

Geologically Speaking

A Michigan Section AIPG Publication

Inside This Issue:

EMU Student Chapter News

Taking the ASBOG Exam

Regulatory Roundup!

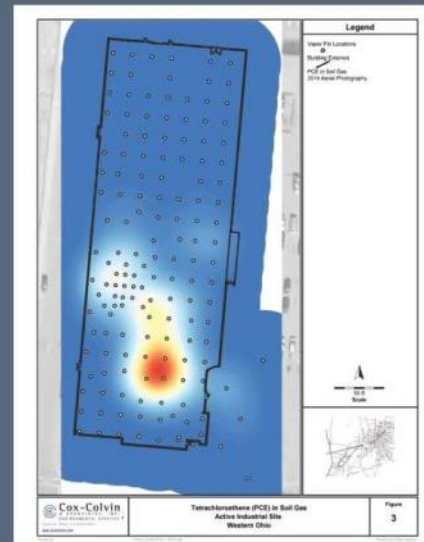
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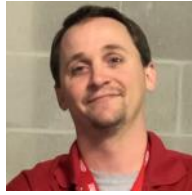
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Front Cover: The Sturgeon Gorge falls. Photo by Sara Pearson, 2018. The basalt forming the falls is the 1.1 billion year old Portage Lake Volcanics. The Jacobsville Sandstone forms the sides of the gorge a few hundred feet downstream of the falls.

THE MERIT ADVANTAGE



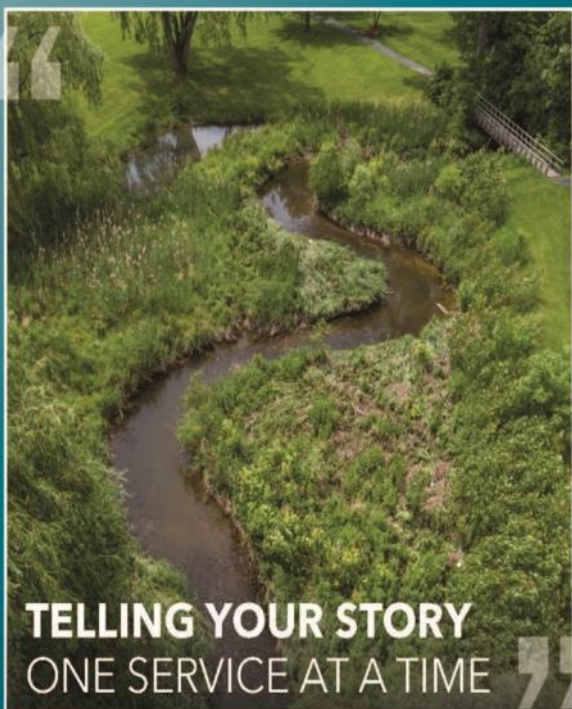
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Geology Crossword #14 Solution

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Across

- Glasses for viewing 3-D
- Shallow dishes, for separation
- Slabbing tool
- Prevents a burn
- Hand protection
- Dining implement
- Lodestone
- Reading material
- Toxic element
- Measures stratigraphic thickness
- Goodbye, slang
- Long dash
- Strong repellant
- A type of coral
- Cephalopod chamber name
- Multi-use directional tool
- Storage for drilling samples
- For checking relative durability
- Portable magnifyer

Down

- Unglazed ceramics for color check
- Satellite technology, not TV
- For heaping it on
- For slaking one's thirst
- For fluorescent minerals
- For recording one's findings
- Pointed digging tool
- For measurement
- For stashing precious specimens
- For particle size separation
- Mjöllnir
- For gentle work
- Topographic or geologic
- Provides crystallographi info
- Caustic liquid
- For use on ice or wood

From the President's Desk

Hello Michiganders, as I finish out my term as President of your Michigan AIPG Section, I'd like to reflect on the position that I have held for a brief moment of time within the long history of this group. Like all groups, leadership is something that is pivotal for organizational success, critical for constant progress, and is a privilege to lead by the virtue of the willingness of others to place their trust and faith in them. Leadership within this organization is something that is done so voluntarily and with personal sacrifice of time. With that said, the experience gained from serving selflessly is immeasurable. To be obligated and committed to think altruistically while respecting multiple points of view is something not often experienced elsewhere. My experience has forced me to evaluate multiple perspectives, think critically about sustainability and practicality, while ever remaining realistic about what is feasible and worthwhile. Fortunately, most of these attributes have related back to my personal life and career and are experiences that I will leverage and learn from for the rest of my life.

Leadership is something that everyone experiences. At best, it is experienced within a group or a team and leads to some level of success with lessons learned that everyone involved gets to walk away as better people and ready to impact the next experience they find themselves in. At minimum, leadership can be on a personal level. I equate personal leadership with personal accountability. Even for those that are not in a formal leadership position, they are still ultimately accountable for decisions and outcomes they are responsible for. Regardless of the level of leadership experienced, one must enter every situation with a solution-oriented approach and commit to evaluating the situation in hindsight to see if there were areas of improvement, or if the solution adopted was potentially the best strategy. My time serving on AIPG has allowed me to experience both ends of this spectrum. I have been involved with countless situations where these opportunities for personal accountability and backward reflection have been available and know that I am now a more effective leader because of it.

I encourage everyone to strive for advanced leadership positions whenever possible for at least your own personal gain, but absolutely for a group's benefit as all backgrounds and perspectives contribute to a greater whole. If we do not have ongoing self-improvement and awareness, then we are failing ourselves to achieve what we are capable of. By not getting involved we are also failing the groups we associate with by not having the best chance for optimal success as we are all a sum of the whole, and without the portion that is individually contributed, then we will forever have room for improvement.

This year within the AIPG Michigan Section has been exciting and has been successful. However, we are still capable of so much more because there are more ideas that need to be offered, there are still more people to volunteer with unique perspectives to contribute, and more to get out of an organization that can contribute on an

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!

even bigger way that we already are. As my term concludes, I am anxious to see what is next for an organization that I feel so strongly for and one that has personally benefited me in so many ways. I sincerely hope that all of you put yourselves in positions to have similar experiences than mine, feel empowered with the understanding of just how critical your personal perspective is, and strive to affect the greater good.

Cheers to a renewing and refreshing 2023, may the last couple of months be the best of them all and I wish everyone continued success.

Kalan

Support our Sponsors!

The Section Executive Committee would like to remind its members to support the companies advertising in this publication. Consider working with these companies, and when you speak with their representatives, let them know that you saw their ad in the Michigan Section AIPG publication *Geologically Speaking*.



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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:

As we head into fall, I can report that the Section's Executive Committee has continued to meet monthly. The Section remains in a strong financial position as we look to close out the year. Overall, the year has been busy with our Workshop, field trip, golf outing, and recent national meeting held in Kentucky where we had a good member and student presence. If you haven't already seen the notices, the Section leadership is seeking nominations for the Secretary and ECP roles along with the various section awards. Please consider joining the Executive Committee and help shape the future of the Section. We are currently planning to go live with our new section website in the new year with our website creator currently building out all of the subpages and populating the relevant content.

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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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...

This edition features a few bits a pieces of information you may find interesting or useful.

Section 2.3.8 of the National Bylaws is about Continuing Professional Development. It states:

*“A program for recognizing Continuing Professional Development (CPD) activities by AIPG Members has been approved by the Executive Committee. All AIPG Members are encouraged to participate in the CPD Program. Details about this program can be found on the Institute’s web site and descriptions of and discussions concerning the CPD have been and will continue to be published in *The Professional Geologist*.”*

AIPG Membership Applications

The National Executive Committee has been working to streamline the application process for individuals wishing to apply for AIPG membership, particularly for CPG candidates. 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.

Member Termination

Section 2.7.3 Termination

A Member or Adjunct may be terminated, or other disci-

pline may be imposed, with or without prejudice, by action of the Executive Committee or of an officer or committee to which such authority has been delegated by the Executive Committee for:

1. Failure to pay dues or other obligations; or
2. Misrepresentation of the Member’s or Adjunct’s qualifications, or a change in those qualifications resulting in the failure to continue to qualify as a member or adjunct; or
3. Misuse of the Institute’s name in a way not consistent with the Institute’s principles; or
4. Misuse of the Institute’s seal or certification; or
5. Violation of the Code of Ethics, as determined under procedures adopted by the Executive Committee; or
6. Conviction of any felony, or of any other offense, that the Executive Committee finds related to the practice of geology or to bear on the Member’s or Adjunct’s professional ethics, integrity, and competence; or
7. Imposition of discipline by any professional licensing or registration board involving the suspension or revocation of the right to practice geology; or
8. A ruling of insanity or mental incompetence by a legally constituted authority; or
9. Other grounds specifically stated in these Bylaws.

Don’t forget to renew your dues for 2024! They are due by December 31st.

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.

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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.

Coming Events

November 4, 2023: Mid Michigan Rock Club Annual Show, Chippewa Nature Center, Midland, Michigan.

November 4, 2023: AIPG National Executive Committee Meeting (Virtual). For details and an invite, email Cathy Duran at cld@aipg.org.

November 9, 2023: MAEP Professional Development Meeting, Block Brewing Company, Howell.

December 5-7, 2023: Great Lakes PFAS Summit (Virtual).

December 7, 2023: MAEP Annual Meeting, Weber's Inn, Ann Arbor.

December 9, 2023: AIPG National Executive Committee Turnover Meeting (Virtual). For details and an invite, email Cathy Duran at cld@aipg.org.

December 12, 2023: Michigan Section AIPG Annual Meeting. Weber's Inn, Ann Arbor. Technical Presentation TBA. Student poster contest for both graduates and undergraduates. See registration flyer at the end of this edition.

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

February 17, 2024: AIPG National Executive Committee

Meeting (Hybrid), Nashville, TN. For details and an invite, email Cathy Duran at cld@aipg.org.

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

June 11-12, 2024: Michigan Section Environmental Risk Management Workshop, *Data Driven Decision Making*, Ralph A. MacMullen Conference Center, Roscommon, Michigan.

August 10-13, 2024: AIPG Annual Meeting, Durango, Colorado. Details forthcoming in TPG.

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:

Marissa Hudgins, ECP-1033; Christian Lundy, ECP-1035; Eric Schuemann, ECP-1034; Scott Topole, ECP-1080; Kat Utter, ECP-1082; Chris Landrie, MEM-3539; Daniel Ten Brink, MEM-3542; Edmond van Hees, MEM-3533; Mike Baldus, SA-11845; Lauren Bryan, SA-11772; Angela Castle, SA-11764; Paul Cousins, SA-11777; Samantha Davies, SA-11776; Jacob Dunwoody, SA-11768; Maya Gianneccchin, SA-11765; Dylan Harter, SA-11846; Fletcher Kirkwood, SA-11780; Haley Murphy, SA-11844; Andrew Neckermann, SA-11751; Gregory Oduor, SA-11756; Nicholas Regan, SA-11934; Madison Smith, SA-

11759; Abdiqani Yaasiin, SA-11941; Yasmina Zimmer, SA-11763; and Chase Zobl, SA-11929.

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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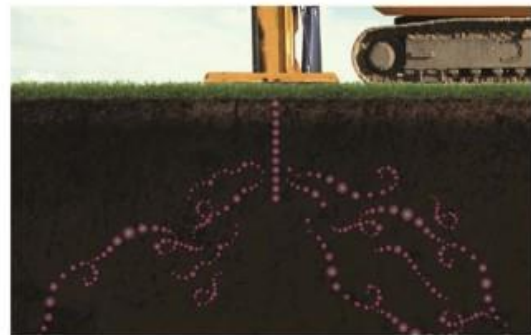
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Biogeochemical – GeoForm® Reagents

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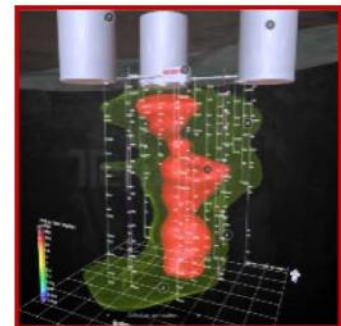
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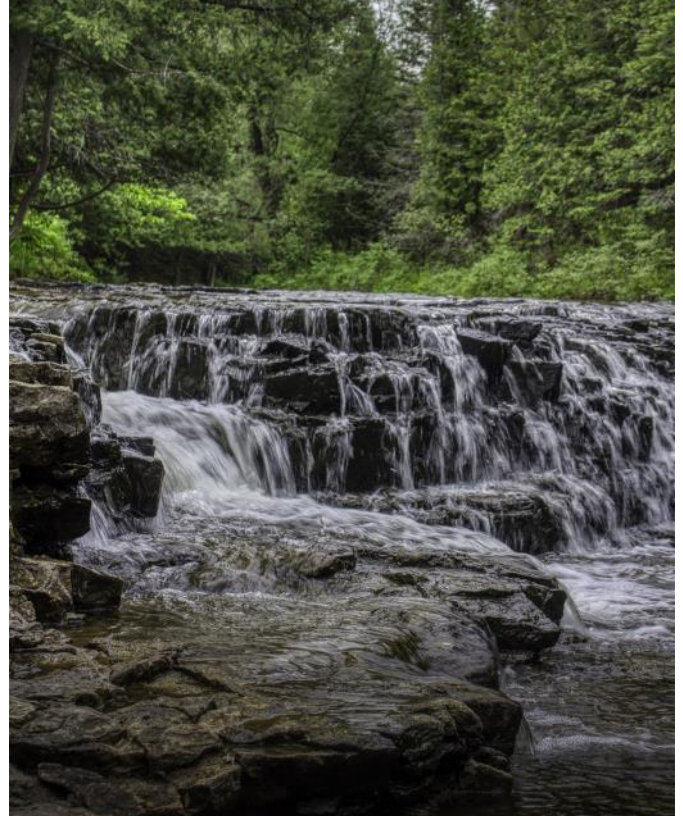
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Where in Michigan?

The August 2023 edition of *Geologically Speaking* featured the photograph at right. No one correctly identified the photograph, or even ventured a guess. Here's a clue: this location is the only universally-accessible waterfall in the U.S.

This edition of *Geologically Speaking* features the same 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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2023

Update from Eastern Michigan University's Student Chapter!

E

Here's what we've been up to:

We started off the year at Eagle Fest, a day at the beginning of the semester where student organizations can advertise their club, and students can see what the clubs have to offer! We had a great turnout! Many people signed up for our email list and started showing up to meetings. Even EMU's mascot Swoop stopped by to look at all the rocks we had on display.



Photo 1: EMU Geoclub officers Abdiqani Yaasiin, Lee Trumbull, Rose Allen, and Jenna Thompson at Eagle Fest. Photo provided by Rose Allen.

Students who enrolled in field camps or participated in internships during the summer 2023 semester gave informational presentations at geoclub. The presentations provided students who will be attending field camps or pursuing a career in environmental consulting an opportunity to learn about what happens at field camp and during an internship. This year we had students present their field

camp experiences from the University of Michigan's Camp Davis, Bowling Green State University, and Idaho State University.

We had a day to prepare for the Geological Society of America's (GSA) Connects 2023 conference. Several students were presenting their research at the conference, so we had a meeting where they could practice their presentations and get feedback to make improvements. Those who went to GSA had a great time learning about the new geoscience research being done and connecting with peers and professionals.

Seven students and our faculty advisor, Chris Gellasch, attended the AIPG/MAEP joint meeting in October, where they enjoyed networking and the technical presentation.



Photo 2: EMU students and faculty at the Joint MAEP/AIPG meeting in October. Photo provided by Rose Allen.

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Eastern Michigan University's Geology Department Activities

EMU Geology Faculty participate at MESTA annual Rock Party

On Saturday, September 9th, approximately 75 members of the Michigan Earth Science Teachers Association (MESTA) convened at EMU's Fish Lake Environmental Education Center near Lapeer, MI for their annual Rock Party. EMU Geology faculty member Dr. Hannah Blatchford was on hand to provide insight into the rock and mineral specimens being displayed and raffled off at the event. Dr. Blatchford also shared information about EMU's Geology and Earth Science undergraduate degree programs, and the original geoscience research EMU undergraduates conduct with faculty. She also discussed opportunities for student professional development offered through EMU's AIPG Student Chapter.



Photo 1: People use their raffle tickets at the MESTA Rock Party. Photo provided by Chris Gellasch.

The information was well received by attendees, many of whom are high school Earth Science teachers who interact with EMU's future Geology and Earth Science

majors. By engaging in outreach with the MESTA community, the Department of Geography & Geology is able to share their subject area expertise and increase awareness of the robust undergraduate programs in Geology and Earth Science available at EMU.

MESTA, founded in 1967, is a group of Michigan-based, K-12- and college-level Earth science educators with the mission of "the advancement, stimulation, extension, improvement, and coordination of Earth and Space Science education at all educational levels."

EMU Hosting Summer Internship Symposium

Looking for Summer Interns? The EMU Environmental Science and Society (ENVI) program will host an Internship Symposium on Tuesday January 30th, 2024 from 6-8pm. Located in Strong Hall on EMU's campus, this event is an opportunity for organizations to meet with dozens of students from the ENVI program and related majors to discuss summer internships. Last year we had more than 25 organizations (industry, government, and non-profits) and more than 50 students participate. Any interested organization should contact ENVI Internship Coordinator, Dr. Chris Gellasch, at chris.gellasch@emich.edu for more details.



Photo 2: Students at the 2023 ENVI Internship Symposium learn about organizations looking for summer interns. Photo provided by Chris Gellasch.

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EMU Geology Faculty and Students attend GSA Connects 2023 in Pittsburgh

Six EMU Faculty and twelve undergraduate students traveled to Pittsburgh, PA from 15-18 October for the Geological Society of America (GSA) Connects 2023 meeting. Students and faculty gave oral and poster presentations on their research and EMU took part in hosting a joint Michigan Universities alumni reception. In addition to research presentations, students took part in many Geo-Careers events at the meeting to help them prepare for their future careers as geologists. Dr. Chris Gellasch completed his year as Chair of the Hydrogeology Division by presiding over several events, including a Career and Networking event where students met with mentors from industry, state government, and federal government agencies to discuss careers in the geosciences and how to map out their career path.



Photo 3: Faculty and students at the EMU alumni reception at GSA Connects 2023. Photo provided by Chris Gellasch.

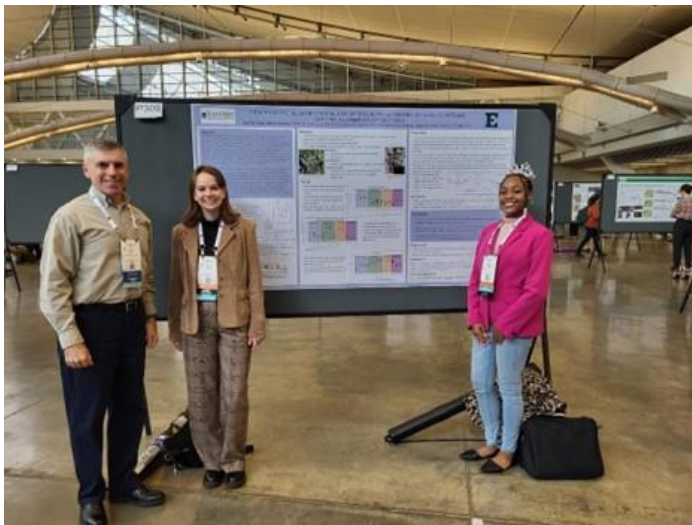


Photo 4: Dr. Chris Gellasch and his students, Rose Allen and Sydney Davis, at their research poster. Photo provided by Chris Gellasch.



Photo 5: Dr. Chris Gellasch, Chair of the GSA Hydrogeology Division, poses with a division banner at GSA Connects 2023. The picture on the banner shows students Anne Wisner and Shawn Bozarth collecting a groundwater sample at EMU's Fish Lake Environmental Education Center. Photo provided by Chris Gellasch.

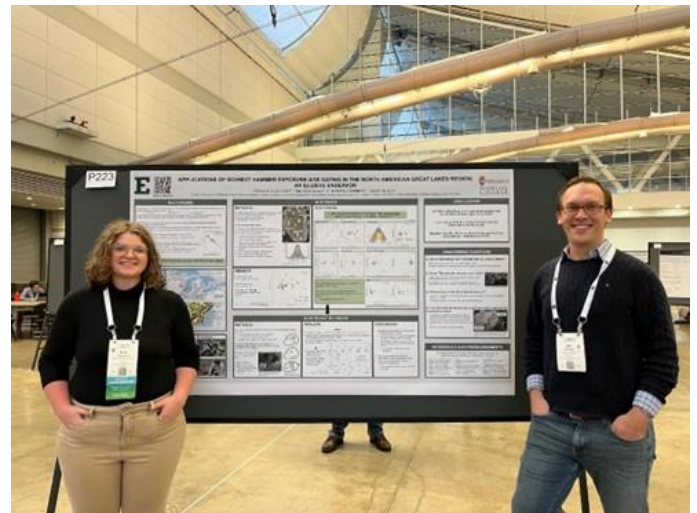


Photo 6: Dr. Eric Portenga and his student Anne Shepherd at their research poster. Photo provided by Chris Gellasch.



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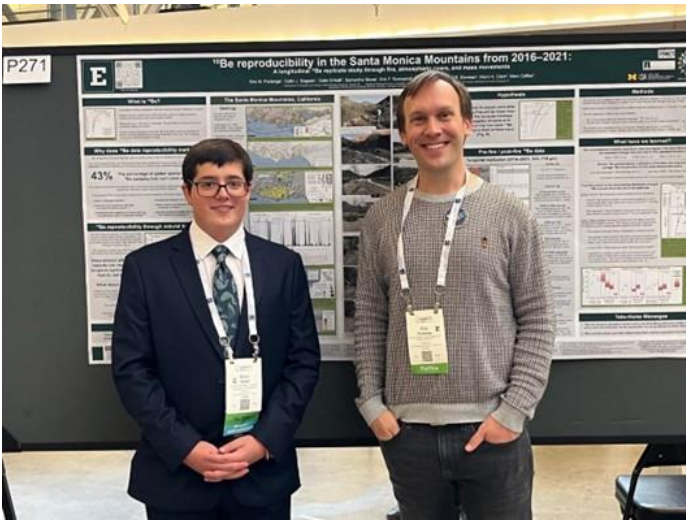


Photo 7: Dr. Eric Portenga and his student Colin O'Neil at their research poster. Photo provided by Chris Gellasch.

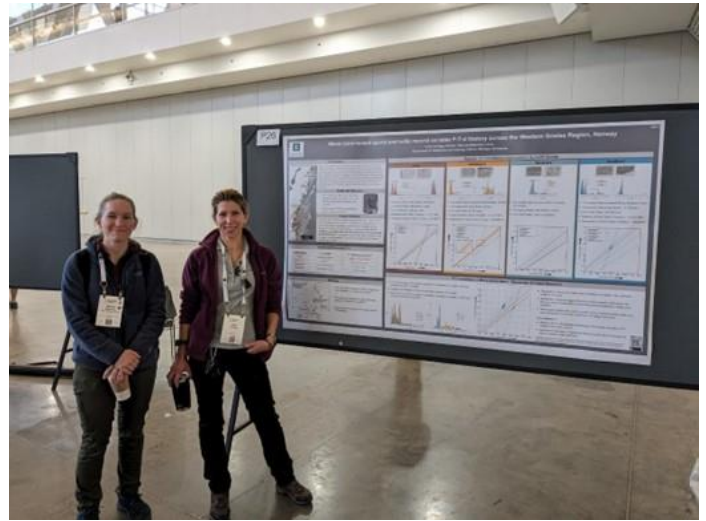


Photo 8: Dr. Hannah Blatchford and her student, Emily St. Onge, at their research poster. Photo provided by Chris Gellasch.

2024 Workshop Call for Abstracts!

The American Institute of Professional Geologists (AIPG) Michigan Section is delighted to invite you to submit abstracts for the 13th annual Environmental Risk Management Workshop. This technical training event is designed to empower environmental professionals through practical applications and insightful case studies. Our unique platform brings together experts from consulting, regulatory, academic, and industry sectors, fostering collaboration and partnership to address intricate environmental challenges in a peer-to-peer learning format.

Theme: Data Driven Decision Making

In 2024, we focus on the pivotal role of data in decision-making processes related to environmental contamination, public safety threats, remediation strategies, and site closures. High-quality data collection, rigorous quality assurance/quality control (QA/ QC), and effective management of big data sets are imperative in today's digital age. As technology advances, we have more tools and resources at our disposal than ever before.

The 2024 workshop encourages discussions on innovations in data collection, interpretation, and management. We aim to explore strategic planning for data collection and evaluation, combining foundational knowledge with the latest innovations to tackle environmental issues with fresh perspectives.

We welcome abstract submissions with data as a primary focus and how it is used to make risk-based decisions in the following key areas:

- **Contaminant Characteristics:** chemistry, hydrogeochemi-

cal evaluations, phase transformation, co-mingling contaminant behaviors

- **Emerging Contaminants:** Per and poly-fluoroalkyl substances (PFAS), microplastics, pharmaceuticals, viruses
- **Tools for Evaluating Contaminant Fate and Transport:** Monitoring approaches, models, chemical analyses, unknown vs. known contaminants
- **Data Collection and Analysis:** data collection tools, groundwater modeling, calculation of the contaminant mass, documentation and CSM development, life cycle analysis and cost-to-closure solutions.
- **Geologic Conditions and Complex Environments:** geologic conditions influence movement, rate of contaminant migration based on soil type and lithology, retardation factors and influences, groundwater/surface water interface
- **Remediation:** Enhance remedial approaches, measuring natural attenuation or source zone depletion, chemical and/ or biological in-situ remediation
- **Closure:** Documentation to demonstrate risks are managed based on contaminant fate and transport, models, life cycle analysis and cost-to-closure solutions.

Presentation Details:

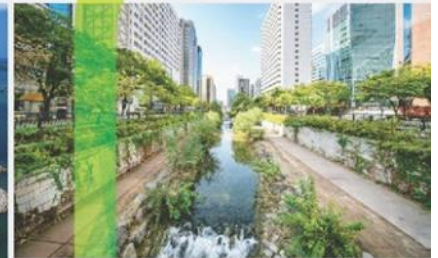
Two-part abstracts are welcome for more in-depth presentations.

Article continues, p. 27



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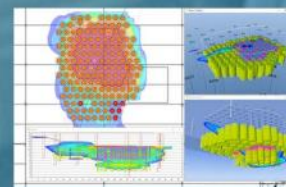
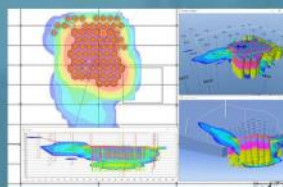
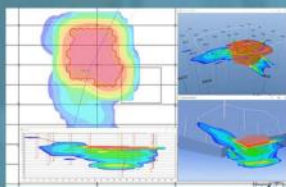
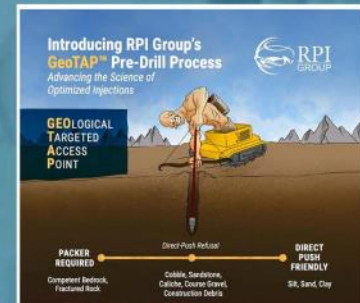
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In Situ Chemical Oxidation (ISCO) (M, H)	ISCO (M, H)		
In Situ Chemical Reduction (ISCR) (L, M)	ISBR (L, M)		
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Member's Corner

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.

On August 1, 2023 our newest Early Career Professional board member, Sienna Meekhof, assumed office, taking over from Joe Swarz.

Sienna Meekhof is a Staff Engineer in the Geotechnical group at SME. She loves working with instrumentation like MAM/MASW (seismic) and resistivity, as well as working on trenchless utility installation projects.

She graduated with a Bachelor of Science in Geology from Michigan Technological University (MTU). During her time at MTU, she was Treasurer of the Geology Club, Vice President of the AIPG Student Chapter, participated in undergraduate research focused on petrology and mineralogy, and co-oped in the geotechnical group at SME.

Like any classic geologist, she likes to spend her free time rock hounding, hiking, skiing, and exploring National Parks.



Call for Abstracts, continued

Presentations are allotted 30-40 minutes.

Outdoor Demonstrations:

In addition to traditional case study abstracts, we are also inviting demonstration abstracts that may include outdoor practical demonstrations. Join us at the 2024 AIPG Michigan Section Environmental Risk Management Workshop to share your expertise, network with industry leaders, and contribute to the advancement of the environmental science community.

Abstract Submission Deadline: January 15, 2024

Abstract submissions shall be emailed by the due date to the workshop chair, Sara Pearson at pearsons@michigan.gov.

For inquiries or further information, please contact Sara Pearson.

We look forward to your contributions and a successful event in 2024!

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 Matt Rhoades, National Past President for sharing information about an interesting YouTube documentary featuring Idris Elba narrating the story of gold. <https://www.youtube.com/watch?v=R7UikzYdgTc>.

Here are a couple of other "fun" links:

15 Amazing Geologic Formations: <https://www.youtube.com/watch?v=SvtwSR-FXko>.

Top 20 Incredible Geologic Oddities: <https://www.youtube.com/watch?v=KrWW6O-GXBc>.

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Regulatory Roundup

On October 12, 2023, the Michigan Department of Environment, Great Lakes, and Energy (EGLE) issued a press release announcing new surface water values for two additional PFAS compounds Perfluorohexanesulfonic Acid (PFHxS) and Perfluorononanoic Acid (PFNA). PFHxS and PFNA are members of the larger group of per- and polyfluoroalkyl substances (PFAS).

The new water quality values (WQVs) are the latest added to the state's existing list of three PFAS compounds including PFOS, PFOA, and PFBS.

The agency's Water Resources Division (WRD) determined that sufficient data was available to generate human health WQVs for both PFHxS and PFNA. Following the risk assessment method provided in Rule 323.1057 (Rule 57), a PFHxS concentration of 210 parts per trillion (ppt; or nanograms per liter) and PFNA concentration of 30 ppt was set for surface water. Concentrations of 59 ppt for PFHxS and 19 ppt for PFNA were established for surface water specifically protected as a drinking water source.

Aquatic life values for PFHxS and PFNA are currently under development. For PFAS, human health WQVs are

significantly lower when compared to aquatic life values and provide a more conservative endpoint with the overall goal of protecting public health. Therefore, the decision was made to move forward with publication of the human health WQVs for PFHxS and PFNA while the aquatic life values are still being prepared.

Water quality values define the maximum concentration of a chemical that can be in Michigan's surface waters (lakes, rivers, streams, etc.) without adversely impacting aquatic life, recreational activities, fish consumption, and other beneficial uses. They are also used to help determine limits for discharging pollutants from water treatment plants, industrial and commercial facilities, and other regulated entities.

The human health WQVs are not the same as the PFAS Maximum Contaminant Levels (MCLs) which apply to drinking water systems. The Michigan PFAS MCLs are intended to apply to public water systems, protect people from excessive exposure to PFAS substances from the ingestion of finished drinking water, and were derived using methodologies equivalent to the Safe Drinking Water Act.

The Rule 57 Water Quality Values for Select PFAS (listed in nanograms per liter which is equivalent to parts per trillion) are as follows:

PFAS	HNV* (drinking) (µg/L)	HNV* (nondrinking) (µg/L)	FCV* (µg/L)	AMV* (µg/L)	FAV* (µg/L)
PFOS	11	12	140,000	780,000	1,600,000
PFOA	66	170	880,000	7,700,000	15,000,000
PFBS	8,300	670,000	24,000,000	120,000,000	240,000,000
PFHxS**	59	210	-	-	-
PFNA**	19	30	-	-	-

*Human Noncancer Value (HNV), Final Chronic Value (FCV), Aquatic Maximum Value (AMV), Final Acute Value (FAV)

** New Water Quality Values

(-) Aquatic Life Values for PFHxS and PFNA are currently under development

EGLE will continue to monitor ongoing actions taken by U.S. Environmental Protection Agency and other state agencies related to PFAS. As the science and understanding of PFAS continues to evolve, WRD may issue further updates to Rule 57 PFAS to be protective of both human and environmental health.

Clean Drinking Water Access Act

Safe drinking water for schools and daycares has been a focus of the “Filter First” House Bills HB [4340](#), [4341](#), [4342](#) and Senate Bill [88](#). The bills require schools and daycares to develop a drinking water management plan that includes the identification of water outlets categorized by water use and the type of filtration as well as regular replacement of filter cartridges. Routine water testing, signage, notification processes, and reporting are also requirements of bills.

The Department of Licensing and Regulatory Affairs (LARA) and EGLE have advisory responsibilities, and EGLE or its representative would be required to perform water testing in schools and create a program to assist schools and child care centers in meeting the bill’s requirements.

The bills have passed both houses and were presented to Governor Gretchen Whitmer for signature on October 17, 2023.

Environmental Literacy Task Force

House Bill [4961](#) would create an Environmental Task Force that would be made up of 13 members with representatives from the Department of Education, EGLE, the Department of Natural Resources, the Department of Ag-

riculture and Rural Development, school groups and a science association. One of the goals is to provide opportunities for students to engage in outdoor learning and create professional development opportunities for teachers. Another goal is to help develop an environmental literacy curriculum.

Inland Lakes

Senate Bill SB [398](#) and House Bill HB [4832](#) would amend the Natural Resources and Environmental Protection Act, PA 451 of 1994, as amended to authorize EGLE to issue an emergency order requiring the owner of a structure or fill located on bottomlands to immediately repair or remove the structure or fill, or any other necessary action. The bill was introduced on June 21, 2023.

Many more bills were introduced in October, some are moving through the House and Senate committees, and a few are being presented to the governor to become law. We encourage our members to speak up and lend your science knowledge and professional experience 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](#).

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.

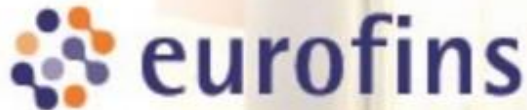
While most submissions will be accepted, we do not accept articles that are a sales pitch for a product or company.

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. 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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Thoughts and Advice on Taking the Computer Based FG and PG

By Luke Vermeulen, MEM-3372

Hello all! In March I took ASBOG's first computer-based Offering of the Fundamentals of Geology (FG) and Practice of Geology (PG) exam in March 2023 and wanted to convey a few thoughts and some advice about taking the test to help all Michigan AIPG members who so desire to successfully pass them.

Taking the Test

Arrive Early. My testing center was extremely busy with other test takers taking a variety of other tests. After waiting in line to check in, I was given a locker for my belongings and then waited for about twenty minutes to be called into the testing room, at which point I was searched for prohibited items and logged on to my testing computer. This whole process took about 45 minutes for me.

Know the Rules and be your best advocate. Do not expect the testing center employees to be familiar with the ASBOG test taking rules. Know the rules and advocate for them. This is a low-density test only offered twice a year. Initially the testing center wanted me to take the PG before the FG and then refused to allow me a break between the two exams. At first, they also wanted me to use a large dry erase marker and laminated paper as my scratch paper rather than pencil and paper. If you know the testing rules as published by ASBOG, you can push back against anything else the testing center wants to do.

Pace Yourself. The FG consists of 140 questions and the PG 110 to be answered over a four-hour period each. Answers you are confident in will likely be completed quickly but questions you are unsure about may take longer. Be mindful of the clock and flag challenging questions to return to if you have the time.

Contents of the Test

This is a test meant for All Geologists. The practice of geology varies widely based on locality and sub-discipline. The portions that challenged me most were those that I have personally had little experience with such as

economic geology or those subjects that are region specific like earthquake hazards. Take time to reflect on where those gaps lie in your own geological understanding as related to the testing subjects and tailor your preparation accordingly.

Best, Most, Least Questions. Many of the questions (especially on the PG) use a format that ask you for the "best, most or least" option among several plausible answers. An example (not from the March test) of this would be: "What is the BEST drilling technique for a specific (detailed in the test) soil type and site condition"? or "What is the LEAST likely remote sensing technique (from those listed) to prove effective given specified site conditions?" Several of the possible answers could typically be eliminated as being unreasonable or impractical leaving one or two plausible choices for you to consider.

The Worst Game of Jeopardy Ever. Questions about obscure geological terms, processes or other barely understood (by me) concepts made the FG/PG at times feel like an awful trivia game. Flagging these types of questions and moving on to those that I could quickly and confidently answer helped me keep my momentum going on the test and then triage the questions that I thought I might be able to answer as opposed to those where I could muster nothing more than a wild guess.

In Conclusion

Best wishes and good luck to all Michigan AIPG members who are, or are planning to take the FG and PG. It is hoped that this short reflection will help you prepare for and pass these tests!

Luke Vermeulen is a geologist with the United States Army Corps of Engineers Detroit District and may be reached at luke.vermeulen@usace.army.mil.

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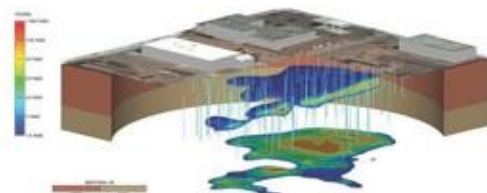


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ASBOG Exam Update

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 has passed.

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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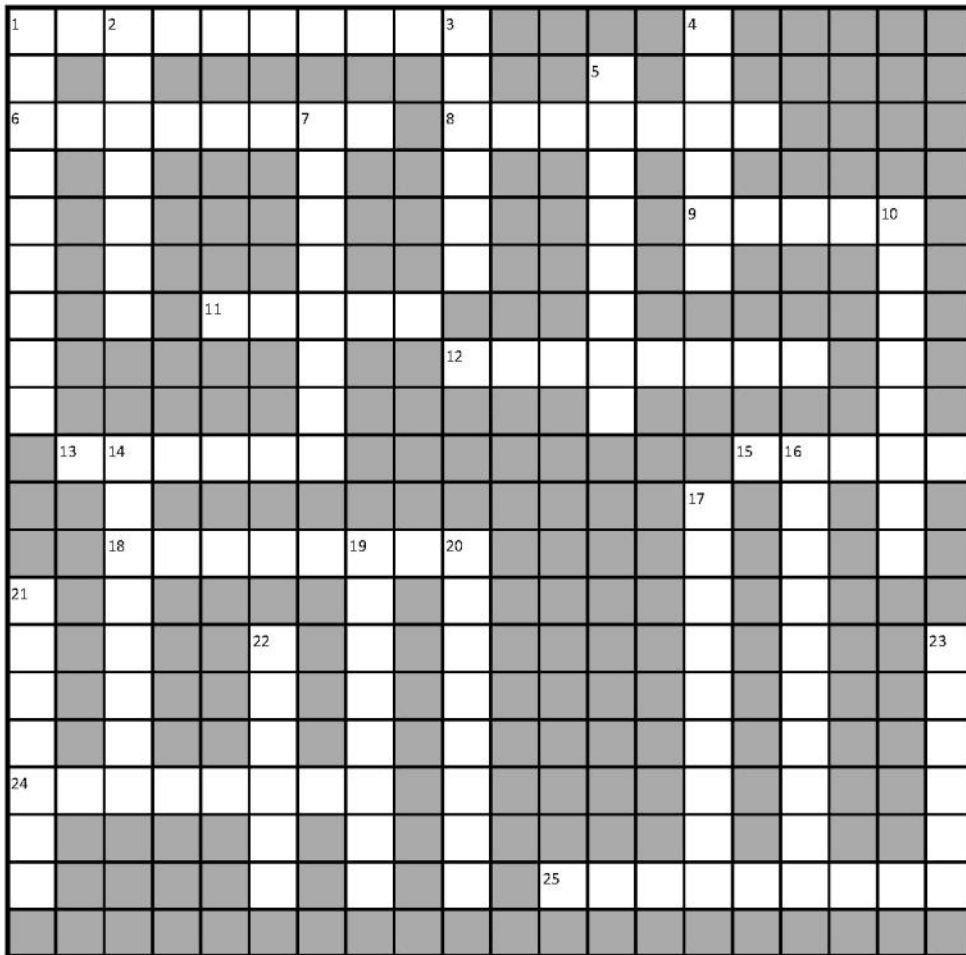
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Geology Crossword #15



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

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



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