Communicating Key Information & Concerns to Geologists and Environmental Professionals

Issue 2 / 2017



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Message from the President

Summer is here ... finally. As geologists, we tend to be outdoors people. For me, it is golfing and fishing. For others, running, camping, hiking, gardening, etc. Plus, many of us find ourselves in the field this time of year.

At the PCPG field trip, in York, PA, we found ourselves hiking through some fairly thick brush at times and I

starting thinking about ticks and Lyme Disease. All indications are it is going to be a big year for our "Eight Legged Freaks". (Sorry for the reference to such a bad horror movie, but I couldn't help it.) I found a few references below on what to look for in this year's tick population, tick bites, Lyme Disease, and other tick-borne illnesses.

http://fox43.com/2017/05/17/experts-warn-of-tick-diseases-in-pennsylvania/http://ento.psu.edu/extension/factsheets/ticks

http://www.publicopiniononline.com/story/news/local/2017/04/01/pa-nations-lyme-leader-and-worst-year-could-ahead/99758558/

http://www.health.pa.gov/My%20Health/Diseases%20and%20Conditions/I-L/Pages/Lyme-Disease-.aspx#.WTtYM_vyvIU

So, be careful out there. I want all of us to come back from our favorite outdoor summer activities or our not so favorite summer fieldwork, happy, healthy and enriched for the experience.

And speaking of enriched for the experience, I just recently attended the PCPG



Safety meeting after exploring karst features at the Magnesita Quarry in York, PA

York, PA field trip.

We visited numerous

Cambrian-aged limestone
and dolostone mines and
quarries. As discussed in
a previous "President's
page," I am a petroleum
geologist, working in
western and northcentral

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UPCOMING EVENTS

Act 2 Toolkit: The Act 2 Process in 20 Minutes PLUS (455 mins.) July 18, 2017 Cranberry Twp., PA

Fracture Trace Analysis in a Digital Age (430 mins.)

August 17, 2017 Malvern, PA

Two-Day PG Review Course for the Practicing Geologist & ASBOG Exam Candidate (900 mins.)

> August 24-25, 2017 Plymouth Meeting, PA

Variability in the Gas Geochemistry of the Appalachian Basin and Contemporaneous Influences on Fate and Transport (200 mins.)

September 11, 2017 Cranberry Twp., PA

Managing Complexities and Uncertainties of Soil Sequences for Hydrogeologic and Geotechnical Projects: Part 1, Principles Sponsored by Midwest GeoSciences Group September 12-13, 2017

Exton, PA

Don't forget to check the "Courses & Events" calendar on PCPG's home page frequently for up to date information on upcoming educational opportunities.

PCPG Names Delaware Valley Science Fair Winner

PCPG members Grover Emrich, Gary Kribbs and Scott Laird were volunteer judges for the Delaware Valley Science Fair (DVSF) held at the Greater Philadelphia Expo Center from April 4 through April 6, 2017.

Over 1,000 students in grades 6th through 12th from Pennsylvania, New Jersey and Delaware participated.

Denver Bradley's project, "Determining the Relationship between Side Scan Sonar Backscatter and Sediment Size" was selected to receive a \$500 award sponsored by PCPG.

The project was done in the NJ-NY Harbor estuary, which contains a wide variety of sediment types. Side scan sonar is used to map and observe the topography of the ocean floor. Mr. Bradley's study found a correlation between sediment grain size and backscatter intensity received by the side scan sonar. Grab samples were collected for grain size analysis, and a positive correlation between backscatter and sediment grain size was confirmed. Mr. Bradley is a senior at the Marine Academy of Science in Sandy Hook, New Jersey.

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Pennsylvania. My knowledge of southeastern Pennsylvania is getting better, but far from expert. The trip was awesome and we learned a lot about the carbonates mining industry in southeastern PA and how the karst geology and structural geology affect operations. An incredible experience and everyone on the trip seemed to be excited for the opportunities to tour the dolostone quarry and deep, underground limestone mine. Some photos from the trip are included in today's newsletter.

We are always looking for good and needed courses and fieldtrips to offer the PCPG membership. If you have any suggestions, please let us know. Feel free to email me with ideas.

Thanks,

Dan A. Billman, PG, CPG

Dana. Biling

President, PCPG

2017 PCPG ANNUAL MEETING















- 1. PCPG President Dan Billman welcomes attendees to the 2017 Annual Meeting.
- 2. Former and current State Geologists Jay Parrish, Gale Blackmer, and Don Hoskins. That's a lot of Pennsylvania Geology.
- 3. Guest speaker Michael Rygel, President of the New York State Council of Professional Geologists speaking about NY licensing. Rygel also gave a talk titled, Sticks and Stones: How the Evolution of Land Plants Changed Clastic Depositional Systems.
 - **4.** PCPG Associate Member Ted Gayman (Elchelbergers) and PCPG past president Jen O'Reilly catch-up during a break in the program.
 - 5. PCPG board member Brenda Costa checks Tom Beatty's winning raffle ticket.
 - 6. PCPG board member Kurt Friehauf and his posse of Kutztown University students.
 - 7. Winners of the Geology of Pennsylvania books donated as student door prizes by the Topographic and Geologic Survey. Thanks, Gale!

DAYTRIPS TO OUTSTANDING GEOLOGIC SETTINGS IN PENNSYLVANIA McConnell's Mill State Park

By John Torrence, P.G.

Park Entrance Address: 1761 McConnell's Mill Road, Portersville, PA 16051

Pennsylvania has many outstanding geologic settings that for me have become destinations for day trips. Many of these destinations are off the beaten path, tucked away within state parks which in addition to being interesting in and of themselves provide helpful comforts such as parking areas, trail maps and facilities. One such destination is McConnell's Mill State Park which resides in the northwestern part of the State in Portersville, PA. McConnell's Mill State Park is located along the Slippery Rock Creek within the Slippery Rock Creek Gorge.

There are a lot of interesting geologic features within the Slippery Rock Creek Gorge from the depositional history of the various sedimentary layers to the impact of glacial events that changed the flow direction of the Slippery Rock Creek creating the landscape we see today. Many of these features are described in the following publication: Fleeger, G.M., Bushnell, K.O., and Watson, D.W., 2003, Moraine and McConnells Mill State Parks, Butler and Lawrence Counties – Glacial lakes and drainage changes: Pennsylvania Geological Survey, 4th ser., Park Guide 4, 13 p. This publication can be found on the PA Department of Conservation and Natural Resources web page for McConnells Mill State Park at this web address: http://www.dcnr.state.pa.us/stateparks/findapark/mcconnellsmill/

Before the glaciers extended into northern Pennsylvania stream drainage in the vicinity of Slippery Rock Creek was either flowing to the north or to the south depending on what side of the old drainage divide they were on. Today, Slippery Rock Creek flows through this old drainage divide from north to south. One interesting feature of Slippery Rock Creek is that the Slippery Rock Gorge is deepest and the narrowest at the old drainage divide and then gets wider and less deep as you travel to the north and to the south of the old drainage divide. Typically creek beds become shallower and wider at their outfall. The reason Slippery Rock Gorge is shallower and wider both upstream and downstream of the old drainage divide is that Slippery Rock Creek flowed



Boulders line Slippery Rock Creek upstream from McConnells Mill

McCONNELL'S Continued from Page 4

to the northwest before glaciation. As the glaciers advanced, specifically the third of four glaciers over the past 2 million years, an ice dam was created that blocked the flow of Slippery Rock Creek creating lakes. As the lakes became larger, they began to drain to the south at a low point of the old drainage divide. Over the course of time erosion occurred creating the Slippery Rock Gorge resulting in the change of flow direction for Slippery Rock Creek which flows to the south today.

Source: http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_015929.pdf

After arriving, we parked in a parking lot located at the northern end of McConnell's Mill Road where the Alpha Pass Trail begins. The Alpha Pass Trail follows the Slippery Rock Creek to McConnells Mill and is fairly easy to hike; but you need to watch your step because there are a lot of boulders and smaller cobbles along the trail. While hiking downstream towards the site of McConnell's Mill I was immediately taken aback by the fantastic examples of cross bedding that were visible in the sandstone outcrops and the abundant amount of sandstone boulders present along the trail. Cross bedding features were visible almost everywhere you looked. While looking at all the boulders and cross beds I asked myself the following question: Why are there so many sandstone boulders at the bottom of Slippery Rock Gorge? I referred to the publication mentioned above and learned that the Slippery Rock Creek has eroded the bedrock including the Homewood Sandstone and the soft Mercer Shale which is found

directly beneath the Homewood Sandstone at the bottom of the gorge. Slippery Rock Creek eroded the softer Mercer Shale faster than the Homewood Sandstone leaving overhangs of the Homewood Sandstone above. Ultimately, large pieces of the Homewood Sandstone broke free and fell with some boulders rolling to the bottom of the gorge.

Source: http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_015929.pdf

The Alpha Pass trail follows Slippery Rock Creek to the site of McConnells Mill. The former grist mill is still standing and tours are offered. The history of the former grist mill is interesting because after Thomas McConnell purchased the mill he upgraded it by replacing grinding stones with rolling mills and the old water wheel with water turbines making it one of the first rolling mills in the United States.

Source: http://www.dcnr.state.pa.us/ stateparks/findapark/mcconnellsmill/



Crossbeds are visible on a boulder of the Homewood Sandstone



Tree roots grip a Homewood Sandstone boulder

The Creek flows fairly quickly in some areas with water falls and potholes along the way. This swift moving water is very dangerous but was well suited to power McConnells Mill. Additional interesting observations along the Alpha Pass trail were trees that have literally grown around boulders with roots gripping the rocks before they enter the soil and evidence of 19th century industry such as stone grinding wheels and remnants of stone walls.

The Daytrip to McConnells Mill State Park was both fun and educational in many ways. It allowed my family and me to discuss glaciation and its impact on Slippery Creek Gorge and the occurrence of cross beds in sandstone. It also showed us the importance and strength of the water that was used to power the mills in the 1900s.

HUH...THAT'S INTERESTING

Kurt Friehauf, PhD, PG

Have you ever examined a rock with your hand lens, handed the sample to a work buddy for their input, and after they've eyeballed the sample for a few minutes, they comment only, "Huh...that's interesting?" When pressed for their observations or specifically why they think the sample's interesting, they've got nothing but a weak shrug and a sheepish grin. I wonder what went through their minds in those minutes during which they held the sample up to their face — probably something along the lines of, "Uh, I have no idea what I'm looking at here, but I probably should. I don't want to look dumb by making a mistake, so maybe this will all go away if I just throw out a noncommittal dodge." The time was wasted on unproductive emotional fretting rather than being invested in mindful observation. Instead, one could more productively describe the properties of the sample like a color commentator on the radio — calling out the play without knowing the outcome of the game, and being honest about it.

You don't have to know the answer every time -1 know I certainly don't. I'm still haunted by a body of rock that I mapped almost 30 years ago that was either an aplitic alaskitic granite sill or a quartz sandstone - that's pretty pathetic to not be sure if a rock is igneous or sedimentary, eh? Hard, white, equigranular, sugary (1 mm), quartz \pm feldspar(?) with <1% disseminated pyrite, no distinct Fe-Mg minerals, and no large-scale flow textures. Having described the field-observable characteristics of the rock to the best of my ability in my field book, I mapped its extent, calling it simply "sugary rock" in my legend. That was an exploration job, so I never went back to the site (there wasn't enough gold in the samples) and I never learned the "answer," but I didn't let my ignorance stop me from being productive.

You can tell if a mineral sample is soft enough to scratch with your fingernail, or too hard to scratch with your knife. You can spot cleavage if you take time to search carefully with your hand lens. Is it micaceous, prismatic, or equant? With what minerals is your sample intergrown? Take your time patiently, because being observant is not an instantaneous impulse. Commit at least to raw observation — don't give up without making a statement of what you see in the sample. You may not know if your sample is albite or amblygonite, but your records of the nature of your sample are more valuable than an evasively hollow, "Huh...that's interesting."



PCPG's GOVERNMENT AFFAIRS COMMITTEE (GAC) UPDATE

Mark loos, P.G., Skelly & Loy

2017-2018 Legislative Session

The members of the House and the Senate began the 2017-2018 legislative session on January 3rd, 2017. Since the start of the 2017-2018 legislative session a total of 46 bills and 1 resolution of interest have been submitted in the House. A total of 34 bills and 2 resolutions of interest of interest have been submitted in the Senate.

The GAC follows legislative action in both the House and Senate. Bills of interest to geologists are being tracked via an inclusive list included on PCPG's website, under Government Affairs. The list can be viewed via the following link and clicking on "Members-Only content".

PCPG Members: Login for GAC Information

PADEP Drinking Water Program - Update

In a letter dated December 30th, 2016, the U.S. Environmental Protection Agency (EPA) notified the PADEP's Safe Drinking Water Program that its lack of resources to enforce minimum federal requirements could be grounds for taking primacy away from Pennsylvania. The U.S. EPA warned of "serious public health implications" because the Commonwealth (e.g. PADEP) did not have enough staff to adequately inspect public water systems.

Due to cuts in the PADEP's annual budget, staffing to perform the inspection of public drinking water systems has gradually been reduced over the past 5 years. To generate revenue to hire more inspectors, the PADEP has proposed to implement new fees ranging from \$250 to \$40,000 for community water supplies; \$50 to \$1,000 for non-community water supplies, a category that includes schools; and \$1,000 to \$2,500 for bottled, vended, retail and bulk water haulers. The proposed new fees would likely be passed on to the 10.7 million consumers who rely on these water suppliers. Depending on the size of the system, the per person cost would range from 35 cents to \$10 in additional spending per year. Collectively the new fee package is postulated to raise \$7.5 million per year.

The new fee package went before a Environmental Quality Board on May 17, 2017. This is the first step of what could be a two-year process to raise fees on drinking water. While the U.S. EPA lauded the state's fee proposal, it also urged the state to take swifter action to hire more inspectors. It remains unclear whether the PADEP has a plan to hire more inspectors while its fee package moves through the regulatory process. Any additional spending would likely be hampered by the state's growing budget deficit.

PADEP Developing New E&S General Permit To Cover 5 Acres Or Less, for Low-Impact Projects

On May 10th, 2017, The PADEP's Bureau of Clean Water informed the <u>Water Resources Advisory Committee</u> the Department is developing a new Chapter 102 Erosion and Sedimentation (E&S) General Permit for small, low impact projects of five acres or less that could cover a significant number of projects PADEP now requires full permits.

This proposed change is one of several recommendations PADEP gleaned from 7 listening sessions the Department held earlier this year with consultants and permit applicants on the Chapter 102 E&S control and NPDES permitting process. PADEP's evaluation of its existing workload showed that as many as 40 or 50 percent of the permit applications covered projects are five acres or less. The new General Permit to be developed would cover smaller, simpler, low impact projects, such a farmer putting up a barn on level ground. The Department indicated that the intent behind the new General Permit is to allow PADEP to focus its limited staff resources on projects that are larger and may have more potential impact on the environment. Any new permit would still be put through a public participation process and made available for public comment.

Also on the list of recommended changes is an update and change in function for PADEP's Stormwater Best Management Practices Manual. The proposed update, which will be web-based and more easily changed, will be built more like guidance using basic principles, so PADEP staff can review new BMPs for their effectiveness when they come in the door. The PADEP plans to release a report by mid-June 2017 outlining the complete results of the listening sessions, a list of specific recommendations PADEP is following up on, and a schedule of implementing those recommendations. To obtain more information and copies of available documents, members are referred to the Water Resources Advisory Committee webpage.

Support HB 1106 - Update the Licensing Law for Engineers, Surveyors and Geologists

On April 10, 2017, Representative Joe Emrick submitted <u>House Bill 1106</u>, an amendment to the Engineers, Land Surveyors, and Geologists Registration Law. This amendment is intended to further provide for definitions, continuing professional competency

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requirements and exemption from licensure and registration. The PCPG urges its members to review the language in House Bill 1106, and contact your local legislators asking for their support in passing this necessary amendment.

In order to make contacting your legislators easier, the Pennsylvania Society of Professional Engineers (PSPE) is sharing its Voter Voice webpage with us. The page has a pre-written letter of support. All you need to do is add a signature, email address and zip code and the system will automatically send the letter to your legislator.

Click here to send your letter of support

Senate Environmental Committee OKs Resolution Creating Lead Exposure Task Force

On April 25th, 2017, the Senate Environmental Resources and Energy Committee amended and reported out Senate Resolution 33 creating a bipartisan task force to investigate the scope of Pennsylvania's lead exposure problem.

The resolution calls for the Senate to establish a task force on lead exposure comprised of the chairs of the Environmental Resources and Energy Committee and the Health and Human Services Committee and two members appointed by the Senate President pro tempore and the Minority Leader. It also calls for the Joint State Government Commission to convene an advisory committee, which will include the Secretaries of Health, Environmental Protection, and Labor and Industry as well as the chair of the Public Utility Commission.

The Physician General and two medical professionals with expertise in pediatric care and lead poisoning will also be appointed to the advisory committee. Representatives of municipal water authorities, rural water companies, water utilities incorporated in Pennsylvania, urban and rural school districts, a local health official, and the executive director of the Housing Alliance of Pennsylvania will assist with a comprehensive review of Pennsylvania law and public policy on lead abatement and exposure.

Within 18-months, the Joint State Government Commission must submit a report to the Senate detailing recommendations to amend existing laws or regulations or enact new legislation that will reduce the risk of lead contamination in Pennsylvania. The report must

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assess the age of housing and infrastructure, lead exposure threats, and identify the prevalence of lead in structures where children spend significant time. The resolution now goes for a vote by the full Senate.

House Bill Would Eliminate Churches, Schools, Camps From Safe Drinking Water Act

On March 8th, 2017, House Bill 776 was introduced that would relieve thousands of church-owned facilities (e.g. churches, schools, camps and businesses) with their own water supplies from abiding by the state Safe Drinking Water Act requirements. Currently, such facilities are regulated by PADEP as non-community or transient water supplies, as a means to keep members of the public from being exposed to contaminated drinking water. Eliminating these facilities from the state program would put Pennsylvania at risk of losing primacy for administering the federal Safe Drinking Water Act.

DCNR Announces Improvements To PA's Private Water Well Information System

On March 8th, 2017, the Pennsylvania Department of Conservation and Natural Resources (DCNR) announced their improvements to the PA Groundwater Information System (PaGWIS) private water well database. PaGWIS is a repository of half a million water well records dating back to 1965. Changes to the database include the addition of more than 1,600 springs found in the Commonwealth, and improved search tools, data packages, and report formats. The new database can be viewed via the following link.

PA Groundwater Information System (PaGWIS)

Water Well Construction Standards

Protection and maintenance of private wells in Pennsylvania is the responsibility of the homeowner. Moreover, Pennsylvania is one of only 2 states in the United States that does not set any standards for the construction of private drinking water wells.

On February 8, 2017, Representative Robert Godshall (R-Montgomery) submitted <u>HB 417</u> that included a call for the PADEP to develop construction standards modeled after those recommended by the National Groundwater Association for private water supply wells. This legislation is similar to House Bill 48 in the 2015-2016 legislative session which the PCPG supported.

On February 23, 2017, Kate Harper (R-Montgomery) submitted <u>HB 596</u> that also included a call for the PADEP to develop construction standards modeled after those recommended by the National Groundwater Association for private water supply wells. This legislation is similar to House Bill 81 in the 2015-2016 legislative session.

<u>Food for thought</u> - Every year about 20,000 private water wells are drilled in Pennsylvania. A 2009 study done for the Center for Rural Pennsylvania found <u>41 percent of the private water wells tested failed</u> to meet at least one of the health-based drinking water quality standards. As early as 2001, <u>DEP's Citizens Advisory Council recommended the adoption</u> of water well construction standards and has renewed that position several times since then. In 2011, the <u>Governor's Marcellus Shale Advisory Commission</u> recommended Pennsylvania adopt construction standards for private water wells due to the threat posed by the potential methane migration from natural gas wells.

DRBC Receives Letter Signed by 183 Groups to Enact Fracing Ban

On Wednesday March 15th, 2017, 183 organizations <u>submitted a letter</u> to the: <u>Delaware River Basin Commission</u> voting members; the Governors of Pennsylvania, New York, New Jersey and Delaware; and the federal representative, the Army Corps of Engineers; calling for a permanent ban on fracing in the watershed.

In addition there were demonstrations at the DRBC's public meeting February 2017 in reaction to news that the DRBC staff have been working behind the scenes with PADEP to develop natural gas drilling regulations, which, if enacted, would lift the seven year moratorium on drilling in the Delaware River Basin. <u>Click Here</u> for a copy of the joint letter.

Maryland Governor Signs Bill Banning Fracing

On April 5, 2017, Maryland's Republican Governor Larry Hogan signed a bill into law that bans hydraulic fracturing, or fracing, making Maryland the third state in the nation to ban the practice. The law was finalized one week after the state legislature passed the bill.

Maryland follows New York state which banned hydraulic fracing in 2015 and Vermont which banned fracing in 2012, as the only two other states with laws banning the production practice. Maryland and New York sit atop parts of the prolific Marcellus Shale formation. Vermont has no known productive oil and gas reserves. To read more, please see the following link:

Maryland Governor Signs Bill Banning Fracing

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House Local Government Committee OKs Bills To Allow Local Stormwater Management Fees

On May 10th, 2017, the <u>House Local Government Committee</u> approved a package of bills introduced by Representative Garth Everett (R-Lycoming) to allow towns, boroughs, first class townships and third class cities to adopt stormwater management fees to pay for improvements needed to reduce water pollution.

The bills include:

- House Bill 913 (Everett-R-Lycoming) providing for the adoption of stormwater fees by incorporated towns (summary) (amended);
- House Bill 914 (Everett-R- Lycoming) providing for the adoption of stormwater fees by boroughs (summary);
- House Bill 915 (Everett-R-Lycoming) providing for the adoption of stormwater fees by first class townships (summary); and
- House Bill 916 (Everett-R-Lycoming) providing for the adoption of stormwater fees by Cities of the Third Class (summary).

These new bills were automatically tabled, but are expected to be considered by the House in the 2017-2018 legislative session.

Don't Forget to Contribute to the PA GEOPAC!

Through PA GEOPAC, the official political action committee (PAC) of PCPG, you have an effective way to lend financial support to candidates and legislators who support the legislative goals of our organization, or who are willing to lend an ear to our members. More than 200 trade and professional organizations in the state have formed PACs including doctors, dentists, lawyers, bankers, and builders.

Your donation will help to strengthen our voice when and where it is needed most...right now at the state Capitol, where decisions are being made regarding many topics that affect the business of geology in Pennsylvania.

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GEOPAC

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DEADLINE FOR OUR NEXT NEWSLETTER IS AUGUST 25, 2017

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