



American Institute of Professional Geologists Michigan Section

August 2013

From the President's Desk

Our next Michigan Section meeting is scheduled for September 19, 2013 at Cleary University in Howell, Michigan. Our speaker will be John Esch, Michigan Department of Environmental Quality.

John will provide an overview and demonstration of the MDEQ's GeoWebFace. This powerful GIS tool was originally built for MDEQ's Office of Oil, Gas, and Minerals and can be accessed by the public through the MDEQ's website at

http://www.michigan.gov/deq/0,4561,7-135-3311_60700---,00.html.

The purpose of the GeoWebFace was to integrate the large amount of geologic data that has been developed by the MDEQ into one easy-to-use system. Base map options include high resolution aerial photographs (2005 and 2009), USGS topographic maps, and street maps. The base map can be overlain with a series of 60 layers, and includes:

- Geology
- Oil and Gas
- Mines and Minerals
- Public Land Survey System
- Ownership and Mineral Leases

Data that can be overlain on the base map includes a variety of glacial, bedrock, and structural geologic maps. The GeoWebFace can be used to quickly obtain well logs, as well as the location of oil and gas wells, and mining sites. This high quality tool was built to save time, is easy to use, and the figures can be downloaded to other programs to be used in reports. I think you will find John's presentation and tutorial on the MDEQ's GeoWebFace very useful in your every day work.

As I mentioned in previous articles, National AIPG's ongoing focus area is promoting student membership. The first volume each year of The Professional Geologist is devoted to students. Of the 16 AIPG-Student Chapters, three are located in

Michigan, they include: Central Michigan University (founded in 2003), Eastern Michigan University (founded in 2006), and our most recent Student Chapter located at Wayne State University (founded in 2012).

Last week, AIPG-National President Elect Ron Wallace announced a Student Chapter of the Year Award. The winning Chapter will receive certificates for the students, a plaque for the Chapter, \$500.00, and a trip for one of the students to attend the AIPG National Conference and Executive Board meetings. The Student Chapter of the Year Award will be announced in the next edition of the TPG, and 2014 will be the inaugural year for this award.

One of the most rewarding aspects of being a member of the Michigan Section Executive Committee is to identify opportunities to give back to our field and to encourage new membership. A large percentage of the funds that are raised each year by the Michigan Section during the Annual AIPG Golf Outing (thanks Bob Reichenbach) and the Annual Michigan Section AIPG Workshop (thanks Kevin Lund and Sara Pearson), is distributed by the Michigan Section as scholarships, grants, and awards.

For the second year in a row, the Michigan Section pledged scholarship money totaling \$3,500 for Michigan teachers to participate in the Academy of Natural Resources. The Academy was held this year on July 14-19th at the MDNR's conference center on Higgins Lake. The Academy, now in its 5th year, is open to all educators who wish to learn more about natural resources in this week long mixture of classroom and field experiences taught by a variety of professionals. For more information check www.michigan.gov/anr or contact ANR Coordinator Kevin Frailey at (517) 373-7306 or fraileyk@michigan.gov.

A quick reminder, the 50th Annual AIPG National Meeting is scheduled for October 23-26th in Broomfield, Colorado. This year, the National Meeting is being hosted by the AIPG Colorado Section. Craig Savage, Michigan Section Vice President, will

be attending the National Meeting as the official Michigan Section delegate to the Advisory Board this year. For more information about the meeting, contact AIPG National at (303) 412-6205.

Don't hesitate to contact us with questions, comments, and ideas for future Section meetings. Feel free to contact me directly at jbarkach@glec.com.

John Barkach, CPG – 2013 Michigan Section President

Section Officers Reports

President: Information presented in the "From the President's Desk" article above.

Vice President: No report.

Treasurer: The balance in our checking account is currently \$48,592.62.

We received \$5,330 from AIPG National for Michigan membership dues.

There are a few remaining payment and deposits expected from the golf outing. Once we have paid all the bills, Bob will prepare a financial summary for the event. Many thanks to our sponsors who help make this a successful event for Michigan AIPG.

The AIPG event held in Kalamazoo in May in conjunction with GSA was a free event. Michigan AIPG sponsored the social hour with hors d' oeuvres prior to the key note speaker. Money earned from AIPG events paid for this.

Secretary: Message from the Secretary:

The weather this week in Lansing was fantastic. Like many of you, I run errands at noon to take a break from the office. One day this week, I decided to take a walk through the industrial park to the storm water retention pond and back. There are a few picnic tables below some shady trees at one end of the pond. Canadian geese and bluegills look for handouts in the shallows. It's usually a quiet setting to reboot.

Nearing the pond, I saw that someone else had the same idea. A man about my age was feeding rice to a school of pan fish. After a polite greeting and a few casual remarks about the perfect weather, I learned my companion had just received word that in a few months his job was going to be eliminated. He said he was having difficulty getting his mind around this news. Wow. I really just wanted to take a walk.

Instead, our chance meeting turned into a pep talk and a strategic planning session. I told him about the time I was in a similar situation and the positive steps I took and the achievable goals that I made for myself each day. I pointed out that he had a lot going for him – a good work ethic, a good family, a

strong faith community. I told him that in my experience many people, myself included, end up happier and with better careers a year or two after adversity strikes. He thanked me and said that I had given him a lot to think about – things he hadn't even considered. My point in relating this story is simple. Times are still hard for many people. Take the opportunities that fate sends your way to provide encouragement to others in need until we're all out of the woods. Best wishes to all.

Minutes from July 19, 2013 Executive Committee Meeting

Participants: John Barkach, Brian Burke, Adam Heft, Kevin Lund, Sara Pearson, Craig Savage.

AIPG Headquarters has announced that a search for a new executive director is on. The current director, Bill Siok, will be stepping down in 2014.

- I. Section Meeting, May 2, 2013, WMU, Kalamazoo
 - 69 overall new members were signed up at the meeting; 30 of those are from the Michigan Section
 - The Michigan Section contributed \$1,000 for food service, \$2,000 support total contribution with incidentals (including raffle items)
 - Dr. Ruddiman, national expert on global warming, was the keynote speaker
- II. Student Scholarships
 - AIPG National Scholarship, \$1,000 was awarded to Kase Knochenhauer
 - AIPG-Michigan Section Matching Scholarship, \$1,000 was awarded to Karl Campbell
 - The Section Executive Committee will decide annually to whether to provide the matching scholarship for that year depending on finances
- III. AIPG Michigan Section History (completed)
 - Larry Austin did a good job of compiling the Section History
 - The Section history is posted on the Michigan Section website and will probably be included in the 2013 Annual Meeting information
- IV. The 9th Annual Michigan Section Golf Outing was held on May 14th at Lyon Oaks
 - About 60 Golfers attended, and a good time was had by all
- V. The third annual AIPG Workshop was held from June 18-20th at the RAM Center in Roscommon

- Core attendance of 130 to 140 per day, 30 to 40 from State
- Attendees generally wanted future Workshops to be three days with part of first and third day for travel

VI. AIPG National Meeting

- Craig Savage will be the Michigan Section delegate to the Advisory Board meeting; he is planning to attend the Annual Meeting
- Craig would like a bullet list of topics to be discussed/presented to National

VII. Gerald E. Eddy Discovery Center, Chelsea, MI

- John Barkach will meet with Kathy McGlashen again in the Fall with Wayne State Student Section representatives
- The Wayne State Student Section has offered to help out at the Discovery Center in the fall

VIII. Future Michigan Section Student Chapters will hopefully include:

- Western Michigan University
- Michigan State University

IX. The 2013 AIPG Field Trip

- The trip was held May 30-June 2, 2013 in conjunction with the Michigan Basin Geological Society
- About 16 individuals attended the trip, including Brian Burke
 - \$80; limited to 22 participants
 - Michigan Basin Geological Society members only
- A trip in 2014 is planned to go to the Michigan Salt Company
 - This trip will be limited to 20 participants
 - Details will be forthcoming on attendance selection, etc.

Coming Events

August 17, 2013: Ohio Section AIPG Field Trip to Hocking Hills State Park, Hocking County, Ohio. Hosted by the Wright State University AIPG Student Chapter. \$20.00 per person for Professional Members, not including lunch. Lunch may be purchased at the park's dining hall for an additional \$8.00 to \$12.00. Please RSVP to: Robin Roth at robin.roth@epa.state.oh.us.

August 22, 2013: Petroleum Technology Transfer Council Workshop – at the Waterfront Place Hotel,

Morgantown, WV. Register at <http://eastern082213.eventbrite.com>.

September 19, 2013: Michigan Section AIPG Meeting, Johnson Center, Cleary College, Howell. John Esch will be speaking about "GeoWebFace - Online, Geological and Oil & Gas Maps and Data for Michigan".

Location: The Johnson Center, Cleary College, Howell.

Dinner: Buffet style; choices include grilled chicken and red pepper tortellini with roasted red skin potatoes, green bean almandine, salad, bread, and desert.

Schedule: Cash Bar 5:30-6:30 PM, Dinner 6:30 PM, and Speaker 7:30-9:00 PM.

Cost: Students free, Members \$30.00, Non-members \$50.00.

RSVP by September 16, 2013: RSVP for the meeting on the Constant Contact website no later than September 16th at:

<http://events.constantcontact.com/register/event?llr=hppwbcjab&oeidk=a07e7yawgo87a621ca4>.

October 19, 2013: MBGS Field Trip to Alabastine Gypsum Mine (Michigan Natural Storage) in Grand Rapids, 9am-noon. Patricia Videtich and Kevin Cole, Grand Valley State University, will lead the trip. Cost yet to be determined, space limited. Check www.mbgs.org for the latest information as the details are finalized.

October 23-26, 2013: AIPG 50th Annual Meeting, Omni Interlocken Resort, Broomfield, Colorado. <http://www.aipg.org>.

November 21, 2013: Ohio Section AIPG Annual Meeting and Dinner Presentation – Event details to be announced at a later date, <http://www.aipg-ohio.org/>.

December 5, 2013: Michigan Section AIPG Annual Meeting, Kellogg Center, East Lansing. Speaker and meeting details TBD.

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:

Matthew Irvine, Mark Theobold, Amanda Hayden, Matthew Germane, Chloe Lawson, Erin Lower, Brenda O'Leary, Luke Cousino, Travis Hayden, Alanna Punch, James Karsten, Heather Monarch, Jordan Hein, Charloet Lee, Aiman Shahpurwala, Mark Brown, Steven Musch, Kyle Deatrack, Nicholas Panyard, Derrick Lingle, Cameron Manche, Zachary Spotts, Kelsey Artley, Brittany Block, Muthanna Yaqoob, Lamees Mohamed, Racha El Kadiri, David Golds, Gerianne Barnard, Seth Kuiper, Mustafa Emil, Frank Sattler, and Andrew Polley.

To each of our new members, the Michigan Section Executive Committee would like to welcome you to our Section, and encourage you to attend Section meetings and other events. You are also welcome

to provide information for the Member's Corner articles.

On Rocks And Waterfalls...

Last month, I had the good fortune to take a week's vacation. Being a geologist that doesn't deal regularly with bedrock as part of everyday project work, I chose to go somewhere where I'd be able to take care of my withdrawal symptoms. I also try to corrupt the next generation, so I took my kids to the Upper Peninsula, leaving my wife to enjoy the peace and quiet. I did, however, make the kids leave their I-thingys at home so they could better enjoy the scenery once we were out of troll country.

We left the house early on a Saturday, and by noon were across the Mackinac Bridge and in Yooper territory. We passed by the Silurian/Devonian aged Mackinac Breccia along I-75 – the first bedrock encountered – immediately north of the bridge. I had to be content with 45 mph geology in viewing the outcrops. This was about the only bedrock we saw the first day since we made stops at Sault Ste. Marie to see the locks, and at Whitefish Point to see the shipwreck museum. No rocks to be seen at either location other than some urbanite and ruralite.

The second day was marginally better. We visited Tahquamenon Falls (both the upper and lower falls). The rocks are part of the Cambrian age Munising Sandstone. Of course, since the falls are within a state park, the rangers tend to frown on vandalizing them with a hammer to get a good view of a fresh surface, or doing like the old insurance commercial recommends and “get a piece of the rock.” Oh well. After viewing the falls, we collectively elected to take a reasonably short (four mile) hike along the Giant Pines trail. Some of the white pines along this trail are over 15 feet in circumference and 120 feet tall. The walk was well worth it to see the trees, although even wearing deep woods off we were hurried along by hordes of mosquitoes and deer flies.



Upper Tahquamenon Falls. Photograph courtesy of Adam Heft.

We spent time later that day on the beach at Grand Marais. This was a revisit of the final stop of the 2010 Michigan Section field trip. Much to the disappointment of the kids, Lake Superior was much too cold to do more than stick a toe or two in for a minute. So they spent time climbing the dunes overlooking the lake and Sable Falls, while dad walked the cobble-strewn beach looking for interesting rocks. And yes, I was able to find something interesting – a softball-sized piece of banded gneiss that was cut by a fault and showed about an inch of displacement. I hadn't even got to any bedrock collecting locations, and already I was loading up the vehicle...



Lake Superior beach and dunes at Grand Marais at the Sable Falls outfall into the lake. Photograph courtesy of Adam Heft.

Day three was spent in and around Munising and Pictured Rocks. We did some hiking to several of the area waterfalls including Chapel Falls, Mosquito Falls, Miners Falls, and Munising Falls to name a few. The Cambrian age Munising Sandstone and Late Precambrian Jacobsville Sandstone are the primary rock types forming the waterfalls.



Miners Falls. Photograph courtesy of Adam Heft.

We were able to cap the day off by taking a three-hour tour along Pictured Rocks National Lakeshore. This was the first time I was able to see the rocks up close; usually I've only caught a glimpse of them in the distance as I head west out of Munising on M-28. It was worth the cost of the cruise tickets (which is fairly pricey) to see the rocks up close.



Spray Falls as viewed from Lake Superior. The falls are about 70 feet high. Photograph courtesy of Adam Heft.

The rocks forming the cliffs are stained a wide range of colors from reds and oranges due to iron, to blues and greens due to copper. We were close enough to the cliffs in a few places to see cross-bedding in some of the layers.



Pulpit Rock as viewed from Lake Superior. Note the tree on top of the formation is fed via a large root that bridges the gap to the left. Photograph courtesy of Sera Heft.

In addition to the mineral staining of the rocks, several interesting formations that result from differential erosion are present. Pulpit Rock is a formation that is nearly a sea stack; it has a small set of arches beneath its cap rock. A large white pine sits on top of the rock, and obtains its nutrients from a large root bridging the gap to the nearby cliff. Other formations include "The Vase" (another stack, but this one still connected by an arch to the cliffs), Lover's Leap (a large arch situated over the water),

Battleship Row (a series of pointed segments of cliff that resemble the bows of ships), and the Indian (a corner of cliff that resembles the head of a Native American in profile).



Canyon Falls (locally billed as the Grand Canyon of the Upper Peninsula), which is located about 15 miles south of L'Anse. The falls are about 10 feet high and are over a ledge of Michigan Formation; the rock is greywacke facies. Photograph courtesy of Adam Heft.

The next day was spent in the Marquette area. Again, we visited several area waterfalls, and also got to see some of the rocks of the Marquette District. I was able to obtain a sample of the Palmer Gneiss for my Rocks of Michigan exhibit project thanks to Cliffs Natural Resources.



The Arvon Slate Quarry (now abandoned) located east of L'Anse. Photograph courtesy of Adam Heft.

From the offices of Cliffs, we had to visit Jasper Knob in Ishpeming. For those of you that have never been there, it is well worth the short hike to the top. Jasper Knob is a world-class outcrop of hard banded iron formation (the Negaunee Iron Formation) that has been significantly deformed. Don't bother trying to collect samples of this outcrop; not only are the rocks extremely hard and it is difficult to obtain a sizeable piece, but local geologists are asking that the outcrop be left alone for the enjoyment of future

visitors. There are numerous small chips of rock lying about to collect if you must take something.

Because every year we like to attend the Mid Michigan Mineral Society's meeting at the Ingham County fairgrounds (where they have demonstrations on polishing Petoskey stones, flint knapping, and slate carving), we stopped at the abandoned Arvon Slate quarry. Piles of Michigamme slate are scattered in several large piles. The kids each collected a few pieces to carve designs on. Fortunately, I had the foresight to bring a few pencils to draw with and some nails to begin scratching their designs onto their samples. This kept them occupied for a while...



One of six drops forming Hungarian Falls near Lake Larium in the Keweenaw. This particular waterfall is about 90 feet high and flows over the Jacobsville Sandstone. Photograph courtesy of Sera Heft.

The next day did not start well. We tried to see Sturgeon Gorge Falls; however, we were unable to locate it. The kids did get a good idea of what it means to be in the middle of nowhere. After seeing no vehicles in about 20 miles, or evidence of other people having been there for the last 50 years or so (ok, a bit of an exaggeration, but it sure seemed like it) we elected to pass on this location and move on to other more likely prospects. We spent the rest of the day in the Keweenaw looking at several waterfalls, the tailings for the old Cliff Mine, taking the underground tour of the Delaware Mine, and hiking in Estivant Pines.

We stopped for dinner in Copper Harbor and were almost finished eating, when I saw Gary Dannemiller walking by outside the restaurant. One might speculate on the chances of bumping into someone you know when you are several hundred miles from home... perhaps I should have bought a lottery ticket that day...

The plan was to try to end the day at sunset on Brockway Mountain to get pictures of the sun setting on Lake Superior. We made the drive to the top, but we were too early for sunset. We had to be content with the view of Lake Superior and the surrounding

area with the sun low but not on the horizon. It was still high enough to be able to see outcrops of the Copper Harbor Conglomerate which forms the mountain. The rocks are exposed along the edges and sides near some of the observation areas.



Sitting on top of Brockway Mountain near Copper Harbor. Brockway Mountain is composed of the Copper Harbor Conglomerate. Lake Superior is in the background. Photograph courtesy of Adam Heft.

The next day was July 4th, and we headed southwest from Houghton. Our first stop was at O Kun de Kun Falls. The falls were about 20 feet high and flowed over a ledge of Jacobsville Sandstone. Given the length of the hike in from the parking area (about 1.3 miles), this waterfall was not as impressive as others we had seen. In addition, the hike to the falls was where we had our first encounter with ticks. The girls were less than enthusiastic about this kind of wildlife...



O Kun de Kun Falls. The falls are about 20 feet high. Photograph courtesy of Sera Heft.

From O Kun de Kun Falls, we drove to Porcupine Mountains State Park to see Lake of the Clouds and climb Summit Peak. Because this was another state park, I was unable to collect one of the other rock types, the Oak Bluff Formation, I still need to obtain for the Rocks of Michigan exhibit. I'll have to find another place where it outcrops to get some. We

stayed in Ironwood that night to be able to get to several nearby rock outcrops the next day.



Agate Falls. The falls are about 30 feet high. Photograph courtesy of Adam Heft.

We were able to make several stops the next day near Ironwood, Bessemer, and Ramsay. I was able to fill several gaps in the rock record, and collected pieces of the Ironwood Iron Formation, the Palms Formation, Sunday Quartzite, Tyler Formation, and Emperor Volcanics. We also stopped to see Agate Falls and Bond Falls.

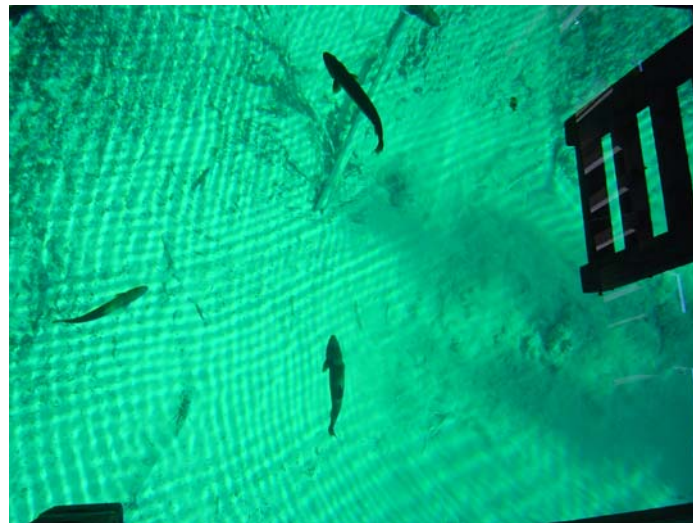


Bond Falls. The falls are about 40 feet high. Photograph courtesy of Adam Heft.

After viewing the falls, both of which appear to be over Jacobsville Sandstone, we continued southeast toward Crystal Falls. I was also able to add to the weight in the car and collected pieces of the Peavy Pond Granite, Hemlock Formation, and Kiernan Sill metagabbro.

The final day included a short stop at Kitch-iti-Kipi, known as “The Big Spring.” The water is crystal clear. The bottom of the spring, which is about 100 feet across and 45 feet deep, has several sand-covered fractures in the underlying limestone from which about 10,000 gallons of water emanate per

minute. The water entering the spring constantly stir the sand, forming what appears to be small “volcanoes.” Numerous trout swim in the water of the spring, all of which are viewable from the floating “raft” that is pulled across the spring on a rope.



Looking down through the water at Kitch-iti-Kipi (the big spring). Several trout are visible in the water, which is about 45 feet deep. Note the sediment “volcano” below the base of the ladder. Photograph courtesy of Adam Heft.

The trip was relaxing, and my girls enjoyed being out and seeing what Michigan’s Upper Peninsula has to offer. They were even good about helping dad collect and stow his “souvenirs.” The girls also came home with a few rocks of their own...

Adam Heft, Michigan Section Newsletter Editor

Michigan Department of Environmental Quality News

Peer Review and MDEQ

The Michigan Department of Environmental Quality (MDEQ) Remediation and Redevelopment Division (RRD) has implemented the Peer Review Process and decentralized the decision-making process for documents and reports submitted to the agency by delegating this authority to the district field managers.

The field managers and their staff, who have the greatest knowledge of the individual sites, are reviewing the submittals including final assessment and closure reports, response activity plans, no further action reports, due care documentation and many others from the regulated community using the Peer Review Process and making the decisions for approval, approval with conditions, insufficient information or denials.

What is the Peer Review Process? Simply put, the process is an informal discussion amongst district staff about the submittal. The district project manager or project team for a particular site sits

down with other staff in the district including the supervisor and describes the site conditions, investigative work and asks for input on any issue that they would like to get an opinion on from their colleagues. This process fosters learning amongst staff when they relate similar conditions at other sites and helps promote consistency in the decisions being made.

When issues arise that may require some specific technical or programmatic expertise, the project manager or project team may also consult with the Technical and Program Support (TAPS) teams for input. The TAPS teams are made up of district staff from across the state and from other offices and divisions with programmatic overlap. They are responsible for providing recommendations on their specific subject matter to district staff, for staying current with developments and trends related to their topic, working with experts in their topic field, and educating staff on recent developments. Currently, the MDEQ RRD has nine TAPS teams for the following topics: due care, groundwater modeling, groundwater/surface water interface, incremental sampling, in-situ remediation, institutional controls, non-aqueous phase liquids, soil background, and vapor intrusion.

The RRD has an open door policy for the peer review process. The division is encouraging consultants and owners of contaminated property to participate in the peer review process. If you would like to participate in a peer review session for a project, feel free to contact the district project manager assigned to your site.

Sara Pearson, MDEQ RRD TAPS Team
Coordinator, CPG #10650

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The Section Executive Committee would like to remind its members to support the companies that are advertisers 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.

Newsletter Notice via E-mail

Please be sure that you continue to receive the Section newsletters and other announcements. Submit an updated e-mail address to Adam Heft at heft@pbworld.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.

Section Website Reminders

As you may have noticed, the Michigan Section is working on building a database of geologic photographs on our website. We would like to continue building this collection. Please submit photographs that you are willing to share to Adam Heft at heft@pbworld.com. Don't forget to include your name and a short explanation of what the photograph depicts. The photographs will be periodically uploaded to the website once several have been received.

You will also note that the Section website now has a history page. Currently, it includes information on Douglas Houghton, Michigan's first State Geologist. We will be including information on the Section's officers in the near future. If you have suggestions on other items that should be included on this page, please let a member of the Section Executive Committee know.

Member's Corner

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

No Member's Corner Articles were submitted for this edition of the newsletter.

Employment Opportunities/Seeking Employment/Member Opportunities

To serve our members, and provide added value, the Michigan Section Executive Committee has decided to allow ads for employment or other opportunities to be posted in the Section newsletters. Employment ads will run for one edition unless renewed. There is no cost to our members or sponsors for this service. Send your employment opportunities to the Editor.

No information for this section was available for this edition of the newsletter...

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**Michigan Chapter
American Institute of Professional Geologists
MEETING ANNOUNCEMENT**

September 19, 2013

**GEOWEBFACE - ONLINE, GEOLOGICAL AND OIL & GAS
MAPS AND DATA FOR MICHIGAN**

Featured Speaker

[John Esch](#)

Location: Johnson Center, Cleary College, Howell, MI (Map attached)

Cost: Students Free, Members \$30.00, Non-members \$50.00. Registration is payable electronically via constant contact (see link below) or at the door by cash or check; however, prepayment is preferred and speeds up the check-in process at the door. *Please note: Cancellations made within 48 hours of the meeting and/or "No Shows" will be charged and expected to pay the registration fee.*

Dinner: Choice of: Fire-grilled Breast of Chicken topped with Champagne Lemon Sauce or Tri-Colored Cheese Tortellini, Sun-Dried Tomatoes, and Artichoke Hearts, tossed in a Roasted Red Pepper Sauce. Both entrees include roasted red skin potato, gardener's salad, green bean almandine, rolls and butter, and desert.

Time: Cash Bar 5:30-6:30 PM, Dinner 6:30 PM, and Speaker 7:30-9:00 PM

RSVP: On the Constant Contact website no later than September 16th at: <http://events.constantcontact.com/register/event?llr=hppwbcjab&oeidk=a07e7yawgo87a621ca4>. You can select your meal choice and pay online if you choose, or pay at the door by cash or check if you prefer.

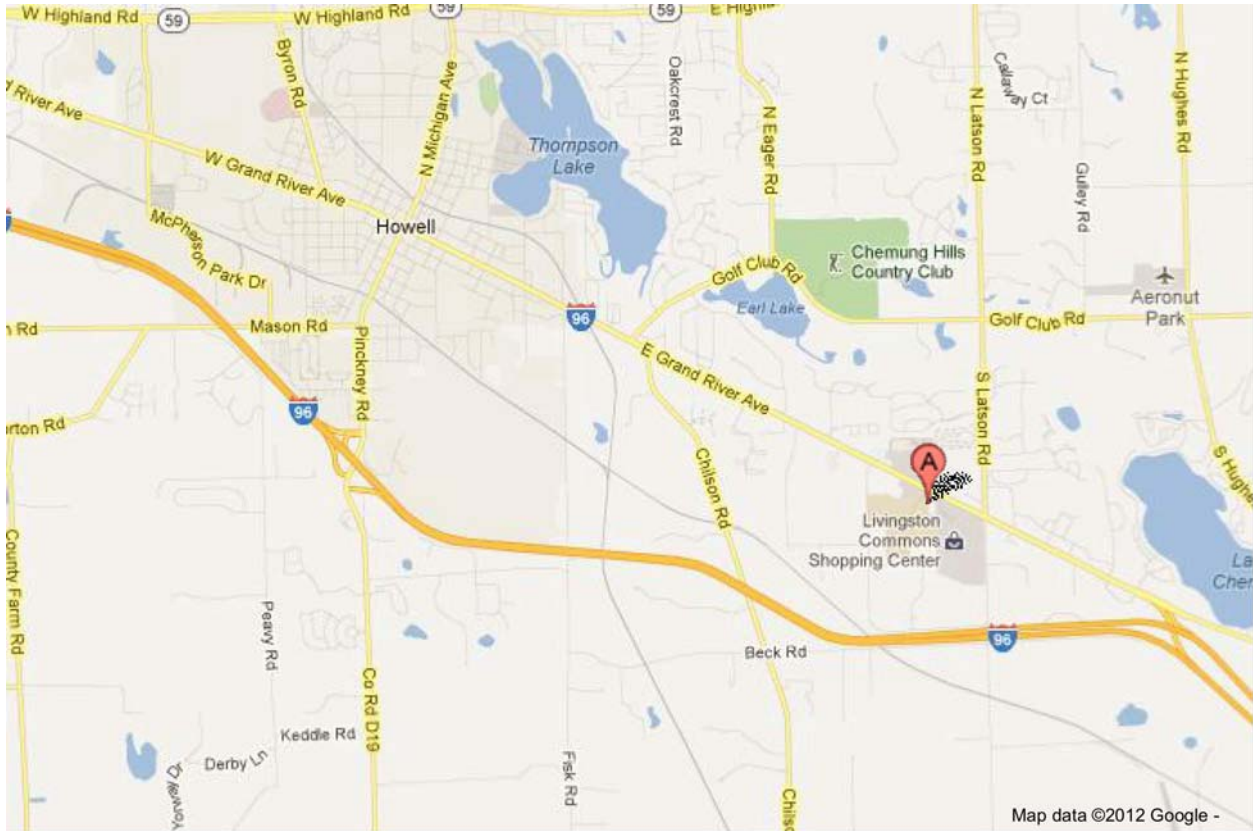
* John is a senior geologist with the Michigan Department of Environmental Quality, Office of Oil, Gas & Minerals, Petroleum and Mining Geology Unit, Lansing, MI eschj@michigan.gov.

John grew up in the Grand Ledge Michigan area and received his BS in geology from Central Michigan University in 1984. He started out his career in 1984 as a geologist with Aangstrom Precision Corporation. He led a geophysical survey crew for one year and later worked as a "computer geologist" mapping the structure and isopach maps of every Paleozoic formation in the Lower Peninsula of Michigan. John constructed the first ever comprehensive glacial drift isopach and bedrock topography maps of the Lower Peninsula of Michigan as well as assisting in mapping the major faults in the basin. In 1990, John left the oil patch and took a job with the DNR (later DEQ) conducting hydrogeologic investigations at contamination sites across the state. From 1998-2006 he has been a project geologist (geodog) on 12 Superfund sites here in Michigan. Since 2006 he has been with the Office of Geological Survey/Office of Oil, Gas & Minerals.

John's interests include studying the bedrock surface and structural geology of the Michigan Basin, use of unconventional geophysical techniques, groundwater surface water interactions, and the use of GIS and 3D visualization techniques to help understand subsurface geology. He chairs the DEQ GIS Committee. He is a volunteer with Lifewater International in which he trains people overseas in groundwater exploration, shallow well drilling and hand pump repair.

AIPG Section Meeting September 19, 2013

Johnson Center, Cleary College, Howell



From I-96 West: I-96 West to Exit #141 (Grand River), west onto Grand River. Go through the light at Latson Road, then through the next light at the Meijer entrance. Turn left onto Cleary Drive (immediately past the Meijer entrance) and follow the drive back to campus.

From I-96 East: I-96 East to Exit #137 (Michigan Avenue/D-19), north onto Michigan Avenue. Turn right on Grand River. Follow Grand River through town to Grand Oaks Drive. Turn right onto Grand Oaks, then left onto Cleary Drive; OR, go through the lights at Grand Oaks and in front of the Speedway station, and turn right onto Cleary Drive.

From M-59: (east- or westbound) South onto Latson Road; follow Latson to Grand River Avenue (2nd traffic light). Turn right onto Grand River, go through the next light (at the Meijer entrance) and make an immediate left onto Cleary Drive. Follow the drive back to the campus.