

PCPG Government Affairs Committee: Unconventional Shale Gas Update

-- Donald R. Wagner, P.G., (Government Affairs Committee Chairperson)

As a diverse group of over 450 licensed professional geologists, geologists and allied scientists, PCPG advocates the use of sound science in the responsible exploration and development of Pennsylvania's natural resources in a manner that protects human health and the environment. Many of our members report increased business opportunities and job growth arising from energy development driven investments in the Commonwealth – from unconventional shale gas exploration and production to related infrastructure development, including gathering systems, natural gas processing facilities and intrastate and interstate pipeline projects.

Given the substantial interest in unconventional shale gas development among our membership, the Government Affairs Committee would like to call attention to two reports that were published in July, as they are useful in providing background information, putting the growth in context and providing some insight on future growth potential of the industry.

Marcellus Shale Advisory Committee Final Report

On July 22, 2011, Pennsylvania's Marcellus Shale Advisory Commission ("Commission") issued its much anticipated report containing recommendations *"to develop a comprehensive strategic proposal for the responsible and environmentally sound development of the Marcellus Shale."* The Commission's report presents an in depth discussion of the history of conventional and unconventional natural gas development in the Commonwealth, provides an overview of applicable laws and regulations, and discusses issues presented by the incredible growth of unconventional gas development in Pennsylvania. Lastly, it provides a list of 96 recommendations as part of a comprehensive, strategic plan for responsible natural gas development in the Commonwealth, including:

- Stronger drilling regulations, including increased bonding requirements, setback distances, expanded radius and duration of presumption of liability for groundwater impairment, and expanded public disclosure;
- Tougher penalties and enhanced Pennsylvania DEP enforcement authority;
- Enhanced energy independence, including development of "Green Corridors" for Compressed Natural Gas ("CNG") vehicles, incentives for conversion of mass transit and school bus fleets to CNG, and incentives for intra state gas pipelines;
- Develop strategies to enhance "downstream" use of natural gas and its by products;
- Job training for natural gas industry workforce;
- Improve infrastructure development;
- Protect public health, promote public safety, and protect natural resources; and
- Help communities deal with the costs associated with natural gas development.

The full text of the report is available at the Commission's web site by following this [link](#).

Pennsylvania State University Marcellus Report

On July 20, 2011, Penn State's College of Earth and Mineral Sciences, Department of Energy and Mineral Engineering issued a new report on the Marcellus Natural Gas Industry in Pennsylvania.¹ Highlights of the report include:

- In 2010, Pennsylvania Marcellus production averaged 1.3 billion cubic feet (BCF) per day; while output at year end reached nearly 2 BCF/day;

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- Pennsylvania Marcellus production is now projected to reach 3.5 BCF/day by the end of 2011 and could exceed 6 BCF/day by the end of 2012;
- Ideally located near major gas markets in the northeast, Pennsylvania now supplies all its natural gas needs and in future years will likely become a major natural gas exporter;
- Pennsylvania Marcellus production could expand to over 12 BCF/day by 2015 and reach 17 BCF/day by 2020, which would make the Marcellus *the single largest gas producing field in the U.S.* and would place Pennsylvania second only to Texas in U.S. domestic natural gas production;
- As a result, gas intensive manufacturing and chemical industries are likely to relocate to or expand capacity in Pennsylvania, and the development of plentiful and low cost gas supply will likely accelerate the switch from coal fired electrical generation to natural gas fired generation; and
- Pennsylvania's remarkable Marcellus development potential could facilitate the use of CNG in transportation, improving environmental quality and reducing foreign oil imports.

The Penn State report is available for review or downloading from the Marcellus Shale Coalition website by following this [link](#).

¹ The research was funded by the Marcellus Shale Coalition.

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Earthquakes in the Eastern United States

-- Kelly Lee Kinkaid, P.G. (Communications Committee Chairperson)

The August 23, 2011 Mineral, Virginia earthquake reminded the public that even though the eastern portion of the United States is very stable, the earth is a dynamic planet. Tremors were reportedly felt from Toronto to Boston to Atlanta to Chicago. This seemed to me to be a much larger geographic area than during a west coast earthquake, and I was curious why this was so. The United States Geological Survey (USGS) stores abundant information about almost any geologic topic, so I began my research on their website.

The USGS website provides substantial information about earthquakes in the U.S. and around the world, and I quickly learned that while not frequent, earthquakes are certainly not uncommon in Virginia and other parts of the eastern U.S. The Mineral, Virginia earthquake occurred in the Central Virginia Seismic Zone. Earthquakes in this zone typically have shallow focal depths with no single causational fault, but rather are the results of slippage along fault segments that are much smaller than the overall dimension of the zone. You can read additional information about this earthquake on the following USGS link:

<http://earthquake.usgs.gov/earthquakes/recenteqsww/Quakes/se082311a.php>

I soon found the answer to my inquiry. The geology in much of the eastern U.S. is much older and more rigid than in the western U.S. As a result, eastern earthquakes can be felt over an area up to ten times larger than a similar quake on the west coast. I had my answer, but begged a more serious question...the Mineral, Virginia quake, while significant, was only a magnitude 5.8, so what damage would occur in our major eastern cities if a slightly larger quake were to occur? Perhaps a magnitude 6.8, which might cause a brief pause in California, could topple buildings in the eastern U.S.?

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News of the Pennsylvania Bureau of Topographic and Geologic Survey (BTGS)

-- George Love, P.G. (Pennsylvania State Geologist)



Geothermal Data – The BTGS is participating in a nationwide effort sponsored by the U.S. Department of Energy to collect data on heat sources. One phase of the project involves the collection of temperature data in deep municipal wells and other deep sources, as available. Our work continues in this area. We are in the process of getting a bid request package through our system to subcontract the collection of water well temperatures. We need to identify appropriate wells, gain approval and access, then subcontract a firm with the appropriate equipment to collect the data.

You can contact [Steve Shank](#) for more information on this project.

PAMAP Data – The program purchased existing images (in December of 2010) that were collected in the fall of 2009/spring of 2010. The purchase agreement required that the data be used only by governmental agencies for 18 months, and then it could be released to the public. Due to the recent flooding in Pennsylvania and the need for recent pre flood imagery, *i cubed* (the vendor) waived the restriction and granted the BTGS permission for immediate release.

The data are now available on the PASDA website (www.pasda.psu.edu). Credit for this effort belongs to the Office for Information, DCNR and of course *i cubed*.

Geologic Mapping – State mapping efforts by the BTGS, sponsored by a grant from the USGS, continue. The borehole in northern Lebanon County mentioned in the last PCPG Newsletter is becoming a reality. The final purchase order approval was issued, the contractor, Fort Indiantown Gap, and BTGS personnel met to work out the drilling schedule, and drilling started last week. We'll have an update for you on this drilling in the next PCPG Newsletter.

You can contact [Gale Blackmer](#) for more information on this project.

The Geologic Mapping Advisory (GMA) Committee recently met to discuss and advise BTGS on where to direct future mapping activities. The GMA Committee is mandated by USGS as a condition of receiving federal funds. While these types of committees are sometimes a formality, this Committee is involved and helpful. Its membership includes representatives from across a broad spectrum – academics, regulators, and most importantly the mining and the geologic consulting industries. Their advice has been instrumental in helping to provide the BTGS with a better understanding of what is happening in the “real” world and how we can best serve these needs.

Are You Attending the Field Conference of Pennsylvania Geologists?

PCPG is seeking members attending this year's Field Conference of Pennsylvania Geologists (FCOPG) to provide photographs and information for our 4th Quarter Newsletter. If you wish to help provide information for our next Newsletter, please contact Newsletter Editor Kelly Kinkaid via [e mail](#). The 2011 FCOPG will focus on the Permian Carboniferous age rocks of the Dunkard Basin in Southwestern Pennsylvania, the northern panhandle of West Virginia, and Eastern Ohio.

Visit the FCOPG website for more information about this event:

<http://fcopg.org>



PCPG's Shale Gas Seminar Series: Geology, Development, Production and the Future

On October 19, 2011, PCPG will present the Shale Gas Seminar Series: Geology, Development, Production and the Future. PCPG has developed this highly informative shale gas seminar that features outstanding speakers, current topics and networking opportunities.

Our distinguished panel of speakers is comprised of representatives from industry, academia and government, including Dr. Terry Engelder (Penn State), Dr. John Harper (Penna. BTGS), and technical advisors from EQT Production and Universal Well Services. They will provide updates on several key aspects of the shale gas plays, including stratigraphic interpretation of the Marcellus Shale, hydraulic fracturing, gas well depletion curves, and the use and availability of geological resources in Pennsylvania. Rounding out the program will be a look to the future and discussion of the potential of the Utica Shale play.

Also joining us for a brief address is the newly appointed Secretary of the Commonwealth, Carol Aichele. Secretary Aichele oversees professional licensing and will provide insight on the Department of State under Governor Corbett's administration.

The seminar will take place from noon to 5:30 pm at the Comfort Inn in Monroeville, Pennsylvania, and will also include a luncheon, raffle, and a post event networking session with complimentary beverages and snacks. To register for the event or learn additional details of the event and our speakers check out the [Courses & Events](#) page of the PCPG website. Seating is limited and going quickly, so sign up today and join us at this informative and topical event.



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September 29, 2011

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(Appalachian Brewing Company)

Sept 29 – Oct 1, 2011

Field Conference of
Pennsylvania Geologists
Geology of the Pennsylvanian-
Permian Dunkard Basin

Washington, PA

www.fcopg.org

October 19, 2011

PCPG Board Meeting

Monroeville, PA

(Morning Event)

October 19, 2011

Shale Gas Seminar Series:
Geology, Development,
Production and the Future

Monroeville, PA

(Afternoon Event)

December 8, 2011

Act 2 Toolkit:
Vapor Intrusion

Malvern, PA

Don't forget to check the
"Courses & Events" link on
PCPG's [home page](#)
frequently for up to date
information on upcoming
educational opportunities.

PCPG Education Committee Update

-- Jennifer L. O'Reilly, P.G. (PCPG Education Committee Chairperson)

The PCPG Education Committee has been busy wrapping up our 2011 schedule of events and preparing for 2012. As we move into the next license renewal cycle starting October 1, 2011, we are committed to expanding upon our variety of technical seminars and adding some new topics to the schedule for next year. We'll still conduct our annual P.G. Review Course in February 2012, and our new course topics include Remote Sensing, an Act 2 Toolkit course on Report Drafting, and a Shale Gas Toolkit course, just to name a few. Watch future newsletters, e mail updates and our website for more details as we finalize the 2012 education schedule.

Looking forward to the fourth quarter of 2011, we have set up a Shale Gas Seminar Series mini course titled, "Geology, Development, Production, and the Future," for the afternoon of October 19th at the Comfort Inn East, Monroeville. This event will follow our Board Meeting to be held that morning. Additional details of this event can be found on Page 6 of this Newsletter.

For the final course of 2011, we have expanded our Act 2 Toolkit series to include a seminar on Vapor Intrusion, which will be held on December 8 at PSU – Great Valley in Malvern. Additional details of the Vapor Intrusion course are provided on Page 8 of this Newsletter.

We hope to see you at one of our upcoming seminars. If you have any questions or suggestions for courses or events, please feel free to email me ([Jen O'Reilly E mail](mailto:Jen.O'Reilly@pcpg.org)). For more information or to register for upcoming courses, please link on the "Courses and Events" tab of our [home page](#).

GUESS THE FEATURE

Were you able to guess the feature on Page 1? It's a photograph of the Cushion Peak near the town of Wernersville in Berks County. Located on the southern rim of the South Mountain, this peak is formed by a "rootless slice" of Hardyston Quartzite that was thrust faulted over the limestone valley. This ridge is the highest point on the Sinking Spring, PA 7.5 minute quadrangle at an elevation of 1116 feet AMSL, rising more than 800 feet over the valley below.

Information about this and other scenic geologic features across Pennsylvania can be viewed on the *Outstanding Scenic Geological Features of Pennsylvania* page of the Pageology.info website. This website provides geology resources for Pennsylvania students and teachers.

Additional information about this feature can be found in the Pennsylvania Geological Survey publication, "*Geology and mineral resources of the Sinking Spring 7 1/2 minute quadrangle, Berks and Lancaster Counties, Pennsylvania*" (Atlas 177d, 228 p., 1975).



PCPG Holds “Mentoring Workshop” at Temple University

-- Gary Kribbs, P.G. (PCPG Board Member, AEON Geoscience, Inc.)

On September 23, 2011, Temple University hosted a networking event with students interested in learning more about careers in the geosciences. The program was a follow up to a well received presentation held last spring at West Chester University. The Temple Department of Earth & Environmental Science and PCPG co sponsored the event. With publicity assistance and facilities provided by Drs. Toran and Nyquist of Temple, the event generated significant student interest and attendance.

PCPG Board members participating included Ethan Prout, P.G., Louis F. Vittorio, Jr., P.G. and Gary MB Kribbs, P.G. The panel session was chaired by Gary Kribbs and involved a discussion on the wide range of geoscience careers available and the role of the Professional Geologist in today's society. Overall, the outlook was positive, led by an increase in demand in the American energy and international mining sectors, among others. Students were encouraged to network, apply for their Geologist in Training certification while in school and use on line resources, such as LinkedIn, to search for employment opportunities.

PCPG offers these sessions for several reasons. One is to network with other scientists whether they are consultants, regulators or academics. We are also there for the student interaction. Many students are not aware of all the areas where a geological background is an essential part of a job and society. We can convey that message. These students are next season's job applicants. PCPG efforts also help convey a message to the college's administration regarding the importance of core geology course work and how essential it is to science, to our industry, and to obtaining professional licensure.

The PCPG Networking Committee is planning an event later in the fall in the Lehigh Valley for the October or November time frame. If you are interested in mentoring students or want to get in on the discussion, please e mail [Gary Kribbs](mailto:Gary.Kribbs@pcpg.org) to inquire about availability or to set up an event at your Alma Mater.

PCPG Vapor Intrusion course coming December 8th

-- PCPG Education Committee

PCPG is pleased to offer our first vapor intrusion course. This course is the third in our popular Act 2 Tool Kit course series. The Pennsylvania DEP's Vapor Intrusion Policy was published in 2004, and updates are expected in the next 12 to 18 months. This course is designed to help geologists, engineers and environmental professionals implement the current policy, learn new methods and approaches to data collection and evaluation and learn about the changes that are being discussed.

“A vapor intrusion course is among the most requested courses PCPG course attendees have asked for when we read course reviews” said Jim LaRegina, P.G. who championed the development of this Vapor Intrusion course along with Jennifer O'Reilly, P.G., Chair of PCPG's Education Committee, and member Peter Chronowski, P.G., Apex Environmental. The vapor intrusion course will be taught by Derek Tomlinson of Geosyntec Consultants in Plymouth Meeting, Pennsylvania. “We are fortunate to have Derek as the lead instructor and his remediation experience in numerous states and foreign countries will provide attendees with current information on the many facets of vapor intrusion,” LaRegina said.

To learn more about Derek link to: <http://www.linkedin.com/in/derektomlinson>.

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The first offering of this course will be held at the Penn State Great Valley Campus in Malvern, Pennsylvania. Course registration will open in early October. PCPG members will receive advanced notice of the course and be given the opportunity to register before general registration is opened in mid October. The course is expected to fill up fast, and will likely be offered again in 2012 if there continues to be sufficient interest.

If you are considering attending and have a specific question or topic you would like to have addressed, send an [e mail to Jim Laregina](#) and we will do our best to make sure your question is addressed during the seminar.



Earth Science Week 2011: October 9th – 15th

The American Geological Institute (AGI) sponsors Earth Science Week (ESW) each October. This year, the event occurs October 9th to 15th, and the theme of this year's event is "Our Ever Changing Earth." The event encourages people everywhere to explore the natural world and learn about the geosciences. Events in Pennsylvania include a fossil dig at the Bonehunter's Quarry, sponsored by the Carnegie Museum of Natural History, and placement of a roadside historical marker at the site where the Marshalls Creek (near Stroudsburg, PA) mastodon was uncovered, co sponsored by the Pennsylvania State Museum & Monroe County Historical Society. For more information about ESW, link to: www.earthsciweek.org



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News from the Pennsylvania Licensing Board

-- Louis F. Vittorio, Jr., P.G. (PCPG President -Elect)

PCPG is a professional organization that provides assistance to its members on many geology related issues. We strive to provide our members with updates on important developments within the Pennsylvania Licensing Board²; however, please keep in mind that we are not the Licensing Board. Recent news from the Licensing Board includes the issuance of Geologist in Training (GIT) certifications and efforts toward providing for a "Retired License" status.

Geologist in Training Update – For students wishing to get a jump on their P.G. Licensure, application for a GIT Certification is now possible. Although the regulations are not finalized, several GITs have been issued. Basically, while still in college and after completion of two or more years of a geology curriculum, students can apply to take the fundamentals of geology (FG) portion of the P.G. exam. Upon passing the exam, and *upon graduation* with satisfaction of all credit requirements for obtaining a P.G, the applicant will be issued a GIT Certification. Currently, the process and forms are identical to P.G. application, but the applicant must indicate on their application that they wish to sit for only the "FG" exam portion.

There are several potential benefits to applying for your GIT while in school:

- 1) Taking the FG exam while immersed in your geology curriculum is a recipe for positive test results;
- 2) Separating the exam into two, 4 hour segments will similarly allow the applicant to focus on the Principles and Practice portion of the test in 5 years when applying for their full P.G.;
- 3) Once out of college, the ability to show a prospective employer that you already have (or will soon have) your GIT will certainly be positively received, especially in the current job market.

For qualifying students (mostly juniors and seniors) who wish to sit for the March 2, 2012 FG exam, the application deadline is November 15, 2011. Additional information can be found on the Pennsylvania Licensing Board website [here](#). When subsequently navigating to the "Professional Credential Services" [web site](#), Pennsylvania P.G. application forms are located under the "Professional Trades" tab.

Retired License Status – The Licensing Board is in the process of creating a Retired License status. It is the hope of the Board that this new designation will allow non practicing, retired geologists to retain their title and use their PG credential. The retired PG would also not have to meet CE requirements, as long as they are no longer practicing geology as defined in the regulation. The retired status does not mean that one must be a geologist in name only and retire their knowledge and contribution along with their professional career. For example, a professional geologist with a retired status can accept speaking engagements, teach CE courses, and even accept an honorarium as such activities are not defined as the "practice of geology." However, in order to qualify for the waiver of CE requirements, a professional geologist cannot practice or offer to practice geology as defined.

² Pennsylvania State Board of Professional Engineers, Land Surveyors and Geologists



Secretaries Krancer and Allan to Speak at Annual Meeting

-- *Louis F. Vittorio, Jr., P.G. – PCPG President-Elect*

It is hard to believe that we are heading into the final stretch of 2011 and even harder to believe that PCPG's Annual meeting is just around the corner. Be sure to mark your calendars and save the date for PCPG's Annual Meeting: Thursday, January 19, 2012 at 12:00 PM, Holiday Inn Harrisburg Hershey, 604 Station Road, Grantville, PA. Last year's meeting was a record setting event and the day was filled with informative presentations, lively discussion, awards, door prizes, PCPG's elections and a fun filled networking session sponsored by PCPG Associate Member, ALS Environmental Laboratory Group.

We are even more excited about this year's meeting, which is planned to be bigger and more informative, combining top notch speakers, PDH offerings and accompaniments similar to last year's meeting. In fact, the current speaker slate includes DEP Secretary Michael Krancer and DCNR Secretary Richard J. Allan. If you wish to help in the planning, have a desire to be this year's sponsor and/or have a great idea for a member segment, please contact us at info@pcpg.org.

In a change from last year, the Board of Director election will be conducted entirely on line prior to the meeting with the election results announced at the annual meeting. PCPG is actively seeking members to fill our slate of candidates for three open Board of Director positions. To qualify, you must be a member of PCPG and have a strong commitment to furthering PCPG's mission of education, advocacy and networking. The term is for three years, from January 2012 through December 2014. Members interested in running for election to a Director position or in nominating a candidate are reminded to contact President Elect Lou Vittorio by [e mail](#) or by phone at (215) 766 1211, prior to Wednesday, November 16, 2011.

Be sure to check PCPG's website and look for upcoming News Blasts with additional details regarding PCPG's Annual Meeting. We look forward to another successful PCPG event and we hope to see you in Grantville on January 19th.

Pennsylvania DEP Announces Reorganization...*Back to Basics*

-- *PCPG Communications Committee*

On September 20, 2011, DEP Secretary Michael Krancer announced a reorganization of the Pennsylvania Department of Environmental Protection (DEP). According to Mr. Krancer, this reorganization will move the Department "...back to essential environmental protection practices and permitting functions, or 'back to basics.'" The reorganization will improve coordination, enhance communication, ensure statewide consistency throughout the Agency and allow the Department to refocus on its core mission, the practice of sound science for environmental protection.

Key elements of the reorganization include:

- A new Oil and Gas Deputate;
- A new Bureau of Environmental Cleanup and Brownfields;
- A new Bureau of Conservation and Reclamation (acid mine drainage);
- New Office of Program Integration; and
- Office of Pollution Prevention and Energy Assistance.

Copies of the DEP press release and details of the reorganization, along with a video of Secretary Krancer discussing the reorganization can be viewed by clicking on the "reorganization" button on the DEP homepage: <http://www.depweb.state.pa.us/>



DEADLINE FOR 4th QUARTER 2011 NEWSLETTER → DECEMBER 1, 2011 ←

For more information, contact our
PCPG Newsletter Editor & Communications Committee Chairperson,
Kelly Lee Kinkaid, P.G., by [E mail](#) or by telephone at 610 375 9301.

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