pin” awards to Male/female for each.

Putt-4-Dough Sponsor – \$400

Investment includes:

- Signage on the putting contest area, corporate recognition during the event (includes contest coordination at the turn and following golf provided by you). Provides interaction with all participants.

Team Photo Sponsor: - \$400

Investment includes:

- Signage and option to provide a photographer from your organization.

Goodie Bag Sponsor - Give-away items for 100 or more golfers (open and encouraged for all sponsors!)