

# From the President's Desk

by Amy Hoeksema, CPG

I don't know about you but when I see the "Pure Michigan" commercials, I feel very blessed to live in such a beautiful state. As a geologist, I look at those special places and think about the geology as I am sure many of you do. For this newsletter's from the President's desk, I thought I would provide some areas where I have journeyed in Michigan that I found not only beautiful, but also provided me with a glimpse of Michigan's geology that is not always so easy to see.

I grew up in Grand Ledge, Michigan which is on the west side of Lansing. If you have never been there, it is a special place from a geological standpoint. The Pennsylvanian rocks that outcrop along "The Ledges" are the most extensive exposure in Michigan where you can explore a paleo-environment of a near-shore marine beach. It is no wonder I chose geology as a profession. The easiest place to reach The Ledges is through Fitzgerald Park where you can walk along many trails to see the beautiful strata along the Grand River. The Ledges also provide an area for climbers to practice on one of the 20 – 30 foot cliffs. In the early 1900s brick and clay products were made utilizing the vast deposits of rich clay and shale in the area. The remnants of the brick manufacturing can be

seen at Lincoln Brick Park where you can also see The Ledges.

On my honeymoon, my husband and I traveled to the Upper Peninsula and went on a waterfall hunt. Unbeknownst to my husband, it really was a geology field trip. Tahquamenon Falls was definitely on the tour, and these falls are just as spectacular in the winter. There are nearly 200 named waterfalls in Michigan and many of them are close to the highways and then others will require a bit of a hike – truly amazing sights to see. Some of my favorite waterfalls in the UP are Bond Falls, Munising Falls, Wagner Falls, Alger Falls and Houghton-Hancock Falls.

I went to college at Lake Superior State College in Sault Ste. Marie, Michigan. The Soo Locks are an engineering marvel but if you walk along Lake Superior's shore, you can see the Jacobsville Sandstone that dates back to between the Mesoproterozoic and Mid-Cambrian Era. This sandstone is very distinctive with its red brown color that is mottled with tan to white streaks.

Article continues on Page 6...



## Annual Golf Outing Information

The Section's annual golf outing will be on May 14<sup>th</sup> at Moose Ridge in South Lyon.

Page 12



## Student Chapter News

Check out what three of our student chapters are up to.

Page 13

Providing specialized consulting and engineering services involving our environment, natural resources, and civil infrastructure

Geosyntec<sup>®</sup>  
consultants

contact us

Wayne Amber  
wamber@geosyntec.com  
(734) 794-1549

Rob Ferree  
rferree@geosyntec.com  
(734) 794-1545

3520 Green Court, Suite 275  
Ann Arbor, MI 48015

[geosyntec.com](http://geosyntec.com)

FROM THE MINES  TO YOUR HOME

# GEOSCAPE

EST. **ROCK SHOP** 2010

**Rocks, Decor, Jewelry, & More!**

**Open March 15 through December 31**

37111 Red Arrow Hwy, Paw Paw MI

[www.geoscaperocks.com](http://www.geoscaperocks.com)

269-290-1361





## Redefining what's possible.

It takes a new way of thinking to solve the world's most complex environmental issues. For more than 25 years, our experts have led the way in site remediation, closing thousands of sites and saving our clients more than \$1 billion in remediation costs. We have new and sustainable solutions for *your* challenges.

### Arcadis.

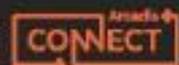
Improving quality of life



[WWW.ARCADIS.COM](http://WWW.ARCADIS.COM)



EXPLORE Arcadis  
DOWNLOAD OUR MOBILE APP  
[arcad.is/adv-Connect](http://arcad.is/adv-Connect)





## Turnkey Environmental Professionals

ORIN Technologies (ORIN) is a contractor and chemical distributor that offers *in-situ* and *ex-situ* approaches that introduce reagents into the zone where the contaminant exists. ORIN Technologies - Water Treatment Division specializes in the utilization of oxidation, bioremediation, reductive, and advanced oxidation processes (AOPs) to address specific issues in remediation and water treatment. Our broad understanding of environmental and waste water challenges allows us to select reactions which yield specific results. It is ORIN's belief that combinations of methodologies and chemistries can provide the most **cost effective** and most **timely solutions** to meet clients' objectives.

ORIN provides chemical, chemical and assistance, or a Turnkey total environmental solutions that include labor, equipment, technical assistance, chemicals, and treatment chemistry application. ORIN's processes have been widely accepted by regulators throughout the United States.

### Remediation

ORIN utilizes direct push injection and permanent point injection for *in-situ* applications, and a variety of mixing techniques for *ex-situ* treatment of organic and inorganic contaminants. ORIN uses state-of-the-art equipment that permits the application of various chemical solutions that best treat the contaminant. In every state where ORIN's remedial action designs have been presented, they have been approved as a viable remedial option.

ORIN has developed a patented remedial treatment chemistry called Bioavailable Absorbent Media or BAM. Due to its unique "honeycomb" structure, BAM has the ability to provide greater absorption capacity for maximum contact with contaminants. BAM has exceptional ability to work alone in both aerobic and anaerobic conditions or with additional treatment chemistries making it a flexible treatment option.

ORIN's dedicated staff has successfully treated multiple sites in or near industrial facilities, residential sites and commercial properties contaminated with the following:

- PFAS
- Chlorinated Solvents
- Petroleum Hydrocarbons
- Fuel Oils
- Coal Tars
- Explosives
- Heavy Metals
- Pesticides

ORIN Technologies, LLC.

405 Investment Court, Verona, WI 53593 (608) 838-6699 [www.ORINRT.com](http://www.ORINRT.com)

### Bioavailable Absorbent Media (BAM)

#### Chemical Oxidation

- Sodium Persulfate (Klozur®)
- Sodium or Potassium Permanganate
- Hydrogen Peroxide
- Sodium Percarbonate
- Calcium Peroxide

#### Reductive Dechlorination

- Zero Valent Iron
- Injectable Carbon Substrates
- Combinations of Carbon Substrate with Iron

#### Metal Stabilization

- Phosphate and Sulfate chemistries
- EnviroBlend®
- Redox chemistries

#### Bioremediation (Oxygen Release Compounds)

- PermeOx® Ultra
- Klozur® ENA

- Continued from Page 1 -

Other areas that are great to see are the karst formations in Alpena County where you can see rivers that seem to flow up hill, converge and then disappear into the ground; Sleeping Bear Dunes where the sand deposited by the glaciers seems to go on forever (take your compass); and Pictured Rocks which is truly a spectacular and spiritual place where I attended a friend's wedding.

I have many more places on my bucket list that I plan on visiting. I hope that you are able to get out this summer to see some of the spectacular places that Michigan has to offer. Next time I see you, let me know what your favorite places are to visit.

## Michigan Petroleum Storage Tank Conference

Please seriously consider setting aside the date on your calendar for the Michigan Petroleum Storage Tank Conference —there are three date options: September 25<sup>th</sup> in Gaylord, October 9<sup>th</sup> in Grand Rapids, and October 23<sup>rd</sup> in Dearborn. Topics include UST, LUST, MUSTA, Weights and Measures, Motor Fuel Quality. I think it will be worth your time. There will be several breakout sessions in the morning hosted by the Department of Labor and Regulatory Affairs Fire Services Bureau, Environment, Great Lakes, and Energy Remediation and Redevelopment Division and Michigan Underground Storage Tank Authority and in the Southeast Michigan session members of the Michigan Department of Agriculture Weights and Measures Division and Motor Fuel Quality Division. There are also two hours set aside for people to visit different tables and talk to staff on site-specific or general questions.

The conference is targeted for owners/operators, consultants, contractors, lawyers, and State staff. There are several changes in UST inspections due to new UST rules; this is affecting all of the regulated community/LARA Hazardous Materials Storage Tank Inspectors (HMSIs) and affects the types of releases reported.

You will see an opportunity to sign up for the conference in the near future. Hope to see you there!

Article submitted by Brian Muench, EGLE

## Support Our Sponsors!

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

## Chuck Schepke of Roscommon High School Receives National Teaching Award

Mr. Chuck Schepke was selected by the American Association of Petroleum Geologists foundation as an Honorable Mention for the 2019 Teacher of the Year (TOTY) program.

Letters in support of Chuck's nomination highlight his depth of engagement and dedication to his students. Cris L. DeWolf of the Michigan Earth Science Teachers Association noted that Chuck provides "opportunities that few students in rural schools have, opportunities to actually do science as they learn about the world around them." Dr. Jackie Huntoon of Michigan Technological University commented that "Chuck exemplifies the characteristic of "teacher-leaders" by being a great teacher for his students and also helping other teachers achieve similar levels of excellence" by conscientiously "sharing his knowledge and skills with other teachers throughout the years. Students at Roscommon High School have been taking Chuck's geology course and Steve Mattox of Grand Valley State University has been testing them for college credit. Steve reported that in "the last two years, 15 of 17 of Mr. Schepke's students passed the exam. This level of student success exceeds 13 other schools that have participated in the program and is on par with a teacher with 20 years of experience teaching at the college level. Many of these students are starting university as science or engineering majors." Professor Randy Schaetzel of Michigan State University was out coring a frozen lake with Chuck's students. He asked them what makes Chuck a good teacher. They responded "...that he is very skilled at explaining things in different ways so that every student can "get it." They said the attitude in the classroom is always positive and up-beat; they love going to class. They said he is the most caring teacher in the school. They all said the same thing. They clearly love the guy." Professor Schaetzel noted that Chuck takes his students to state and nation science meetings, often paying their expenses out-of-pocket. These

Roscommon students are the only high school students at these meetings.

Please take a moment to congratulate Chuck and thank him for his years of excellent teaching.

The AAPG Foundation will be awarding Chuck with \$500 and two maps, including an AAPG Tectonic Map of North America and an AAPG Geological Highway Map, for his classroom.

Article contributed by Steve Mattox of Grand Valley State University

## 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 six members would be glad to hear from you. AIPG is your organization. Please help keep it relevant and interesting for all by participating.

## 9<sup>th</sup> Annual Michigan Section Technical Workshop News

Registration for 9th Annual Technical Workshop, which will be held June 11-12, 2019 at the Ralph A. MacMullan Conference Center on Higgins Lake in Roscommon County, is approaching capacity!

This year's theme is "Hazardous Substances in Groundwater, Soil, & Vapors: The New Turning Point." Please see the flyer attached to this newsletter for the Registration Information. If registration is full when you attempt to register, there will be a waiting list. We hope to see you at this very popular event!

## Welcome New Members!

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

Christopher Claes (MEM-3118), Stephen Pratt (MEM-3107), Connor Tierney (MEM-3103), Elisa Bermudez (SA-10052), Sean Bocek (SA-10053), Nolan Gamet (SA-9899), Kelly Garcia (SA-9900), Devyn Jesiel (SA-10020), Rachael Kluba (SA-9952), Daniel Moulton (SA-9913), Hailey Pantaleo (SA-9978), Stephanie Robinson (SA-9921), Trent Ruby (SA-9923), Charles Sind (SA-9859), Madison Wayt (SA-

9989), Luke Wellman (SA-9931), Zach Williston (SA-10054), Emily Yoder (SA-9933), Shantel Johnson (YP-0494), Pablo Mora (YP-0496), Adam Mulling (YP-0493), and Daniel Wilde II (YP-0474).

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

## Where in Michigan? Contest

The March 2019 edition of the newsletter featured a photograph of the early Silurian age Hendricks Formation (Fiborn Limestone) at the entrance to the Fiborn Quarry's Michigan's Longest Cave. No one correctly identified the photograph.

This edition features a new photograph at the top of the first page. The first person to correctly identify what the photograph depicts (feature name, location, and formation) will win AIPG swag! Submit your entry to the editor; only one per person per issue please.

## Annual Meeting Planning

The Michigan Section will be hosting the 2021 Annual Meeting in Marquette. The planning committee is in the process of being put together and needs your help! The committee will be co-chaired by Adam Heft and Sara Pearson. If you are interested in helping with the planning of the 2021 Annual Meeting or would like to be on the planning committee, please email Adam at [adam.heft@wsp.com](mailto:adam.heft@wsp.com) or Sara at [pearsons@michigan.gov](mailto:pearsons@michigan.gov).

As one of the most active AIPG Sections, Michigan wants to have an exciting program and a highly successful Annual Meeting with many attendees. If you have any suggestions or ideas that will make the 2021 Annual Meeting one to remember, please pass them along to Adam or Sara.

Look for periodic updates on the status of the Annual Meeting planning in future editions of the newsletter!

## Regulatory Roundup

The Michigan Department of Environmental Quality is now the Michigan Department of Environment, Great Lakes, and Energy (EGLE) per the Executive Order signed by Governor Whitmer on February 20, 2019. From the February 20, 2019, Governor's office press release, "Executive Order 2019-6 restructures the Department of

Environmental Quality as the Department of Environment, Great Lakes, and Energy, which will be focused on improving the quality of Michigan's air, land, and water, protecting public health, and encouraging the use of clean energy. The new department will serve as a full-time guardian of the Great Lakes, our freshwater, and our public water supplies. EO 2019-6 requires submission to the legislature and takes effect after 60 days." Water is a critical component to this administration.

Rightly so, most would agree that water is one of the resources that sets Michigan apart. Arguably, geology plays the most significant role in where water resources are located, how well they produce and recharge, and the quality. We as geologists are experts on this topic. Let's be sure that we join the conversation. We have a great opportunity to inform policy makers and the public about our resources. We have the power to improve the credibility of our profession with the public. We are providing the following links to help you find the most current trending topics.

There are a number of bills that have been introduced this year that are directed toward the protection of our water resources. For example, House Bill 4096 proposes to increase penalties for pollutant and oil spills into the Great Lakes. Senate Bill 116 proposes a requirement for cleanup to residential and safe drinking water standards unless a cleanup is technically unfeasible. Senate Bill 49 creates a Human Right to Water Act and requires all state departments and agencies to establish certain water affordability criteria. Senate Bill 14 provides a maximum for certain contaminant levels allowed in drinking water under the Safe Drinking Water Act. This bill is related to the regulation of perfluoroalkyl and polyfluoroalkyl substances (PFAS). The latest article from Gongwer News Services on February 14, 2019 discusses the US Environmental Protection Agency's plan to have regulations by the end of 2019. The following is the article.

## EPA To Announce PFAS Regulation Plans By The End Of 2019

The U.S. Environmental Protection Agency said Thursday it would decide how to regulate perfluoroalkyl and polyfluoroalkyl substances, also known as PFAS, by the end of the year, prompting criticism that it is moving too slowly on the chemicals that have become an emerging concern.

Regulating PFAS has been largely left to the states as the EPA's current health advisory level of 70 parts per trillion is unenforceable.

With PFAS crises in Oscoda, northern Kent County and Parchment among more than 70 sites of PFAS contamination across the state, debate is heated in Michigan about setting a state standard.

"While we continue to support federal action on PFAS, we are concerned that the timeline for federal action on PFAS standards and regulations is not more aggressive," Department of Environmental Quality spokesperson Scott Dean said in a statement. "We look forward to receiving more clarity from EPA on its anticipated timetable for accomplishing the priorities it laid out this morning."

Stakeholders in the state agree the maximum contaminant level should be lower than the EPA's current standard. However, disagreements remain on just how low is appropriate.

The exact date of the rule change was not specified in the EPA's PFAS Action Plan. Lawmakers and activists in Michigan are attempting to act sooner. SB 14, sponsored by Sen. Winnie Brinks (D-Grand Rapids), seeks to reduce the advisory level to 5 parts per trillion as a part of the Safe Water Drinking Act.

The EPA also plans to provide guidance for groundwater cleanup at contaminated sites, its report said. Those guidelines are also expected to be published later this year.

Environmental activists criticized the EPA's decision to set an advisory in the future. The Michigan League of Conservation Voters said the delay may be detrimental to communities affected by the contaminants.

"It doesn't reflect the urgency of where the crisis is in the country," Projects Manager Bentley Johnson said. "There's movement in the right direction but this is kicking it down the road. Setting a health advisory standard could take years. Our families, children and impacted communities don't have that time."

Studies show there is a relationship between PFAS and health risks like certain cancers and hypertension. The toxins are unusual because they stay in a person's body and build up over time as more are ingested. Ms. Brinks said while the perceived delay on the federal government's behalf is disappointing, she is pleased the report suggests federal resources may be provided to states in the future.

"We're going to need some additional help to solve this," she said. "Not just in Michigan but across the country."

## ENVIRONMENTAL SERVICES

### PFAS Treatment

The family of compounds known as per- and polyfluoroalkyl substances (PFAS) used in consumer and industrial manufacturing are persistent in the environment and are comprised of over 6,000 compounds. The most widely known compounds in this group are perfluorooctanesulfonic acid (PFOS) and perfluorooctanoic acid (PFOA). However, the list of compounds of interest is growing quickly as commercially available standards are developed. Clean Harbors is versed in the nomenclature, analysis methods and treatment of these compounds. We can guide customers through the process of testing, treatment and final deposition and destruction of their materials and media.

### PFAS Remediation

The concentration and mixture of compounds found in a contaminated stream will determine the necessary approach for efficient removal. Clean Harbors can provide full-scale, temporary and permanent systems, as well as piloting trailers that will compare treatment medias on-site, in real-time. In addition, winterized, self-contained systems can be delivered with modular capabilities to supply the treatment train most suited for each application, including pre-treatment if required.

### No Media Restrictions

Clean Harbors is not restricted to using one media. We can evaluate media efficacy with the objective of finding the best solution for each application. In many instances, a combination of treatment is required to achieve the increasingly lower treatment objectives.

### Comprehensive Treatment Plans

Clean Harbors can evaluate the analytical data from your site to project and develop the most cost-effective treatment plan. Treatment plans will vary depending upon a number of factors. Our team of experts will work with you to gather the information required to make the most informed decision. Whether you are in the analytical investigative stage, or require an immediate system delivery, we have the personnel, equipment and technical proficiency to handle all of your needs.



231-258-8014 • [www.cleanharbors.com](http://www.cleanharbors.com)

©2018 Clean Harbors, Inc. All rights reserved.



### Full-Service Environmental Remediation Resource

Our goal is to provide you with innovative, cost-effective systems that enable you to meet your budget and deadline objectives. Clean Harbors provides comprehensive solutions and services including Remediation Equipment, Remediation and Environmental Construction, Equipment Rentals, Operations and Maintenance, Waste Disposal and Transportation for water, soil and air applications.

### Lifecycle of Project Services Offered

- Sample Collection
- Sample Analysis through Certified Partner Laboratories
- Analytical Data Review
- Treatment Approach Development
- Piloting Trailers
- Temporary and Permanent Equipment including Media
- Operation and Maintenance of Systems
- Change Out Services
- Media Destruction with Certificate of Destruction

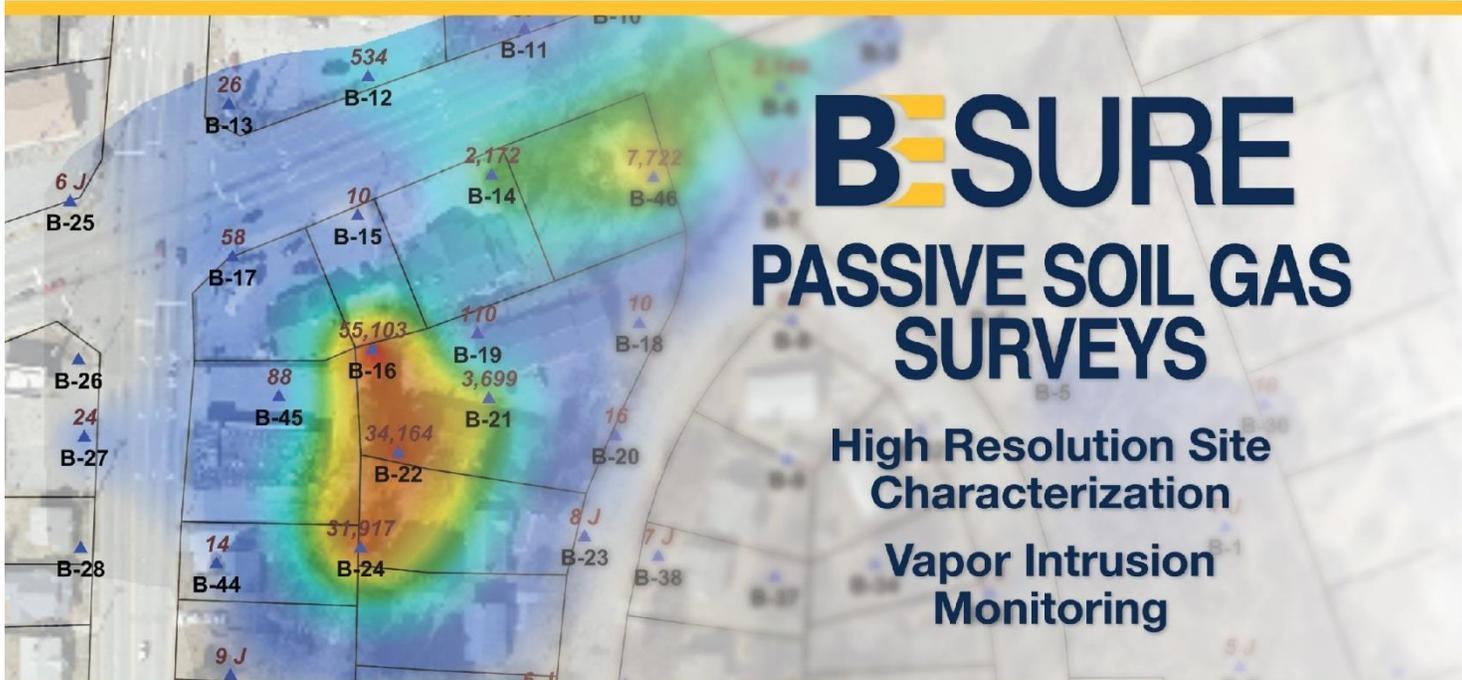
### Emergency Response

We respond to emergency situations of all types and sizes. Our experienced, 40-hour OSHA HAZWOPER trained and certified workers manage all aspects of hazardous material and chemical spill cleanup.

For purchase or rental of remediation equipment visit:  
[www.remediationequipment.com](http://www.remediationequipment.com)



**THE LEADERS IN SOIL GAS AND AIR ANALYSES SINCE 1999**



# **BE SURE** PASSIVE SOIL GAS SURVEYS

**High Resolution Site Characterization**  
**Vapor Intrusion Monitoring**

## **WE CAN BE YOUR GUIDE**

### **TIME-INTEGRATED PASSIVE AIR SAMPLERS**



**SAMPLE FOR DAYS OR WEEKS**



**VAPOR INTRUSION MONITORING**



**FENCELINE EMISSION MONITORING**



**ACCREDITATIONS**

Laboratory - DoD ELAP, NELAP, & ISO/IEC 17025  
Sampling - TNI NEFAP | Soil gas & air sampling

[WWW.BEACON-USA.COM](http://WWW.BEACON-USA.COM)

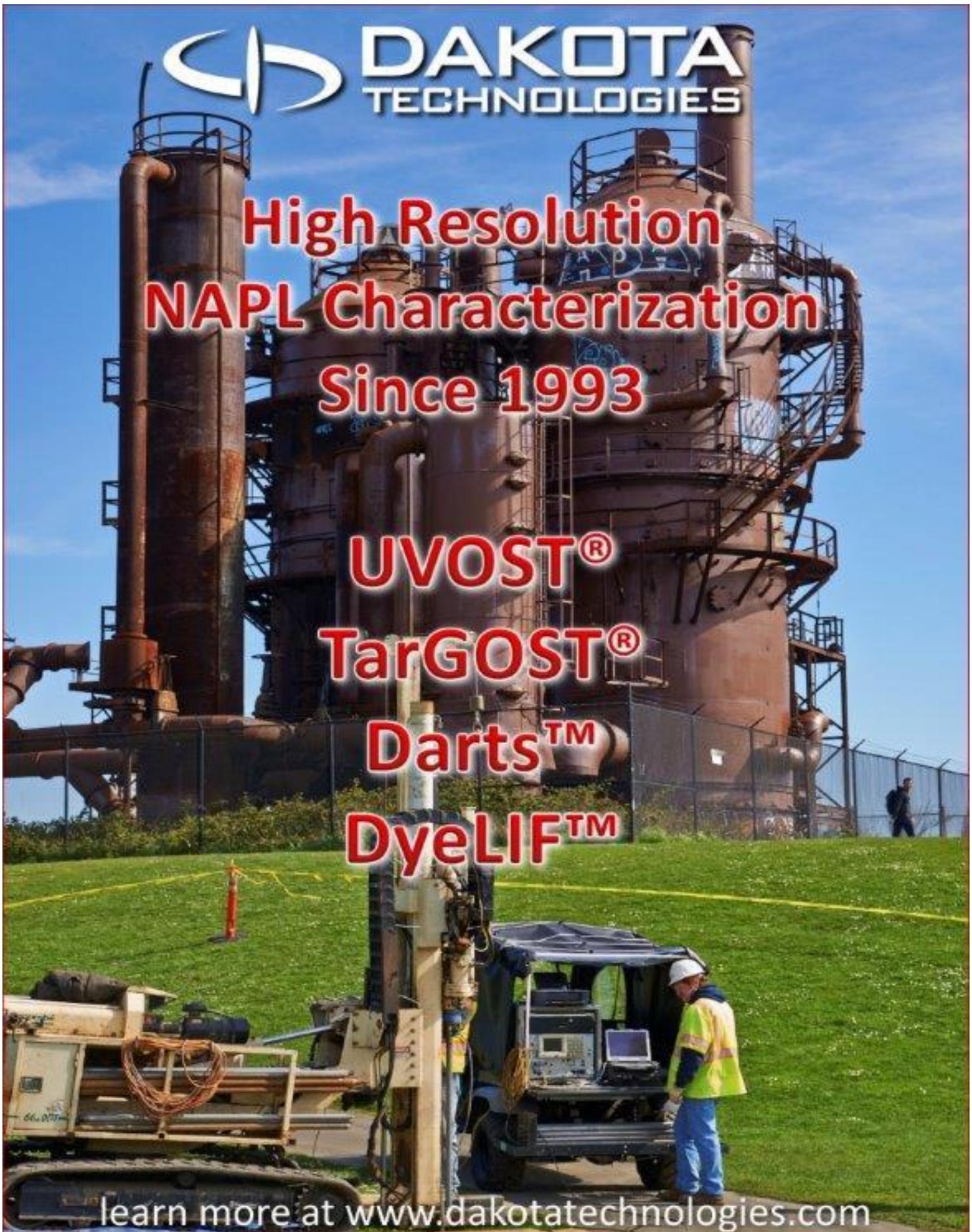
[INFO@BEACON-USA.COM](mailto:INFO@BEACON-USA.COM)  
800-878-5510



**High Resolution  
NAPL Characterization  
Since 1993**

**UVOST®  
TarGOST®  
Darts™  
DyeLIF™**

learn more at [www.dakotatechnologies.com](http://www.dakotatechnologies.com)



U.S. Sen. Gary Peters (D-Bloomfield Township) said he was disappointed in the EPA's plan and urged Congress to create legislation instead.

"EPA has yet to publish important groundwater cleanup standards that have been in White House interagency review for six months, so I have little confidence in the agency's ability to initiate enforceable cleanup and drinking water regulations," Mr. Peters said in a statement.

The Michigan Chemistry Council said it supported the EPA's cautious approach. MCC Executive Director John Dulmes said the report is significant for Michigan.

"While Michigan continues to be a trailblazer in many areas of PFAS response, we believe the EPA and other federal agencies are ultimately best-positioned to develop consistent science-based standards, test methods, and guidance," Mr. Dulmes said in a statement.

U.S. Rep. Bill Huizenga (R-Zeeland), a member of the Congressional PFAS Task Force, said he supported the EPA's "first step" in addressing the issue and creating a maximum contaminant level.

"I believe a federal standard should be created; however, this process needs to be determined by public health officials and scientists, not politicians," Mr. Huizenga said in a statement. "I encourage the EPA to continue working to develop federally enforceable standards with urgency."

**PFAS TESTING:** Meanwhile, the DEQ announced Thursday that it was reducing testing requirements for the city of Kalamazoo wastewater treatment plant because effluent from the plant is meeting quality standards.

"Our success in driving down PFAS levels in the Kalamazoo River is a direct result of MPART's work to identify and mitigate sources of PFAS contamination," DEQ Director Liesl Clark said in a statement. "In this case, our IPP program identified and eliminated PFAS discharges from the abandoned Production Plated Plastics site and our public water system program identified the contaminated municipal wells in Parchment – both of which were threatening public health and polluting the Kalamazoo River."

The city had been testing the water at the plant, both incoming and outgoing, weekly

but DEQ officials said the water has met standards since August so the weekly testing is no longer required.

Search for rules and bills by following the links below.



Article provided by Sara Pearson, CPG – EGLE RRD

## 2019 Summer Field Trip

The Michigan Section summer field trip is in Bancroft, Ontario! We are crossing international boundaries in search of outstanding geologic and fantastic minerals! AIPG members and non-members are invited to attend our fun family-friendly event. Our guide for this trip is longtime expert on the Bancroft area, Alfred Newnham. We are

# The Choice of Environmental Professionals

## Make Fibertec Your One-Stop Shop for:

Analytical Laboratory  
Geoprobe/Subsurface Investigations  
Industrial Hygiene  
Private Utility Locating  
Drum Disposal  
NELAC Accredited  
Electronic Data Deliverables (EDDs)



Holt • 517-699-0345  
Brighton • 810-220-3300  
Cadillac • 231-775-8368  
E: lab@fibertec.us  
W: www.fibertec.us



heading to Canada the second weekend in August. The field trip dates are August 9-11, 2019. Check out our website for more information!

Be sure to make arrangements early for lodging as there are limited options and they tend to fill up early. We will see you in Canada!

## Newsletter Notice via E-mail

Make sure we have your correct email address to ensure that you continue to receive the Section newsletters and other announcements. Submit an updated e-mail address to Adam Heft at [adam.heft@wsp.com](mailto:adam.heft@wsp.com). If you move or change places of employment, don't forget to send your new contact information to both the Section and to National. If you are not receiving announcements directly from the Editor, it is because your email address is not up to date.

## 15<sup>th</sup> Annual Michigan Section Golf Outing - May 14, 2019

Last Call to Sign Up! You can register on Eventbrite, by searching "AIPG-Michigan Section Golf Outing" or by contacting Bob

Reichenbach directly at [bob.reichenbach@ERGrp.net](mailto:bob.reichenbach@ERGrp.net). Ph. 248-773-7986, Fax 248-924-3108.

The outing will again be held at Moose Ridge Golf Course in South Lyon. Sponsorships and spots for golfers are still available. To assist the organizers in planning, please register ASAP. The Registration Form is provided with this newsletter.

The AIPG K-12 Education Grant fund has provided thousands of dollars to a variety of worthy projects, made possible in part to the money raised through our annual golf outing. Your generosity has been, and will continue to be, the key to enabling organizations/schools to provide meaningful environmental educational programs and activities in the Geosciences.

Thank you for your support!

Bob Reichenbach, Golf Outing Chairman

## 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 links 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

A Possible Cause of Earthquakes in the continental Interior: <https://earthquake.usgs.gov/research/everyone/2018/us-stress/>.

Video: Moment Magnitude Explained – What Happened to the Richter Scale?: <https://www.youtube.com/watch?v=HL3KKGSeqaw&feature=youtu.be>.

## Section Website Reminders

Hey Shutterbugs! Show us the geologist's point of view and send in photographs that you would like to share with the section. We

# EFFECTIVE

## Vapor Barrier Systems

For Lower Total Cost-To-Closure



[www.landsciencetech.com](http://www.landsciencetech.com)



would like to use them in this newsletter and our website. Please submit photographs that you are willing to share to Adam Heft at [adam.heft@wsp.com](mailto:adam.heft@wsp.com). Don't forget to include your name and a short explanation of what the photograph depicts.

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.

### Student Chapter News



During the 2018-2019 academic year, the Michigan Technological University (MTU) Student Chapter worked in conjunction with the MTU Geology

Club to fundraise and plan a week-long Spring Break trip to Hot Springs National Park and the Ozark Mountains of Arkansas. The members involved in planning and executing the trip were incredibly enthusiastic about exploring a new landscape, especially one as rich in minerals as southern Arkansas. The MTU Student Chapter and Geology Club regularly plan trips for mineral collecting around the Keweenaw Peninsula and have even ventured out as far as the Porcupine

Mountains in the Western Upper Peninsula in the past, but there was no precedent for a trip as ambitious as Arkansas.

On Saturday, March 9th, 2019, eight students met at MTU at 7:00 AM to embark on a 16+ hour drive to Hot Springs, Arkansas. The long drive was tiresome and we did not arrive at our destination until midnight, but the week ahead and memories we now share made it all worthwhile.

Michigan Technological University Students posing in front of a geothermal spring in Hot Springs National Park. Photo Credit: Evelyn Jobe.

The first three nights were spent camping at the Hot Springs National Park KOA (Kampground of America). The days were filled with exploring the historic town of Hot Springs including Bathhouse Row, hiking many trails, and observing the numerous hot springs within the National Park. Some of the historic bathhouses are still used as spas, while others have been converted for other uses such as an art gallery, the National Park Visitor Center, and even a brewery. Hot Springs was a delightful city to begin our trip with and the National Park gave us valuable insight into how the geologic setting of the geothermal hot springs have influenced human history for hundreds of years.

Michigan Technological University students panning for diamonds in Crater of Diamonds State Park, Pike County, Arkansas. Photo Credit: Sienna Meekhof

On Monday, March 11th, we traveled to Crater of Diamonds State Park which was one of our must-see attractions because of the unusual volcanic soil and the opportunity to pan for diamonds. We were able to rent a shovel, bucket, and panning screens for the



day which made the search easier, but the diamonds were extremely elusive. Other minerals such as jasper and other variants of quartz were found in abundance at Crater of Diamonds. Spending the day panning and

- Regulations are complex.
- Potential environmental impacts put your business at risk.
- Getting stakeholders onboard is critical.
- Environmental due diligence addresses the issues upfront.

# We thrive on challenges

[golder.com](http://golder.com)



surface picking through the soil was a fun activity for all and we learned a few techniques and tips from the locals as well.

The next few days were spent in the town of Jasper, Arkansas located in the Ozark Mountains. Jasper was our basecamp while we traveled to Blanchard Springs Cavern and took a tour through the expansive limestone cave with beautiful examples of stalactites, stalagmites, and columns. Blanchard Springs Cavern was particularly exciting because of the natural aspect of geology compared to the overwhelming amount of mining in the Keweenaw.

We also traveled to Hemmed in Hollow Falls in the Ponca Wilderness Area – Buffalo National River, where we hiked about 2.5 miles down a cliff side to view the 209 foot, single-drop waterfall as it splashed down onto the limestone riverbed below. At the base of the waterfall, we explored the area for rocks and minerals (mostly limestone) and stared in awe at the enormity of the cliff face above us. Our last day in Arkansas was spent at Twin Creek Crystal Mine in Mt. Ida (the self-proclaimed Quartz Crystal Capital of the World) where we collected spectacular quartz crystals. We filled the vans with as much quartz as we could carry and headed north to St. Louis, Missouri.



Michigan Technological University students posing in the Cathedral Room of Blanchard Springs Cavern. Photo Credit: Jodi Zang.



Michigan Technological University students at Elephant Rocks State Park in the Saint Francois Mountains of Missouri. Photo Credit: Dean Wozniak.

The last day of the trip was spent at Elephant Rocks State Park and Cahokia Mounds State Historic Site, both in the St. Louis area. The Elephant Rocks certainly lived up to their

name and offered a much-needed day of relaxation as we climbed over the enormous granite boulders and enjoyed the sun. The Cahokia Mounds site was a short stop but offered a unique experience of seeing historic Native American mounds that most of us would never have seen otherwise. The trip was an amazing experience that allowed the students to appreciate other regions of the U.S. and experience other geologic settings and broaden their horizons through travel. The eight of us grew closer together as friends in that week which will help the MTU Student Chapter grow and encourage more students to participate in the future.



Quartz cluster specimen collected from Twin Creek Crystal Mine in Montgomery County, Arkansas. Photo Credit: Sienna Meekhof.

Article submitted by Evelyn Jobe, MTU Student Chapter President

# E

The EMU Chapter's main goals in the 2018-2019 school year were to increase involvement with alumni, formalize our processes as an organization, including updating documents and creating formalized applications for scholarships and executive board positions, and increasing efforts to find scholarship, internship, job, and networking opportunities for members and alumni. The leadership of this chapter includes President Rachel Merz, Vice President Emily Nowacki, Treasurer Jean Butchart, and Secretary Leah VanLandingham. Elections were held in April, 2019 for the 2019-2020 school year. The new executive team includes President Kelly Brown, Vice President Leon Bryson, Treasurer Collin Bogoski, Secretary Rachel Merz, and Member at large Leah VanLandingham. The chapter officer, Dr. Christopher Gellash, presided over the election process. Nominations were submitted to Dr. Gellash, and he sent the applicant's campaign information out to the students within the EMU AIPG Student Section. These students voted on the incoming E-board. We are looking forward to another successful year with the new E-board.

Biweekly meetings were held throughout the year. These meetings lasted an hour. Students would share networking and job/internship opportunities at the meetings, and we would also discuss planned activities and monthly goals that the group wanted to accomplish. These goals included going on off-campus excursions, hosting a speaker each semester, reaching fundraising goals, and getting more students engaged in geoscience, especially those in studies outside of geoscience. We hosted 13 total meetings throughout the semester, not including excursions and study sessions. The meetings were held biweekly, with some weeks missed due to scheduled university closings and multiple days of severe weather. At the end of the semester, we awarded one \$500 scholarship to a member of the EMU AIPG Section funded by the Michigan Section of AIPG. Congratulations to scholarship winner Emily Nowacki. Additionally, we hosted a raffle for a field camp preparedness kit. To be eligible to enter the raffle, the student had to attend chapter meetings. Each meeting attended corresponded to one entry in the raffle. The kit includes a backpack, rain coat, sunscreen, rock hammer, hand lens, pens, a field notebook, and an EMU AIPG Section hat and water bottle. Member Jon Harris is the recipient of the field camp preparedness kit. Congratulations to Jon and we hope this kit will be useful at field camp!



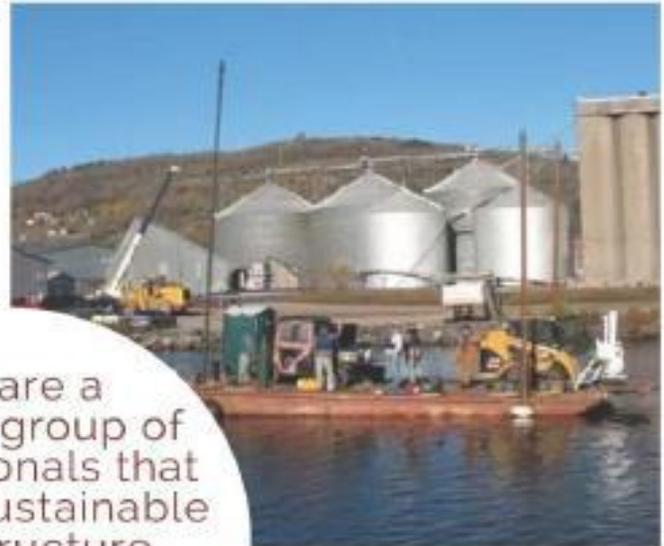
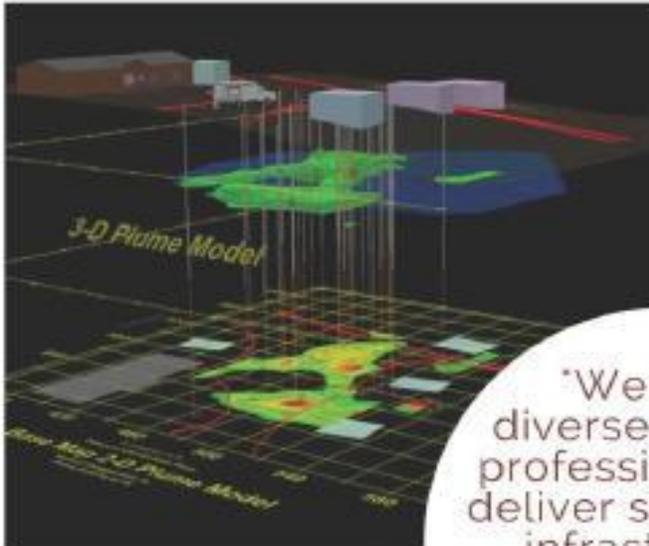
Rachel Merz, President, mentoring an introductory geology student at a study session. Photo credit: Leah VanLandingham.

We feel as though we achieved the goals we set for ourselves in the beginning of the Fall semester. The goals included:

- Our organization constitution and bylaws have been edited and are being continually updated and approved by the incoming E-board
- Alumni were engaged through the grand opening of Strong Hall and through email

Article continues on Page 19...

*Infrastructure Consulting Engineers*



"We are a diverse group of professionals that deliver sustainable infrastructure solutions and services for a better tomorrow."



**LOCATIONS**

- Detroit, Michigan
- Taylor, Michigan
- Grand Rapids, Michigan
- West Bloomfield, Michigan
- Cleveland, Ohio
- Brooklyn Heights, Ohio
- Baltimore, Maryland
- Beltsville, Maryland
- Washington D.C.

**CONTACT US**

313.963.2721  
 WWW.SOMATENG.COM  
 info@somateng.com

**SERVICES**

- Environmental Engineering
- Geotechnical Engineering
- Construction Engineering
- Material Evaluation & Testing
- Civil Engineering & Survey
- Structural Engineering
- UVOST Services

# HAMP MATHEWS & ASSOCIATES

<http://hampmathews.com/>

Thank you for sponsoring  
the 2017 AIPG Michigan  
Environmental Risk  
Management Workshop as a  
Huron Level Sponsor!



Left to right: Sara Pearson, Carly Hoeft, and Adam Heft. At the CMU Awards Reception; Adam and Sara presented Carly with a National Scholarship award and a check for \$1,000.

## VaporPin®

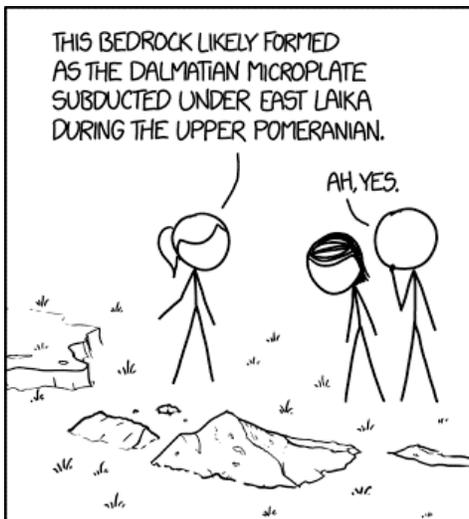
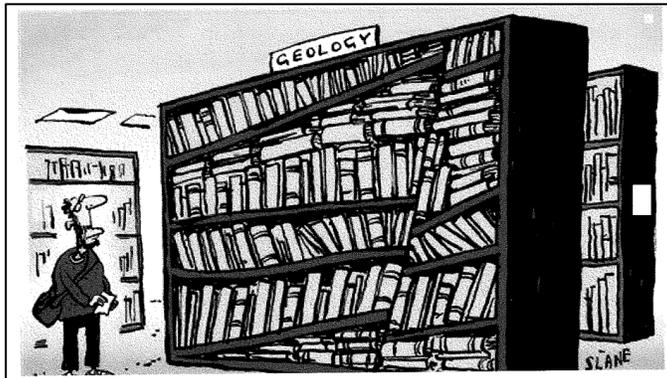


To Learn More Visit Us at [VaporPin.coxcolvin.com](http://VaporPin.coxcolvin.com)

Advantages of the Vapor Pin® over other methods include:

Use **Coupon Code aipg17** for 10% off your next order. Valid until 3/31/2018.

- ✓ No leaks during sample collection, improving sample quality;
- ✓ Disposable seal eliminates the need for grout, increasing productivity;
- ✓ Connects easily to sampling equipment;
- ✓ Easily installed, sampled, and retrieved for reuse;
- ✓ Improves diagnostic testing, spatial resolution;
- ✓ Reduces sampling time allowing more samples for less cost.



GEOLOGY TIP: THERE ARE SO MANY MICROPLATES AND AGES THAT NO ONE REMEMBERS THEM ALL, SO IN A PINCH YOU CAN BLUFF WITH DOG BREEDS.



- Applications include, but are not limited to:
- Sub-slab soil gas sampling
  - De-pressurization studies/testing
  - Stray gas evaluations
  - Source area characterization
  - Mitigation progress monitoring

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

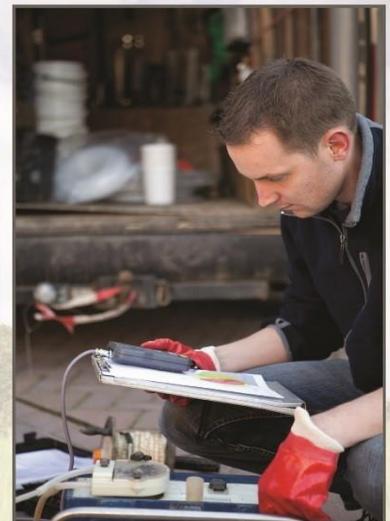


TECHNICAL SKILL .  
CREATIVE SPIRIT .

**Celebrating Over 55 Years of Award Winning Service**

## Engineering Solutions that work for your business

SURVEYING  
GEOTECHNICAL ENGINEERING  
CIVIL ENGINEERING  
LANDSCAPE ARCHITECTURE  
ENVIRONMENTAL CONSULTING  
CONSTRUCTION ENGINEERING



**Canton, MI**  
(734) 397-3100

**Detroit, MI**  
(313) 961-9500

**Lansing, MI**  
(517) 316-9232

**Monroe, MI**  
(734) 289-2200

**Traverse City, MI**  
(231) 929-7330

**Maumee, OH**  
(419) 891-2222

**Columbus, OH**  
(614) 441-4222

**Cleveland, OH**  
(216) 378-1490

**WWW.MANNIKSMITHGROUP.COM**



## Geotechnical and Environmental Drilling

Since 1974 MATECO Drilling has offered ground breaking solutions on a large variety of geotechnical and environmental drilling projects throughout the United States. Staying up to date with the latest drilling technology including our rotary sonic drill and ground penetrating radar is our top priority for the success of your projects.

**Let's work together. Contact us today.**

[www.mateco.com](http://www.mateco.com) | [info@mateco.com](mailto:info@mateco.com) | 616-863-6890



- Geotechnical Drilling
- Environmental Drilling
- Sonic Drilling
- Direct Push Drilling
- Amphibious Soil Sampling
- Direct Image Testing
- Utility Location and Safe Exposure

**Contractor Compliant With:**



- Continued from Page 14 -

- Multiple students are graduating EMU from the AIPG section with job and internship opportunities at local environmental consulting firms, including Environmental Testing Consultants, Romulus; Tetra Tech, Ann Arbor; and Mannik & Smith, Canton, and with the state through the Michigan Department of Environment, Great Lakes, and Energy.

Our students and their geology-related research were represented at the GSA National Conference in Indianapolis, IN, the AIPG meeting at Weber's Inn, Ann Arbor, and the EMU Undergraduate Symposium in Ypsilanti, MI. The representation of geoscience students at the EMU Undergraduate Symposium noticeably increased this year. Our chapter worked tirelessly to motivate students to engage in research projects and to present at research conferences. The students who presented at GSA included Kayla Bicknell, Emily Nowacki, and Maximilian Fraleigh. The students who presented their posters at Weber's Inn included Emily Nowacki and Maximilian Fraleigh. The students who presented their research at the EMU Undergraduate Symposium included Emily Nowacki, Rachel Merz, Kelly Brown, Leah VanLandingham, Shawn Steckenfinger, and Steven Ogden.

Additionally, many students from our chapter attended the GSA conference, AIPG meeting, and undergraduate symposium who did not present research. This summer, our chapter is sending Kelly Brown and Leah VanLandingham to present their posters and research at the AIPG Technical Workshop. Also, Kelly Brown, Leah VanLandingham, and Rachel Merz will be applying to present their research at this year's GSA conference in Phoenix, AZ.

We are very proud of what our chapter has been able to accomplish this semester. We have engaged students of other disciplines and built bridges between the environmental science students and geology students. We have fostered lasting connections between students and industry professionals, which in some cases have led to jobs and internships. We hosted numerous study sessions throughout the semesters for intro level students and upper level students and have received positive feedback, where students indicated that these events contributed to their understanding of geologic principles and assisted in successful exam performance. We are very excited for the coming year and expect the momentum of our chapter to continue.

Article submitted by Leah VanLandingham,  
EMU Student Chapter Secretary



The following information has been excerpted from the Annual Student Chapter Report submitted to National and the Michigan Section by the CMU Student Chapter. The Editor notes that the CMU Student Chapter is the 2019 Student Chapter of the Year! Congratulations CMU!

Our members are highly active in our department both in academics and projects. In the fall semester, our chapter began an augmented reality sandbox project. This project is for the benefit of our department as an educational tool for introductory geology students. This sandbox is projected to be finished before the end of the semester. We plan to host an open house to our campus to demonstrate how the sandbox works. Our department held its second annual food drive for a local food bank in Mount Pleasant.

We won again this year in our friendly competition between faculty and students as to who could donate the most. Our student members collected 414 pounds out of the total 799 pounds. Our department organized a large group to attend the Geological Society of America conference in Indianapolis during the fall semester. Eleven of our AIPG members attended, three of whom presented

## Field proven remediation technologies for the most challenging sites.

- *In Situ* Chemical Oxidation
- *In Situ* Chemical Reduction
- Bioremediation
- Stabilization



 **PeroxyChem**

[www.peroxychem.com/remediation](http://www.peroxychem.com/remediation)



their research via poster and oral presentation.



Fall 2018 Food Drive; students vs. faculty.

In the fall semester, our department also held an alumni career day, presenting geologists from different fields including petroleum, academics, and environmental consulting. Ten of our members attended and were excited to engage with the alumni about their careers. In the spring semester, we began by joining our university's Student Chapter of the American Meteorological Society in snow tubing. This was a great way to unwind and bond with the other majors in our department. Our spring semester also brought about some competition as we held a March Madness within our AIPG chapter. We spent the month of march with geology quizzes, scavenger hunts, and geo-pardy. Throughout the school year we also provide

tutoring for introductory geology classes every Sunday from 5-7pm. We will be hosting an American Association of Petroleum Geology professional in April to give a seminar and workshop on using structure in the field.



Michigan Section members at the AIPG Annual Meeting in Colorado Springs.

We held three rock sales this year. We have been experimenting with the best spots on campus to not only sell our goods but promote our organization to those who may not be exposed to geology. At these rock sales, we sell hand samples, fossils, and hand crafted stone jewelry made by our members. We also held a bake sale last semester. In the fall, we implemented a returnable can drive. We advertised around campus that we would pick up used and returnable cans from anyone

**wood.**

**A new beginning**

Wood combines the best of Wood Group and Amec Foster Wheeler to deliver greater operational efficiencies and innovative problem-solving with a broader geographic reach.

[woodplc.com](http://woodplc.com)

wanting to donate. The funds from this can drive helped some of the cost of the augmented reality sandbox.



Snow tubing with the meteorology students.

As AIPG members we strive to promote the profession of geology and the scientific community. Our chapter has a student government representative who attends weekly Student Government Association meetings. At these meetings, our member votes on legislation and collaborates with other student organizations to create positive changes on our campus. This March, a "Take Back the Tap" initiative was passed and reusable water bottles will be distributed for free around campus to prevent more pollution of single use water bottles. Our sandbox project allowed our organization to work with students from engineering and computer



## ENVIRONMENTAL, INC.

Established in 1992, AST has a 26 year track record of meeting our client's needs. AST has four office locations:

- Our Corporate Headquarters – Midway, Kentucky
- Regional Offices:
  - Springboro, Ohio
  - Harrisonburg, Virginia
  - Golden, Colorado

AST prides itself in being an innovative, technology driven organization that has a proven record of results. In fact, AST has a **90% closure rate** of project sites. Every time AST performs a project, our goal is to achieve the site-specific cleanup standards. AST owns and maintains over 35 pieces of heavy equipment (yellow iron) and specialty in-situ remediation and environmental sampling equipment to fulfill our client's entire project needs.

Our primary goal is to provide cost-effective environmental services for a wide spectrum of projects including: soil and groundwater remediation, landfill and cap construction, demolition, and underground storage tank removal. AST's comprehensive experience allows an understanding of the critical need for environmentally sound and economically feasible services that are compliant with local, state, and federal regulations.

AST is also proud to be affiliated with Remediation Products, Inc. (RPI). RPI is dedicated to quality control and achieving site closures by utilizing **Safe, Effective, and Predictable** processes. RPI's business model is different than what you will find with other in-situ remediation product manufacturers. Primary distribution and sales of the Trap & Treat® products is handled by a highly-trained international network of RPI Group Members including AST Environmental, Inc., the **National Product Distributor and Approved Installer Trainer**.



science majors. This allowed our members to put their talents to work as well as feature the talents of other students at CMU. We plan to hold an Earth Day campus clean up in April.

Interacting with professional members is a pillar for our chapter. We believe that it is important to make genuine connections. Our first interaction this year was the AIPG Colorado Springs National Meeting. We sent eight of our general undergraduate members as well as one graduate member to attend. This experience was an important networking and educational opportunity for us. We were able to visit the Garden of the Gods and experience geology that we do not find here in Michigan. We enjoyed all the wonderful insight each of the professional members had for us. Our favorite event was speed networking. As previously mentioned we had eleven students attend the GSA meeting. Our members were able to network with geologists from a large range of fields and expose ourselves to research in our field. In addition to these larger meetings, we also enjoy regularly attending the Michigan section meetings. We had members attend the fall meetings in Ann Arbor and the spring meeting in East Lansing. CMU and Wayne

state will be holding our structural geology field trips together. We are excited to meet the student members from Wayne state and work with them in the field.

This year we had nine members involved in research projects. These projects range from geobiology to petroleum. Three members had presented research at the GSA meeting, with the rest of our researchers planning to present their material at future conferences. Many of these projects are from students participating in an independent study or a senior thesis which allows our members to get a head start for graduate studies. In preparation for the conferences we attended this year, we also held a career workshop month. During the month of October, we had resume building, business card printing, and networking activities. We sent our resumes to a professional AIPG member who was able to give us revisions and advice. However, what truly makes our chapter unique is the bond we hold together that allows us to cooperate so well. We foster this bond by having relaxing activities such as creating slime, watching science movies, and having a rock collection show and tell!

## 2019 National Election

Did anyone peruse the April, May, June 2019 edition of TPG? Michigan's very own **Sara Pearson** is running for National Secretary for the 2020-21 term! Check out the flyer attached to this newsletter. Be sure to exercise your member rights by voting in the election and make your voice heard. Let's try to keep a Michigan Section member on the National Executive Committee for a couple more years; our Section has had a member serving since 2016.

## 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...*

Dues for 2019 AIPG membership were due and payable on January 1, 2019 in accordance with the bylaws. Members who have not paid by February 15<sup>th</sup> were suspended, and are no longer considered members.

Article continues on Page 26...

# STOCK DRILLING

# SAVE THE EARTH



## Our Job is Boring!



### DRILLING SERVICES:

1/2" THRU 10" WELL INSTALLATION  
 2.25" THRU 12.25" HAS DRILLING  
 SONIC DRILLING 4" TO 12"  
 SOLID STEM AUGER DRILLING  
 MUD & AIR ROTARY  
 CABLE TOOL DRILLING 4" THRU 8"  
 CORE DRILLING  
 GEOPROBE DRILLING GEOPROBE  
 WATER SAMPLING  
 HYDROPUNCH SAMPLING  
 INFLATABLE PACKERS  
 SCREENED AUGERS  
 VERTICAL AQUIFER PROFILING  
 CHEMICAL AND MECHANICAL  
 WELL DEVELOPMENT &  
 REHABILITATION  
 ORC & INJECTION SERVICES WELL  
 REPAIR & CLEANING WELL  
 REMOVAL AND ABANDONMENT  
 REMEDIATION SYSTEM  
 INSTALLATION AND  
 REPAIR/ABANDONMENT  
 METHANE EXTRACTION POINTS  
 PUMPING SYSTEM INSTALLATION,  
 REPAIR & SERVICE REMOTE  
 WATER PUMPING SYSTEMS  
 TRENCHING AND LIGHT  
 EXCAVATION SERVICES  
 AIRKNIFE SERVICES

### DIRECT IMAGING SERVICES:

- MIP/MIHPT/LLMIP · HPT · EC
- OIP/OIHPT · LIF · CPT
- GAMMA LOGGING
- DOWNHOLE HD VIDEO

### CONTACT US AT:

[RICH@STOCKDRILLING.COM](mailto:RICH@STOCKDRILLING.COM)

734-279-2059

734-279-2076 FAX

[WWW.STOCKDRILLING.COM](http://WWW.STOCKDRILLING.COM)



# Clarity of purpose

## **Environmental compliance has become increasingly difficult**

GHD provides global resources at the local level to help you clarify purposeful solutions to your environmental issues

[www.ghd.com](http://www.ghd.com)



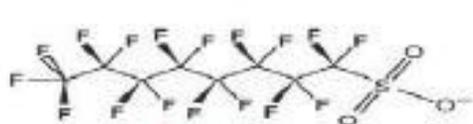
# TestAmerica

## THE LEADER IN ENVIRONMENTAL TESTING

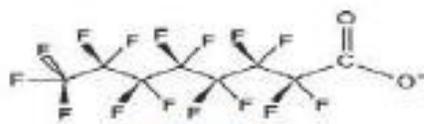
TestAmerica Laboratories, Inc. is the nation's most trusted provider of emerging contaminant testing services. When quality, technical expertise and lab capacity matter, trust the leader in environmental testing to help meet your project objectives.

### Emerging Contaminant Testing Services Include:

- Per- and Polyfluoroalkyl Substances (PFAS), including PFOA and PFOS
- PFAS Total Oxidizable Precursor (TOP) Assay
  - Low Level 1,4-Dioxane



PFOS



PFOA

Our local footprint in Michigan, with locations in Brighton and Grand Rapids, ensures you receive best in class local service, along with access to TestAmerica's nationwide network.



For more information,  
contact:

**Gail Carr**

734.276.7655

Gail.Carr@testamericainc.com

[www.testamericainc.com](http://www.testamericainc.com)

# OUR SERVICES



# JOB SITE SERVICES

Environmental Construction & Site Remediation

For more information, please visit [jssmi.com](http://jssmi.com)

Contact: Derek at [dmarranca@jssmi.com](mailto:dmarranca@jssmi.com)

- ◇ Excavation & Transportation
- ◇ Remediation System Construction
- ◇ Site Remediation
- ◇ Riverbank Restoration
- ◇ Slope Stabilization & Erosion Controls
- ◇ Sediment Removal & Stabilization
- ◇ Wetlands Construction
- ◇ UST/AST
- ◇ Landfill
- ◇ Operation & Maintenance
- ◇ HDPE Fusion Welding & Fabrication
- ◇ Air Knife, Soft Dig & Vacuum Extraction



**EXPERIENCE**

**SAFETY**

**RESULTS**

**Since 1999**

4395 Wilder Road  
Bay City, Michigan 48706  
Phone: (989) 671-3318

- Continued from Page 21 -

If you have not paid your dues for 2019, you may not use the CPG designation if you had previously obtained that certification, or otherwise hold yourself out to be a member. Please contact Dorothy Combs at National Headquarters to renew your membership for 2019 if you have not already done so.

### 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 Members Corner articles were received for this edition of the newsletter.

### We Need You!

The Michigan Section needs your help! From providing articles or other content for the newsletter, to stepping up to volunteer to run for section office or being part of a committee, serving as a mentor for students, or helping out and participating at section events, please consider giving a little of your time and expertise back to our Section. The more people that are involved, the better it is for everyone. This is your section; let's keep it active and interesting. Make the most of it!

### 2019 Michigan Section Executive Committee

Here are the current officers of the Michigan Section. Be sure to talk with them at the Section's events when you see them...

### Coming Events

**June 11-12, 2019:** AIPG Michigan Section's Environmental Risk Management Workshop at the Ralph A. MacMullen Conference Center in Roscommon, Michigan. Register today!

**August 9-11, 2019:** Michigan Section summer field trip to Bancroft, Ontario.

Registration link and complete information in the attached flyer.

**September 14-17, 2019:** 56th Annual AIPG Meeting in Burlington, Vermont.

**September, 2019:** Joint Michigan Section AIPG and MAEP joint meeting. Location and details forthcoming.

**September 25, 2019:** Michigan Petroleum Storage Tank Conference, Gaylord. Details forthcoming.

**October 9, 2019:** Michigan Petroleum Storage Tank Conference, Grand Rapids. Details forthcoming.

Redevelopment Conference, Lansing Center, Lansing, Michigan hosted by Michigan Department of EGLE.

**October 23, 2019:** Michigan Petroleum Storage Tank Conference, Dearborn. Details forthcoming.

**December 11, 2019:** Michigan Section AIPG annual meeting and awards presentation, Weber's Inn, Ann Arbor.

**Fall 2020:** 57th Annual AIPG Meeting to be held in Sacramento, California; dates TBD.

**Fall 2021:** 58th Annual AIPG Meeting to be held in Marquette, Michigan; dates TBD. See

### 2019 AIPG Michigan Section Executive Committee

 <b>Past President</b> Tim Woodburne	 <b>President</b> Amy Hoeskema	 <b>Vice President</b> Sara Pearson
 <b>Treasurer</b> Bill Mitchell	 <b>Secretary</b> Mellisa Powers-Taylor	 <b>Newsletter Editor</b> Adam Heft

**October 11-13, 2019:** Michigan Mineralogical Society, "The Show" Greater Detroit Gem, Mineral, and Fossil Show. Information is available at: [www.michmin.org](http://www.michmin.org).

article in this newsletter regarding meeting planning.

**October 16-18, 2019:** Great Lakes Environmental Remediation and



**David A. Wardwell**  
President

1477 South Shore Drive  
Holland, Michigan 49423  
T 616.377.7043  
M 616.450.5788  
[dave@dunetechnologies.com](mailto:dave@dunetechnologies.com)  
[www.dunetechnologies.com](http://www.dunetechnologies.com)

**In-Situ Remediation & Instrumentation**



**FONDRIEST**  
ENVIRONMENTAL PRODUCTS

when your  
**research**  
demands  
**quality data**

888.426.2151 [fondriest.com](http://fondriest.com)



**PROVIDING SUSTAINABLE SOLUTIONS FOR DEVELOPMENT, CONSTRUCTION, RESTORATION AND REDEVELOPMENT CHALLENGES FOR OVER 50 YEARS**

**Passionate People Building and Revitalizing our World**

**(800) 837-8800**  
**www.sme-usa.com**  
**Indiana • Michigan • Ohio**

Applied Water Quality and Environmental Sciences Since 1992



Great Lakes Environmental Center  
 glec.com






- Ecological Assessments
- Vibracore Sediment Sampling
- Water and Sediment Toxicity Testing
- Groundwater - Surface Water Interface Studies

• John Barkach ph:238-538-0900 jbarkach@glec.com

EverydayBrilliance  
 Brilliant engineering solutions - delivered daily.




**Celebrating 50 Years of Engineering Excellence**

Energy • Water Resources • Public Infrastructure • Urban Renewal

**LimnoTech** 

Water | Scientists  
 Environment | Engineers

**LimnoTech is an international leader in helping clients make informed decisions to solve their water resource challenges using the latest water science and engineering.**

- Watershed Planning and Management
- Environmental Modeling
- Aquatic Ecosystem Assessment and Restoration
- Drinking Water Supply and Protection
- Contaminated Site Evaluation and Remediation
- Surface Water and Groundwater Characterization
- Stormwater and Nonpoint Source Water Management
- Permitting and Regulatory Assistance
- Hydrogeological Studies
- Green Infrastructure, Water Footprinting and Low-Impact Development Solutions
- Climate Change Adaption and Water Sustainability

**www.limno.com**

Ann Arbor, MI • Washington, DC  
 Minneapolis-St. Paul Region • Los Angeles Region



**provectus**  
ENVIRONMENTAL PRODUCTS®

Distinctive Environmental Biotechnologies - That Work

[www.ProvectusEnvironmental.com](http://www.ProvectusEnvironmental.com) | [info@provectusenv.com](mailto:info@provectusenv.com)



**Specialty Services Include:**

- Soil
- Groundwater
- Air Toxics
- Mobile Lab
- Dioxin / Furan
- PFOA / PFAS
- Drinking Water / UCMR 4
- Emerging Contaminants
- Forensic Analysis
- Compound Specific Analysis

Let's work together. Contact me.

**Duane Hattem**  
[dhattem@pacenational.com](mailto:dhattem@pacenational.com)  
(616) 307-1587



**Here to protect  
our environment  
and improve  
our health**



**Breakthrough Treatment for PFAS:  
PlumeStop Provides A Cost-Effective Solution  
Eliminating Risk**

**PLUME STOP** Liquid Activated Carbon™



[www.regenesis.com/en/pfastreatment](http://www.regenesis.com/en/pfastreatment) 

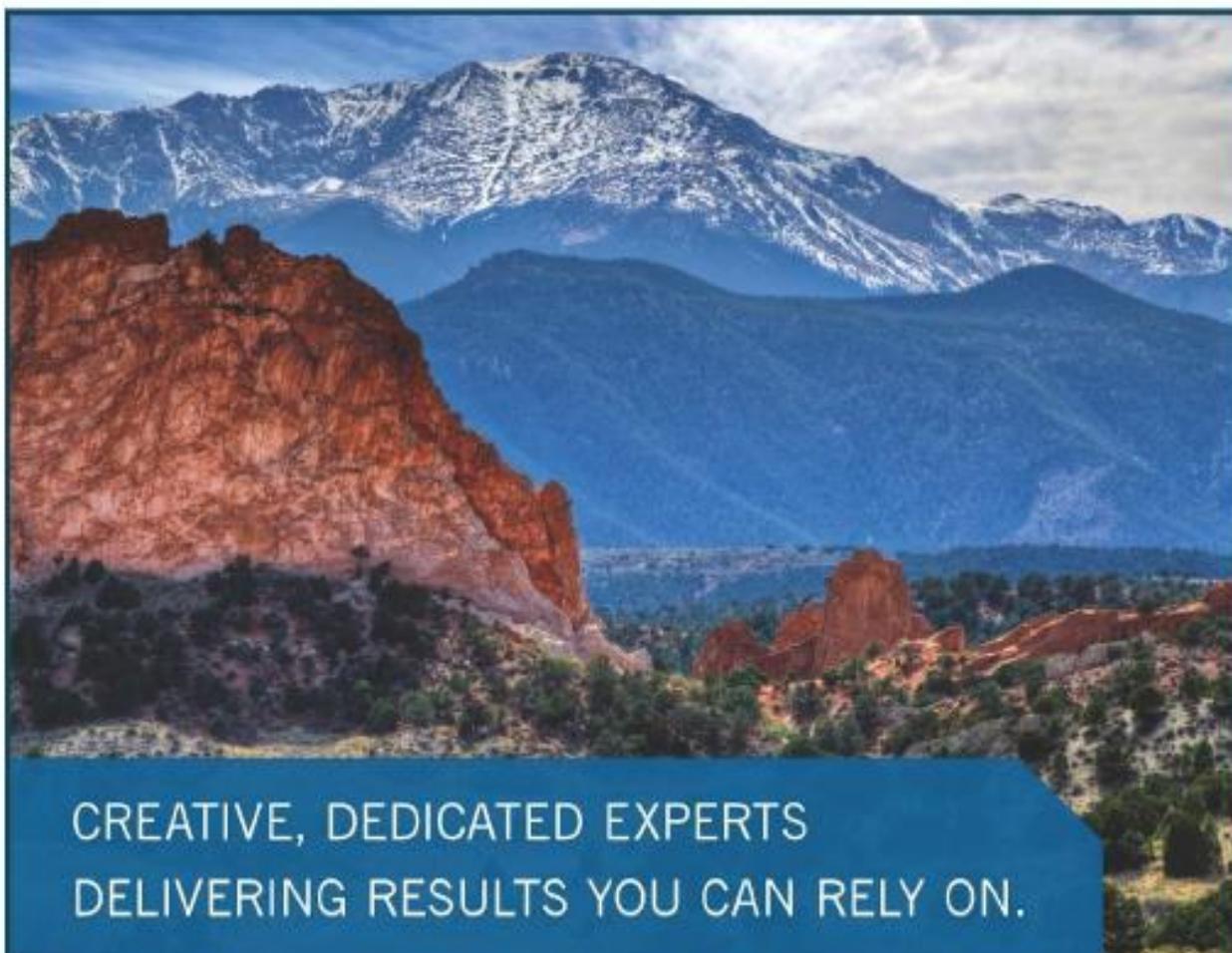


**TRITON SERVICES, INC**  
*Seamless Environmental Liners*

**Roboliner**®

Manufacture of

Vapor Intrusion and Secondary Liners



## CREATIVE, DEDICATED EXPERTS DELIVERING RESULTS YOU CAN RELY ON.

A pioneer in groundbreaking scientific and engineering developments since the 1960s, TRC is a national engineering, consulting and construction management firm providing integrated services to the power, environmental, infrastructure and oil and gas markets. We serve a broad range of clients in government and industry, implementing complex projects from initial concept to operations.

TRC includes over 4,000 technical professionals and support personnel in more than 120 offices across the U.S., U.K. and China. Our clients depend on TRC's multidisciplinary teams to design solutions to their toughest business challenges.

**Graham Crockford, CPG**

Michigan ECR Practice Lead

1540 Eisenhower Place, Ann Arbor, MI 48108

[GCrockford@trcsolutions.com](mailto:GCrockford@trcsolutions.com)



[www.trcsolutions.com](http://www.trcsolutions.com) |    

## Clear Solutions for a Complex World

Tetra Tech's innovative, sustainable solutions help our clients reach their goals for water, environment, infrastructure, resource management, energy, and international development projects.

We are proud to be home to leading technical experts in every sector and to use that expertise throughout the project life cycle. Our commitment to safety is ingrained in our culture and at the forefront of every project.

---

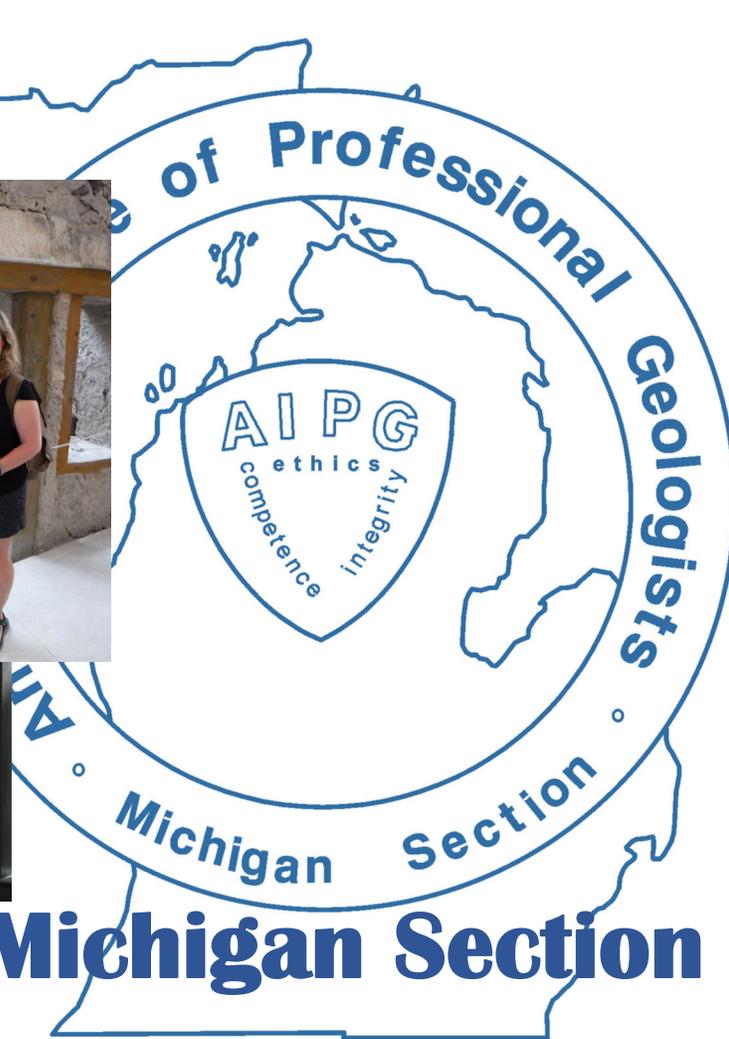
---

# Congratulations

# Sara Pearson



# National Secretary Nominee!



# Help the Michigan Section

# Support Sara

# With Your Vote!



---

---

*Official Endorsement by the Michigan Section Executive Committee*

# 15th Annual AIPG Michigan Section Golf Outing

## Tuesday May 14, 2019

The 15<sup>th</sup> 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.

The outing will take place at Moose Ridge Golf Course in South Lyon, Michigan.

**Place:** Moose Ridge Golf Course  
11801 Doane Road  
South Lyon, MI 48178

**Event:** 18-Hole Scramble

**Date:** May 14, 2019

**Registration:** 8:00 to 9:15 am

**Shotgun Start:** 9:30

Rainout Date: May 16, 2019 (based on availability)

### Registration

Register/Pay by April 30, \$600/foursome, \$170/Individual  
Register/Pay after April 30, \$680/foursome, \$190/Individual

Golfer 1: \_\_\_\_\_

Golfer 2: \_\_\_\_\_

Golfer 3: \_\_\_\_\_

Golfer 4: \_\_\_\_\_

### Accepted forms of payment include:

Eventbrite-search AIPG Michigan

<https://www.eventbrite.com/e/aipg-mi-section-15th-annual-golf-outing-tickets-54305209343?aff=ebdssbdestsearch>

Please provide the point of contact for your foursome:



or



Make Checks to:  
Michigan Section-AIPG  
c/o ERG  
28003 Center Oaks Ct., Suite 106  
Wixom, Michigan 48393

Attn: Bob Reichenbach [bob.reichenbach@ergrp.net](mailto:bob.reichenbach@ergrp.net)

Company: \_\_\_\_\_

Contact: \_\_\_\_\_

Email: \_\_\_\_\_

CALL 248-773-7986, or  
FAX 248-924-3108 to reserve your place!  
The AIPG-MI Section is a nonprofit  
501(c)(6) Organization.

Phone: \_\_\_\_\_

*Includes: Continental Breakfast, green fees, range balls, lunch at turn, networking opportunities, and DINNER. Also includes: 50-50 and Grand Prize raffles along with other prizes including, \$10,000, vacations, or sets of clubs for a "Hole in One", Putt-4 Dough \$2,500, men's and women's Longest Drive and Closest to Pin contests, and goodie bags for all participants.*

# 15th Annual AIPG Michigan Section Golf Outing

## Tuesday May 14, 2019

### Sponsor Package Information

#### **Executive Copper Sponsor - \$2,500**

- **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** and 33% discount for additional golfers
- Signage at the Dinner
- Corporate recognition

#### **Beverage Sponsor - \$1,000 (2 available)**

##### **Investment includes:**

- Signage at the club house and on the Beverage Cart or Oasis.
- Corporate recognition

#### **Breakfast/Luncheon Sponsor - \$800**

##### **Investment includes:**

- Signage at the grill/tent.
- Corporate recognition

#### **Hole-in-one Sponsor - \$500 (4 available)**

Will have visible exposure on a Par 3 Hole.

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 - \$280**

(18 available)

##### **Investment includes:**

- Tee box signage and
- Pin Flag with logo

#### **Skill Sponsor – \$400**

##### **Investment includes:**

(4 available)

“Longest Drive”, “Closest to Pin” awards to Male/female for each.

#### **Practice Tee Sponsor – \$300**

##### **Investment includes:**

(1 available)

Exclusive Signage at the Practice Tee

**Putt-4-Dough Sponsor – \$400** Signage on the putting 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:**

**\$300 SPONSOR FEE** – Signage and option to provide a photographer from your organization.

#### **Goodie Bag Sponsor - Give-away items for 120 or more golfers**