



# PGS Newsletter

<http://www.pittsburghgeologicalsociety.org/>

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Robert Burger, Editor

February, 2010

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**Wednesday, February 17, 2010**  
**Pittsburgh Geological Society**

## **Geophysical Borehole Logging in Massive Carbonates; Withmoyer Laboratories Superfund Site; Meyerstown, PA.**

by Bill Bour, Northern Virginia Community College and  
Craig B. Clemmens, Appalachian Geophysical Surveys

Craig B. Clemmens presenting

The Whitmoyer Laboratories Superfund site is located in the structurally complex Lebanon Valley in eastern Pennsylvania. The formations beneath the site are predominately carbonate units of middle Ordovician age; the Epler, the Ontalaunee and the Annville. The beds are relatively shallow dipping but overturned with younger Annville Formation overlain by older Ontalaunee and Epler.

Correlations within massive carbonate sequences are difficult because there typically are few distinct marker beds discernable to the naked eye. At this site we were fortunate to have available some 62 boreholes from earlier investigations left open as monitoring wells. Geophysical logs, particularly natural gamma, density and sonic, run in the existing monitoring wells revealed a few subtle anomalies which could be correlated among the deeper wells. The Ontalaunee-Annville contact was identified in two of the deeper wells by slight but consistent differences in density and sonic transit time. Success of these techniques was facilitated by the large number of wells with several hundred feet of exposed strata to compare.

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**Social hour - 6:00 p.m.**

**Dinner - 7:00 p.m.**

**Program - 8:00 p.m.**

Dinner will cost **\$25.00/person, students \$5.00**; checks preferred. **Reservations should be emailed to Steve McGuire at [smcguire@chesterengineers.com](mailto:smcguire@chesterengineers.com)**, please title as "PGS Dinner Reservation." If you are unable to use email, call (412) 809-6723 and leave your name and number of reservations needed by **noon, Monday, February 15**.

**Meeting will be held at Foster's Restaurant, Foster Plaza Bldg 10, Green Tree.**

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# Pittsburgh Geological Society

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## 8th ANNUAL STUDENT NIGHT CALL FOR ABSTRACTS!

Students are invited to submit abstracts of a Senior Research Project, Senior Design Project, Master's or PhD Thesis for presentation at the Eighth Annual Student Night joint meeting of the Association of Engineering Geologists, the Pittsburgh Geological Society, and the Geotechnical Group of the Pittsburgh Section of the American Society of Civil Engineers.

Abstracts on the following topics are welcome:

- Geology (all aspects),
- Engineering Geology,
- Petroleum Geology
- Geotechnical Engineering,
- Environmental Engineering,
- Hydrogeology,
- Hydrology

Three students will be selected to give 15-minute oral presentations based on their abstract submittals. Students not selected to give an oral presentation will be invited to present posters summarizing their research work. **The 3 students selected to give oral presentations each will receive monetary awards. The top 3 students who participate in the poster session will also receive awards.** All students who present their research, either verbally or orally, will receive a one-year membership in PGS, a special award certificate, and dinner that evening. Please limit abstracts to a maximum length of 350 words.

The meeting will be held at 6:00 p.m. on Wednesday, April 21, 2010 at Foster's Restaurant, Foster Plaza Bldg. 10, Green Tree, PA. Deadline for submittal of abstracts is Friday, March 5. Notification will be given to selected speakers the following week. For further information, or to submit an abstract, please send an email to Mary Ann Gross at [magrosspgs1@verizon.net](mailto:magrosspgs1@verizon.net).

### PGS Website of the Month

<http://daveslandslideblog.blogspot.com/2009/12/landslides-in-oregon.html>

## STUDENT WORKSHOP

It's time again for the *So You Want to be a Geologist* workshop! Sponsored by PGS for six years, it is a student's best source of strategies and knowledge for a future in the working community. Join four professionals for a few hours and learn about careers in geology, academic choices, finding and interviewing for jobs, and desirable professional behaviors.

The workshop will be held on February 27, 2010 from 10:00 a.m. to 3:00 p.m. at the PA Department of Environmental Protection, 500 Waterfront Drive, Pittsburgh 15222 (Washington's Landing). The cost is free to students, and lunch (pizza and soft drinks) will be provided. Dress is casual. The course is limited to 25 students. RSVP to Judy Neelan at 412 442-4087 by February 19 to reserve your space.

## ORIGINS OF WESTERN PA PLACE NAMES

The Mahoning sandstone member and its associated coal (Glenshaw Formation, Conemaugh Group) were named by the First Geological Survey of Pennsylvania under Henry D. Rogers. Since Rogers' massive two-volume work wasn't published until 1858, however, credit for the first publication of the name goes to J. Peter Lesley in his *Manual of Coal*, published in 1856. The name comes from Mahoning Creek, which flows from Jefferson and Indiana Counties to the Allegheny River near Templeton in Armstrong County. The name Mahoning derives from the American Indian word for "at the lick", referring to a place where wildlife go to get a drink of water. Mahoning Creek originally was called Mohulbucteam Creek, meaning "where canoes are abandoned".

## NEXT MONTH'S MEETING

Our next meeting will feature AAPG Distinguished lecturer Martin Perlmutter from Chevron who will present *High Frequency Paleoclimate Change: Impact on Exploration Strategy and Climate Research*. It will be a joint meeting with the PAPG and held on April 1st at the Radisson Hotel in Greentree. **Please note that this is a change in the usual location and date of our PGS monthly events.**

## **PGS SPRING FIELDTRIP**

For this year's fieldtrip, PGS will head east to Johnstown, PA to tour areas significant to Pennsylvania's famous dam disaster, the Johnstown flood of 1889. The geology of the area will be discussed, as well as its contribution to the flood. The tour will begin at the Southfork Dam site, with a visit to the Museum and lakeside cottages for an overview of the tragedy. Afterwards, participants will travel into Johnstown and ride the incline to the top of the hill where they will be treated to a spectacular and revealing view of the city. From this view, it's clearly illuminated why there was such devastation and a large number of casualties. The trip will finish at the cemetery with unmarked graves holding the remains of Johnstown flood victims.

The fieldtrip will take place on Saturday, May 1. More details will follow in the next newsletter.

## **DID YOU KNOW . . . ?**

- New studies on Precambrian banded iron formations indicate these ubiquitous marine deposits were formed by the interaction between hydrothermal fluids and seawater at the sea surface, rather than by microorganisms.
- German scientists are speculating that the great end-Permian mass extinction, in which about 90% of all species died out, was caused by halogenated gases produced by microbes living in giant salt lakes. Large amounts of the gases in the atmosphere might have undermined plant systems, causing desertification that would have led to eventual mass extinction.
- This is important to note because global warming advocates predict an increase in the surface area of today's salt lakes, salt marshes, and salty lagoons.
- At room temperature, the density of rock salt (halite) at a confining pressure of 5 kilobars increases about 2%. Even at depths as great as 60,000 feet, rock salt does not change its density appreciably.
- During the 17<sup>th</sup> Century, German chemist Georg Stahl determined to find out how Moses could have turned the golden calf into "bitter water" in the story of Exodus. He found that gold dissolves in aqueous solutions prepared by heating a mixture of sodium sulfate and charcoal.

## **STRAY GAS CONFERENCE PRESENTATIONS AVAILABLE**

A Stray Gas Workshop was held on November 4-6, 2009 here in Pittsburgh sponsored by the U.S. Geological Survey Pennsylvania Water Science Center in cooperation with the Office of Surface Mining, Reclamation, and Enforcement, U.S. Department of the Interior, PA Department of Environmental Protection and the Pittsburgh Geological Society. This workshop focused on the scientific basis for the assessment and analysis of stray or fugitive gases such as methane (the primary component of natural gas) or carbon dioxide.

Tools and strategies for investigating stray gases, along with case studies, were presented by scientists and specialists whose work has focused on the origins, migration, and accumulation of gases. The workshop presentations had emphasis on carbon dioxide and methane; the implications for safety, mitigation, and management of subsurface resources also were addressed.

You are invited to view the presentations from the workshop on the USGS website under the "Workshop Presentations" tab at [http://pa.water.usgs.gov/stray\\_gas/](http://pa.water.usgs.gov/stray_gas/).

## **PGS MEMBER NEWS**

Albert D. Kollar will present *The Geology that Underlies Squirrel Hill, Frick and Schenley Parks*. Squirrel Hill Historical Society, Sixth Presbyterian Church, February 9, 7:30 p.m.

## **SPRING NORTH AMERICAN COALBED METHANE FORUM**

The North American Coalbed Methane Forum will hold its Spring session on April 28 – 29, 2010 at the Hilton Garden Inn Pittsburgh, Southpointe near Canonsburg, PA. This year the forum is celebrating its 25th anniversary. The forum, which is titled *Coalbed Methane—from Prospect to Pipeline*, will consist of two day-sessions with presentations covering technical, regulatory, and legal aspects of coalbed methane development and production.

For more information, contact Ihor Havryluk at 412-445-5803, [havryluk@zoominternet.net](mailto:havryluk@zoominternet.net) or Dr. Kashi Aminian at 304-293-7682 ext. 4, [khashayar.aminian@mail.wvu.edu](mailto:khashayar.aminian@mail.wvu.edu), or visit the website [www.nacbmforum.com](http://www.nacbmforum.com).

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**Memberships:** For information about memberships, please write PGS Membership Chair, PO Box 58172, Pittsburgh PA 15209, call John Harper at (412) 442-4230, or e-mail [jharper@state.pa.us](mailto:jharper@state.pa.us). Membership information may also be found at our website: [www.pittsburghgeologicalsociety.org](http://www.pittsburghgeologicalsociety.org).

**Programs:** If you would like to make a presentation at a PGS meeting, please contact Mary Ann Gross, Program Chair at (412) 721-3499 or email at [magrosspgs1@verizon.net](mailto:magrosspgs1@verizon.net).

**News items:** To submit a news item in the PGS Newsletter, please contact Robert Burger at (412) 818-5659, mail at 1885 Redcoach Road, Allison Park, PA 15101, or email at [r.burger@verizon.net](mailto:r.burger@verizon.net). Be sure to also send an email address and phone number where you may be contacted.

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