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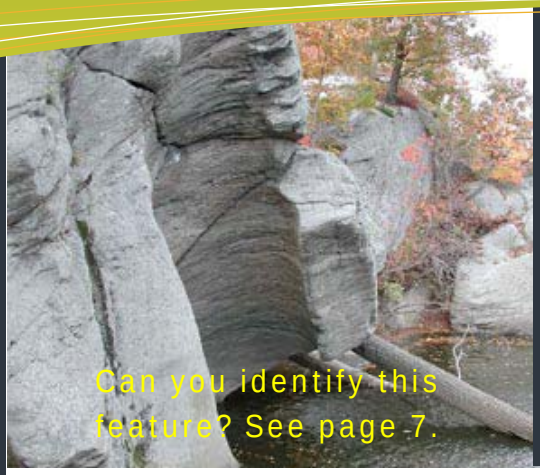
PCPG Newsletter

Communicating Key Information & Concerns to Geologists & Environmental Professionals



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Message from the President

Advice to the Minor and Major Leagues: Learn Science, Beware of Errant Environmentalism

One key tenet of PCPG's Mission is education. Required continuing education comes to mind but it is more than that. This, my first of hopefully several thought provoking missives this year, is a message aimed at the students who field our profession's minor league teams and managers that will hire them. A few words of advice during spring training from someone in the 7th inning stretch…Students, take the harder course, the extra calculus class or perhaps an upper-level science course! And managers, require scientific vigor from your new hires. Here's why.

In today's media - web or print, local or national - environmental and hydrogeological principles are becoming more a part of the general discourse. It used to be that everyone knew water flowed downhill, but there are some who would have the non-scientist believe otherwise. I have observed that conclusions on scientific topics presented in the media are generally drawn from factoids, without an explanation or understanding of the underlying scientific principles. For example, consider a water budget. It is a fact that evapotranspiration (ET) accounts for over 60% of the annual water obtained from precipitation in many areas of Pennsylvania. Therefore, when in drought and looking for "low hanging fruit" to avert crises, one could conclude that the quickest and most obvious response would be to cut down trees and reduce vegetation of all kinds. But such a conclusion, while based upon fact, is ludicrous! To the other extreme, I have seen articles implying that the decline in water levels during the summer (when ET accounts for almost 100 percent of the water budget) are due to nighttime water theft (when no one was watching). So, with this kind of thinking, the shale gas industry could surely stem global sea level rise through the sequestration of frac water. Right? At the core of each issue are facts (ET > 60%, declining water levels in summer, rising sea levels) followed by conclusions that lack all common sense and show no understanding of basic scientific principles. However, I am an optimist and I believe this is an area where our scientific educational system can and will help.

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PCPG Government Affairs Committee Report

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

Before reporting on recent legislative and regulatory action, PCPG would like to recognize and thank our members that have volunteered to serve on the Government Affairs Committee (GAC) for 2012: David Farrington (Brickhouse Environmental), Gary Kribbs (Board Member, AEON Geoscience, Inc.), Glenn Amey (PPL), Scott Renneisen (Synergy Environmental), Joseph McNally (GeoServices, Ltd.); Louis Vittorio (Earth Resources); Rick Hoover (Quality Geophysics); Samuel Baughman (Lancaster Geology); Sean Chelius (SSM Group, Inc.) and Todd Giddings (Todd Giddings and Associates, Inc.).

HB1855 (Water Well Construction Standards)

The GAC continues to work with Rep. Miller's office on HB1855 (Water Well Construction Standards). The GAC reviewed a revised draft of HB1855 prepared by Rep. Miller's office and on March, 1, 2012, Committee Chair Don Wagner met with Rep. Miller's office, a house republican research analyst, the Executive Director of the House Consumer Affairs Committee and PGWA to discuss revisions to the HB1855. At this meeting, we successfully argued that the Commercial Building Code/International Plumbing Code was not specific enough to serve as a reference for well construction standards.

Key points of the meeting include:

1. Rep. Miller and the House Consumer Affairs representative stressed the need to "keep it simple" to facilitate passage.

2. A stakeholder request to reference the Uniform Construction Code was determined to be insufficient for purposes of water well construction standard regulation, the code is too generic and only covers potable water supply systems, etc. In short, they are insufficient.

3. Traditionally in Pennsylvania, well drillers complete and file the well information records and in many states, licensed well drillers are required to construct and decommission wells. In other words, constructing a well and decommissioning a well are not viewed as the practice of geology. Therefore, HB1855 will not include a requirement that a licensed professional geologist seal any of the required documentation.

4. As for the definition of a water well owner, it will remain the owner of the property on which the well is located. It is not ideal with respect to monitoring and remediation wells installed on a third party property, but those property owners will have to be diligent because the bill's sponsors recognize that they can't require a third party to come onto a property owner's land to decommission a well if they haven't been given access rights by the property owner.

On behalf of PCPG, Mr. Wagner asked that Rep. Miller and the Consumer Affairs Committee consider the following:

- revising the definition of an abandoned well to also include a well that is "not planned to be used" and to exclude a water well "that is not currently used, but is equipped or otherwise properly maintained in such a manner as to be able to draw groundwater as an alternative, backup or supplemental source of water."
- Including in the water well definition a well used for agricultural purposes (i.e., for watering livestock), since irrigation wells are already included in the definition.

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With respect to geothermal boreholes – it was concluded that the definition of geothermal well includes a geothermal borehole.

The GAC submitted written comments on the revised draft of HB1855 to Rep. Miller's office and the Consumer Affairs Committee on March 6, 2012. Please remember, this is a political process and we don't always get everything we want. There are competing interests involved, but the revised bill is something PCPG can and does support, and it is a step in the right direction.

Licensing Board Proposed Rulemaking

The State Registration Board for Professional Engineers, Land Surveyors and Geologists (Board), on December 31, 2011, published proposed revisions to 49 PA Code Ch. 37 (Qualifications for Licensure). The proposed revisions are available at this link:

http://www.pabulletin.com/secure/data/vol41/41-53/2219.html.

Comments were due to the Licensing Board within 30 days of that publication, and apparently, the Licensing Board did not receive any comments on the proposed revisions from engineers, surveyors or geologists. On reviewing the proposed revisions, the GAC did not have any substantial philosophical issues with the rulemaking. On a good note, the Licensing Board has included an option for candidates for professional geologist licensure to meet the experience requirement with "five years of progressive full-time teaching experience in a geological curriculum, including senior-level or graduate-level courses at an accredited institution of higher learning." This should come as good news to those in academia who wish to become licensed professional geologists.

Updated Environmental Bill Tracking

The GAC tracks proposed environmental legislation in the Pennsylvania House and Senate on behalf of our membership, PCPG members can access a spreadsheet summary of this legislation by clicking on the link found on the GAC page of the PCPG website:

http://www.pcpg.org/GovtAffairs

New Legislation:

1. SB1380 – Amending the Clean Streams Law to provide for access to water bodies by abutting landowners, providing for equal or superior alternative design measures, etc. and recorded notice of post-construction storm water best management practices, etc.

2. SB1431 – Industrial Site Remediation – basically, Pennsylvania's version of the New Jersey ISRA (Industrial Sites Recovery Act) legislation.

PCPG encourages its membership to participate in government affairs and we invite our members to submit comments, suggestions or questions on any of the above-referenced bills or any other environmental bill that you have an interest in to our GAC Chairperson Don Wagner, P.G. (Don Wagner e-mail).

Member Spotlight: Vibra-Tech Engineers, Inc.

(Editor's Note: This is the first in a series of articles spotlighting some of PCPG's earliest and longest sustaining members.)

Don't let the name fool you into thinking they aren't about geology. Founded in 1949 in the anthracite coal town of Hazleton as The Vibration Engineering Company, Vibra-Tech began in response to a rise in complaints about blasting vibrations from property owners. One of the original partners was Dr. L. Don Leet, a noted Harvard University seismologist who developed a blasting seismograph in the late 1930's and which was used during the early consulting days of the company. The first notable use of this instrument was during the first atomic test blast in Alamogordo, New Mexico on July 16, 1945.

Taking the name Vibra-Tech Engineers, Inc. in 1960, the company has expanded its business worldwide by providing the mining, construction and energy industries with pre-condition inspections, vibration monitoring and damage claim investigations. In addition they also offer noise, dust, geotechnical and environmental monitoring; expert testimony; geophysical surveys; criteria development; and seismograph manufacturing and service. In 1995, Vibra-Tech and GeoSonics, Inc. formed an alliance. Their first engineering geophysical projects began in the 1950's and 1960's, at the inception of the interstate highway program where they used seismic refraction surveys to estimate bedrock depth and excavation characteristics in the proposed highway cuts along Interstates 80, 81, 78 and 476.

In 1983, the United States Bureau of Mines awarded Vibra-Tech a research contract to study vibrations from surface mine blasting. They found that the seismic signal from a single-hole blast produced a dominant frequency that is primarily related to the soil overburden at the receiver location as well as the dynamic characteristics of the geologic material. In mining, production blasting involves a series of single-hole, time delayed, sequential blasts. Thus the effects of a single blast can be added together through a process called linear superposition to create a synthetic seismogram of a production blast and predict the vibration effects.

Photograph Above: GeoSonics/Vibra-Tech worksite.

This finding enabled GeoSonics/Vibra-Tech to offer vibration control planning with Iso-Seis technology that uses 175 digital micro seismographs deployed around an operation to measure the effects of geology on the ground vibration signature. A single-hole blast is detonated and Vibra-Map analysis determines the optimal timing sequence for production blasting such that the dominant frequencies produce destructive interference and eliminate or minimize ground vibrations. "The ultimate goal of a vibration control program is to avoid ground vibrations that closely match the natural frequency of nearby structures, thereby reducing the structural response and neighbor complaints," said Douglas Rudenko, P.G., Vice President & Northeast Regional Manager of Vibra-Tech. GeoSonics/Vibra-Tech is the only company to have the Iso-Seis System and was a pioneer in the Vibra-Map technology.

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(PRESIDENT"S MESSAGE -- continued from Page 1)

In recent years, as my children and their friends reach college age, I have been asked my opinion about majoring in environmental science. Environmentalism pervades the conscience of our society; as our planet's population grows, it is no wonder that interest in the field has similarly grown. However, my advice to those that ask has remained unchanged.

Obtain a degree in the sciences, like geology, biology, chemistry, physics, mathematics and engineering, and then use the core scientific principles learned from these curricula to apply science to environmental problems. In my opinion, environmental science without science becomes errant environmentalism, and I fear that the latter will lead to more faulty discourse, as exemplified earlier in this article.

I also believe that "soft science" curriculums, while possibly easier to sell, do not provide students with the problem solving skills needed to thrive in our technology-based society. Employers reading this article can surely relate to the broad topic environmental resumes that cross their desk and can attest to the employable advantage of those students who have stronger, more focused academic backgrounds. I am certain that by stepping up to the plate with harder courses and a more rigorous scientific curriculum in several years today's students will be hitting home runs in the job market.

I am very interested to hear your position on this discussion. Simply e-mail me (Lou Vittorio e-mail), whether I have struck an errant chord, you are in agreement, or simply want to share a similar story. If in agreement, I encourage you to share this message with your colleagues, former college advisors, students, job candidates, and current employees working towards advanced degrees. Getting the word out is in line with PCPG's other key tenants of advocacy and networking, and it is something that we can all do to help shape the future of our profession.

Regards,

Louis F. Vittorio, Jr. P.G.
PCPG President

(MEMBER SPOTLIGHT -- continued from Page 4)

One of the newest technologies offered by GeoSonics/Vibra-Tech is the Re:mote™ Monitoring Technology. Re:mote™ Monitoring Technology is available for vibration, noise, dust, geotechnical or environmental monitoring and can be adapted to any sensor that outputs a voltage.

Today, GeoSonics/Vibra-Tech operates from 23 locations in the United States, including its Pennsylvania offices in Hazleton and Warrendale. To learn more visit www.geosonicsvibratech.com.

Photograph Above: Image of the Re:mote™ Monitoring Technology unit in place at a job site.

PCPG Annual Meeting and Networking Event – January 2012

- Mark Ioos, P.G. (PCPG Board Member, Skelly & Loy, Inc.)

PCPG's Annual Membership Meeting, held at the Holiday Inn Harrisburg-Hershey in Grantville, PA on January 19th, was a huge success again this year. More than 90 PCPG members and guests were in attendance to interact with their peers and learn the latest news and activities from PA DEP, the PA Geological Survey, the State Registration Board of Professional Engineers, Land Surveyors and Geologists, and PA DCNR's role in shale gas development. This event has quickly become a tradition of highly informative and entertaining presentations by leading state geologists and regulators. The day was capped with a networking session sponsored by ALS Environmental, Eichelbergers, Inc. and Test America, Inc.

Door prizes were also awarded to several attendees capping off the technical presentation session of the meeting. The door prizes included an Apple iPad 2 awarded to Brian Beckfield, P.G. (of Dawood Engineering); and free tuition for a future PCPG course, awarded to Rich Hazenstab, P.G. (of the York County Solid Waste Authority), Doug McKee, P.G. (of ATC Associates), and Angela Reed (student).

Photograph Above: President Vittorio congratulates Apple iPad 2 winner Brian Beckfield.

PCPG sincerely thanks out-going President Jeff Leberfinger, P.G. (TerranearPMC, Inc.) for his service and commitment to PCPG during a very strong year for the organization and also offers our thanks to outgoing Past-President James LaRegina, P.G. (Herbert, Rowland & Grubic, Inc.). We are also excited to welcome new President for 2012 Louis F.Vittorio, Jr., P.G. (EarthRes Group, Pipersville) and President-Elect Jennifer O'Reilly, P.G. (GES, Exton) in their new executive roles. PCPG is also pleased to announce the election of Mark Ioos, P.G. (Skelly & Loy, Harrisburg) to the PCPG Board of Directors. Re-elected to the Board were incumbents O'Reilly and LaRegina. PCPG also offers its sincere gratitude for the service provided to the organization by outgoing board member Dennis Bell, P.G. (Skelly & Loy, Harrisburg).

Photograph Above: PCPG 2012 Executive Board (L to R): President-Elect O'Reilly, President Vittorio, Immediate Past-President Leberfinger

The meeting was chaired by President Vittorio, and attendees heard reports from our various committee chairs and learned of recent and upcoming activities of the Communications, Government Affairs, and Education Committees from committee chairs, Kelly Kinkaid, Don Wagner and Jennifer O'Reilly, respectively.

The keynote address for the annual meeting was provided by Marcus Kohl, the PA DEP's Director of Regional Coordination and Program Evaluation. Mr. Kohl was filling in for PA DEP Secretary Michael Krancer who was unable to attend the meeting. Information was provided by Mr. Kohl regarding the reorganization and formulation of the new PA DEP bureaus, as well as the efforts that the PA DEP is making toward consistency among regional offices and greater interaction between PA DEP programs.

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Photograph Above: DEP Director Kohl delivers keynote address.

UPCOMING EVENTS

April 26, 2012
Noon – 6:00PM
Karst Assessment, Remediation & Infrastructure Sustainability
(Followed by Networking Mixer)
Reading, PA

May 16, 2012
Act 2 Toolkit Series: Soil Gas & Vapor Intrusion
(Followed by Networking Mixer)
Monroeville, PA

June 13, 2012
Shale Gas Seminar Series: Shale Gas Environmental Management
Williamsport, PA

June 27, 2012
Shale Gas Seminar Series: Shale Gas Environmental Management
Mars, PA

August 2 - 3, 2012
Practical Rock Slope Engineering
Malvern, PA

October 3, 2012
Shale Gas Seminar Series: Basic Tools for Shale Exploration
Williamsport, 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 would like to thank everyone who has contributed to and/or attended one or several of our educational events over the past year. It is always nice to meet our peers face-to-face and we appreciate the great ideas we have received regarding course topics to pursue. With that said, we have rolled out our 2012 education schedule, and we are featuring some new courses based upon attendee feedback. In fact, PCPG just hosted a called-for and well-attended Shale Gas Seminar in Mars, PA (featuring Lindell Bridges – be sure to read the article about this course on Page 14 of this newsletter).

Educational opportunities currently on the schedule include: **Karst Assessment, Remediation and Infrastructure Sustainability**, which is a half-day short course to be held on April 26th in Reading. Following this PCPG will be holding an **Act 2 Toolkit Soil Gas & Vapor Intrusion** course in Monroeville, PA on May 16th. PCPG's Shale Gas Seminar Series rolls on after that with Event 3, entitled **"Environmental Management."** The seminar will include a series of presenters focusing on stray gas, environmental management, pre-drilling surveys, permitting, and legal items. Due to demand, this Shale Gas Series is being held at two locations: Williamsport on June 13th and Mars on June 27th. We also will be hosting a 2-day **Rock Slope Stability** course in Malvern, PA on August 2nd – 3rd. Also, as part of our Shale Gas Seminar Series we will repeat the **Basic Tools for Shale Exploration** (instructed by Lindell Bridges) in Williamsport on October 3rd.

PCPG is currently planning to expand our Act 2 Toolkit series to include a seminar on Report Drafting, geared towards providing junior and entry level staff with technically sound report writing skills that work within the framework of PA regulations. Similarly geared towards junior staff, we will be running our Groundwater Sampling course later in the year with an expanded agenda to include shale gas pre-drill survey sampling. We are also in the process of setting up a new course on mine safety, permitting, and exploration.

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). For more information or to register for upcoming courses, please link on the "Courses and Events" tab of our home page.

GUESS THE FEATURE

The image (from the PaGS photo gallery) is of a pothole on Peavine Island in schist of the Octoraro Formation in the Holtwood Gorge along the lower Susquehanna River, York County. The photo was snapped by Gary Fleeger of the PaGS). More images of interesting PA geologic features can be viewed on the PaGS Photo Gallery website.

Professional Geologist's Code of Ethics

-- George Hunzeker, P.G. (PCPG Board Member, Letterle & Associates, LLC)

Within the Merriam-Webster Dictionary ethics are defined as, "*The discipline dealing with what is good and bad and with moral duty and obligation; a set of moral principles; the principles of conduct governing an individual or a group; a guiding philosophy; a consciousness of moral importance; a theory or system of moral values; or a set of moral issues or aspects.*"

In the world outside of the dictionary, ethics are, too often than not, merely a word which gets a lot of lip service but rarely is actually defined and/or strictly followed. Within the Registration Law, a Code of Ethics for Professional Engineers, Land Surveyors and Geologists conducting business activities in Pennsylvania is provided in Section 4, Paragraph G. In accordance with the Code the responsibilities of a P.G. in Pennsylvania fall into three broad categories: responsibility to the public; responsibility to clients and employers; and responsibility to colleagues and the profession of geology.

Generally, a P.G.'s responsibility to the public includes upholding the public trust; basing opinions on thorough and accurate data; objectivity and assuring the lawful action of others; and volunteering for public service, when possible. Responsibilities to the client and employers includes being consistent with public welfare while representing the interests of clients or employers; maintaining client confidentiality; obviating conflicts of interest; and disclosing conflicts of interest in all projects. Responsibilities to colleagues and the profession of geology includes abiding by the Code of Ethics in all dealings; crediting others for work used or cited; maintaining professional knowledge and education; and complying with all licensing laws.

Specifically, based on the Code of Ethics previously referenced, it shall be considered unprofessional and inconsistent with honorable and dignified bearing for any professional geologist to do the following:

1. To act for his/her client or employer in professional matters otherwise than as a faithful agent or trustee, or to accept any remuneration other than his stated recompense for services rendered.
2. To attempt to injure falsely or maliciously, directly or indirectly, the professional reputation, prospects or business of anyone.
3. To attempt to supplant another geologist after definite steps have been taken toward his employment.
4. To compete with another geologist for employment by the use of unethical practices.
5. To review the work of another geologist for the same client, except with the knowledge of such geologist, or unless the connection of such geologist with the work has terminated.
6. To attempt to obtain or render technical services or assistance without fair and just compensation commensurate with the services rendered. Provided, however, the donation of such services to a civic, charitable, religious or eleemosynary organization shall not be deemed a violation.
7. To advertise in self-laudatory language, or in any other manner, derogatory to the dignity of the profession.
8. To attempt to practice in any field of geology in which the registrant is not proficient.

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9. To use or permit the use of his/her professional seal on work over which he/she was not in responsible charge.
10. To aid or abet any person in the practice of geology not in accordance with the provision of the Registration Law or prior laws.

Violation of the Code of Ethics provided in the Registration Law can result in the suspension or revocation of the offenders P.G. license and the issuance of penalties by the Pennsylvania State Registration Board for Professional Engineers, Land Surveyors and Geologists. You can check disciplinary actions by the Board on the Pennsylvania Department of State website.

For additional information link to the State Registration Board Web Site and the ethics section of PCPG's website.

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Uranium Mineral Exploration in Carbon County, Pennsylvania

-- *Valerie Holliday, P.G. (PCPG Board Member, GeoLogos, LLC.)*

It is not widely known, but for a short while during the 1950s, Carbon County was a focus of uranium mineral exploration efforts. One location in particular, a topographic feature known as Mount Pisgah, near the town of Mauch Chunk (now called Jim Thorpe), was actually mined, and is the only locality in Pennsylvania known to have produced any amount of uranium ore[8]. The history of that one mining event touched upon several major corporations, the U.S. government, renowned scientists, and a Superfund site.

Description of the Ore Bodies

The Mount Pisgah uranium occurrence is exposed in several road cuts along U.S. Route 209 approximately one kilometer northwest of the Jim Thorpe rail station[7]. The uranium-bearing zone has been described as a "dark gray conglomerate and sandstone at the base of a transition zone between the Mississippian Mauch Chunk Formation and the Pennsylvanian Pottsville Formation"[7]. The uranium minerals are found in several lens-shaped bodies 3 to 20 feet thick, and several tens of feet long[8]. Coffinite ($USiO_4$) is the primary uranium mineral, occurring as tiny black specks in the matrix of the sandstone [7]. Samples grading up to 1.8% uranium have been collected from this occurrence, but the occurrence is also enriched in Vanadium (*Ibid*). The uranium deposition may have occurred as the result of slightly oxidizing uranium-bearing groundwater moving through the conglomerate/sandstone shortly after its deposition, encountering a reducing zone, and then precipitating uranium minerals[8].

History of Exploration

The year 1874 marked the first report of uranium minerals in Carbon County, at an unspecified location near Mauch Chunk, in the valley of the Lehigh River[3]. Carbon County, named after its coal resources, had been created a mere 29 years earlier. According to a December 1913 news article in Mauch Chunk's The Daily News, "*It has been known for a long time to all our older residents that Mt. Pisgah is believed to be filled with uranium, but could not be produced in paying quantities, and consequently no one got excited.*" The newspaper also reported scientists from The Johns Hopkins University and the United States National Museum (at the Smithsonian Institution) had been conducting "*surveys of the various places on Mt. Pisgah which are believed to contain large deposits of radium."* There is no indication, however, that any actual mining occurred at that time.

By 1953, there were four reported uranium mineral occurrences identified within six miles of Mauch Chunk, all within the Lehigh River valley[3], in a region that had fallen on hard times due to decreasing demand for coal. There were some who viewed uranium as the fuel of the future and a means to prosperity. As a January 1954 front page article in the Mauch Chunk Times-News put it, "*A boom in the mining of uranium might go a long way toward restoring the economic health of the entire Upper Eastern Pennsylvania.*" The idea that one could make a fortune in this modern fuel precipitated inquiries to the Pennsylvania Game Commission from national corporations to newly formed investment companies to returning Korean War veterans about how to file a mining claim for the State Game lands north of Mount Pisgah[6].

As it turned out, a very limited and short-lived "boom" in uranium exploration in Carbon County did occur, and it happened on land at Mount Pisgah owned by the Lehigh Coal and Navigation Company (LCNC) the then-struggling company whose founders brought the canal and railroad to Mauch Chunk nearly 150 years earlier to transport coal to market. During the early 1950s the Atom Energy Commission (AEC)

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Division of Raw Materials implemented a program to identify domestic sources of uranium and promote commercial mining of uranium ore[9]. Reportedly, the AEC was offering bonuses for new sources and additional bonuses for higher grade ores[2]. The AEC may have even established a uranium ore buying station at Jim Thorpe[5]. In 1951, the LCNC contacted the AEC to obtain assistance with mining uranium deposits located on the LCNC's property in Jim Thorpe[10].

About 1954, in pursuit of commercial grade uranium ore, the LCNC drilled some exploratory borings and excavated a series of three short horizontal tunnels (adits) into Mount Pisgah. Approximately 360 tons of ore were extracted[7][10]. The AEC stockpiled the ore at the property of the New Jersey Zinc Company's smelter and research center in nearby Palmerton, PA. The average uranium oxide content of the ore was reported as 0.21%[10]. At that point, it appears that the LCNC and AEC decided to go no further: the venture was not economically feasible, due to the relatively small size and sporadic occurrence of the uranium-bearing zones, and the relatively low-grade quality of the ore[2][5].

There is no record of any further uranium mining in Carbon County, although it is reported that Mount Pisgah was again explored during the 1970s with a series of drill holes (date and operator unknown)[7]. Exxon also expressed an interest in the State Gamelands as well but no exploration was conducted, to the relief of outdoor enthusiasts. The three adits became an object of curiosity (and were later boarded up and eventually backfilled), and the uranium prospect at Mount Pisgah became a local legend.

Uranium Ore Removal Action

The story of the 360 tons of uranium ore was not quite over, however. After the mining event in 1953, the ore from the Mount Pisgah uranium occurrence remained on the New Jersey Zinc property, under a lease arrangement, for the next 20 years. In 1973, the AEC initiated a program to evaluate and cleanup its ore storage/stockpile locations[9]. At the New Jersey Zinc Palmerton plant stockpile, AEC's contractors excavated the ore plus two to three feet of soil beneath the ore. The ore and associated soil were transported to the AEC Feed Materials Center in Fernald, Ohio for disposal[9]. A post-removal survey found residual radioactivity levels within the specified background levels, and a subsequent radiological survey in 1988 and risk assessment in 1991 performed for the DOE concluded that no further remediation was necessary[9]. The New Jersey Zinc Palmerton plant went on to become a Superfund site due to heavy metals contamination from the smelting activities, but the saga of Mauch Chunk's Mount Pisgah uranium ore had come to an end.

(With thanks to the Dimmock Memorial Library in Jim Thorpe, PA, Jack Sterling, Helena LeBow, Jerry Feaser, PGC, and Jim LaRegina.)

Editor's Note: This is the first in a series of articles on interesting Pennsylvania geology. If you know of any other lesser-known Pennsylvania geologic stories and would like to write an article for the newsletter or suggest a topic, send it along to blasts@pcpg.org.

Information sources:

(1) The Daily News, Mauch Chunk PA. December 27, 1913. "Radium Found at Mauch Chunk".

(2) Devlin, Ron, 1985, "Uranium Find Spurred 'Gold Rush' Flurry". March 3, 1985 article in the Sunday Call Chronicle and Allentown Morning Call newspapers.

(3) Klemic, Harry, and Baker, R.C., 1954. Preliminary Summary of Uranium Occurrences in Carbon County, Pennsylvania. US Geological Survey, Trace Elements Memorandum Report 503.

(continued on Page 12)

(continued from Page 11)

(4) Mauch Chunk Times News, January 28, 1954, Discovery of Precious Ore Near Site of Liberties Will Set Off Exploratory Operation; Borings Establish Proof It Exists Here.

(5) Pennsylvania Game Commission, 1974. August 19, 1974 internal memo from Glenn L. Bowers regarding Uranium Exploration and Mining Project.

(6) Pennsylvania Game Commission, review of file documents at PGC Headquarters, Harrisburg PA.

(7) Sevon, W.D., Rose, A.W., Smith, R.C., and Hoff, D. T., 1978. Guidebook for the 43rd Annual Field Conference of Pennsylvania Geologists, Uranium in Carbon, Lycoming, Sullivan and Columbia Counties, Pennsylvania.

(8) Schultz, Charles H., editor, 1999, The Geology of Pennsylvania. Published by the Pennsylvania Geological Survey and the Pittsburgh Geological Society.

(9) US Department of Energy, 1994. Formerly Utilized Sites Remedial Action Program, Elimination Report for Former New Jersey Zinc, Inc. Storage Site, Palmerton, Pennsylvania. January 1994, preliminary draft.

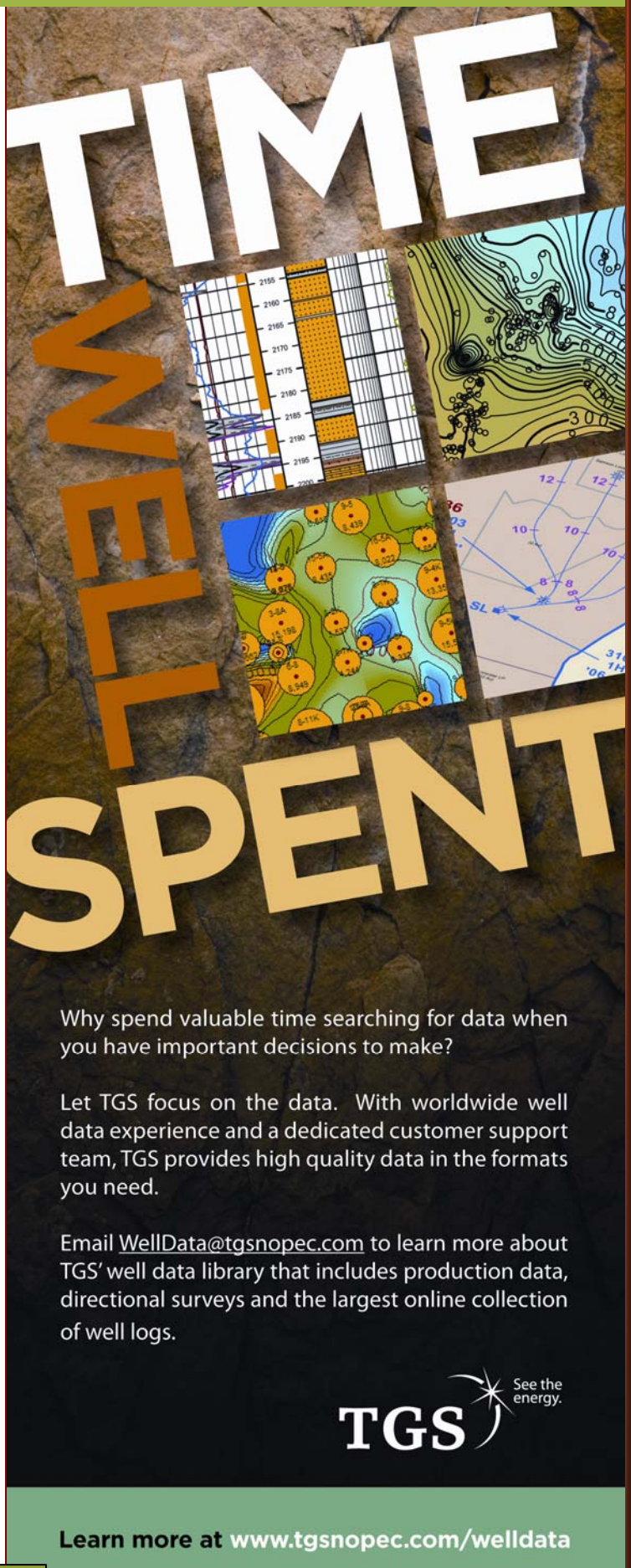
(10) Roy F. Weston, Inc. (Weston), 1989. Site Summary Report for the New Jersey Zinc Storage Site. Letter report to USDOE dated February 16, 1989.

MARK YOU CALENDAR!

The 2012 Field Conference of Pennsylvania Geologists will be held

October 18 – 20, 2012

The *Journey Along the Taconic Unconformity* will feature many sites along the Ordovician-Silurian contact in the Poconos region of northeastern Pennsylvania. For more information, check http://www.fcopg.org



PCPG Congratulates Newly Licensed Geologists

-- Source: Registration Board for Professional Engineers, Land Surveyors and Geologists

The PCPG would like to extend our congratulations to the following individuals who passed the ASBOG exam and were recently issued a Professional Geologist license in Pennsylvania:

Jason Erik Bach
Lawrence John Bamford
Robert Douglas Bartlett
Rose-Anna Behr
Justin Timothy Bridge
C David Brown
Michael Robert Crowe
Robert Raymond Damiani
Jason Scott Early
Abigail E. Faust
Brenda Jayne Fruchtl
Matthew C. Fry
Barbara Louise Hamel
James Gregory Harcourt
Arthur Mark Harper
Christina M. Helms
Josh Clayton Hickman
Matthew Harvey Hoskins
Karl Kerchner
Jaime Kostelnik
Jennifer Marie Lambert
Richard Barry Lawhorn
Todd K. Lippmann
Lonnie Lister
Garth Thomas Llewellyn
David M. Mack
Richard Alan Mayer
Paul Ryan McCarthy
Simon John McGrath
Brian Edward McGurk
Douglas Scott McKee
Brett Theodore McLaurin
Suzanne Kemp Mills
Tina Marie Morgan-Entenman
Brian Edward Mott
Ryan Scott Niles
Aaron C. O'Hara
Jennifer l. Ostrowsky
Joshua William Otis
Brian Joseph Panetta
Armand Michel Pelletier
Jonathan Andrew Relyea
Stephen Roger Scott
Richard Mark Staron
Evan Thomas Teeters
Ian Alan Thomas
Carl Joseph Trexler
Pradeep Y. Ullikashi
Dawn Llewellyn Washo
James M. Yoder
Bethany Jane Zinni

We would also like to congratulate the following individuals who passed the fundamentals portion of the ASBOG exam and have been granted Geologist-in-Training status.

Jessica Scheick
Nichole Jean Wendlandt
Eric Hendrickson
Sean C. Condie
David Scott Crotsley
Samuel Wayne Galenty
Elizabeth A. Graybill
John Lee Springer

Good luck in your geology careers!

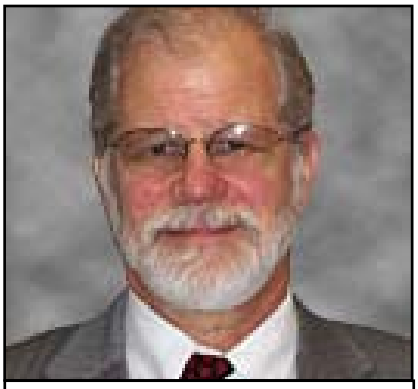
Have You Heard of PASDA???

Pennsylvania Spatial Data Access (PASDA) is Pennsylvania's official public access geospatial information clearinghouse. Developed as a research and outreach program by the Pennsylvania State University, PASDA serves as a service to the citizens, governments, and businesses of the Commonwealth. PASDA is a cooperative project of the Governor's Office of Administration, Office for Information Technology and Geospatial Technologies Office and the Penn State Institutes of Energy and the Environment of the Pennsylvania State University. The data made available through PASDA is provided by their data partners to encourage the widespread sharing of geospatial data, eliminate the creation of redundant data sets, and to further build an inventory (through the development and hosting of metadata) of available data relevant to the Commonwealth. PASDA serves as a resource for locating data throughout the Commonwealth through its data storage, interactive mapping/webgis applications, and metadata/documentation efforts. For more information on PASDA or to view its wealth of information, check out their website at: www.pasda.psu.edu

Recap of PCPG's Shale Gas Seminar Series: Basic Tools for Shale Exploration

-- Dan A. Billman, P.G. (PCPG Board Member, Billman Geologic Consultants, Inc.)

On March 7th PCPG held its latest installment in the Shale Gas Seminar Series of courses and meetings. Lindell Bridges, President of Pure Earth Resources, led a class in "Basic Tools for Shale Exploration". The class was sold out a month or so prior to the event, with geologists from numerous disciplines (oil & gas, mining, environmental, industry and government) enrolled in the course. Several engineers and geophysicists were also in attendance.



Photograph Above: Mr. Lindell Bridges, Course Instructor.

The course began with a few definitions of what a "shale" play is. We put shale in quotes as many of the known "shale" plays are not shales at all. At least not by standard geologic definations. Many of the "shale" plays are fine-grained carbonates and fine-grained siliciclastics. But, for the purposes of the modern "shale" boom, we call them shales.

Different phases of shale exploration and development were presented, outlining some pitfalls that may be encountered along the way. The types of existing data one needs to evaluate, when moving into a new play area, were presented. Data analysis techniques using petrophysical, geochemical, and sequence stratigraphy were introduced. The short course demonstrated which tools, processes, and procedures all geoscientists, engineers, and technical professionals working in shale plays need to understand and implement.

Data examples were presented from the Barnett, Bakken, Fayetteville, Eagle Ford, Utica, and of course the Marcellus Shale.

As the course sold out weeks prior to its date, Lindell has agreed to offer the course again. The course will be offered October 3, 2012, in Williamsport, Pennsylvania. Hopefully, just in time for some colorful fall leaves in northern Pennsylvania! Registration isn't open yet, but you can view an overview and the objective of the course on the Courses and Events section of the PCPG website.

Fayetteville Shale
Arkansas

Carboniferous Shale
Spain

Collinswood
Michigan

ANNUAL MEETING RECAP -- continued from Page 8

State Geologist George E. Love, P.G. (Director of the PA Bureau of Topographic and Geologic Survey) provided a comprehensive overview of new and ongoing projects at the Survey, including projects that will generate and share impartial data related to shale gas, update the Commonwealth's well inventory, and continue efforts toward an online geologic library. DCNR Deputy Secretary and PA State Forester Daniel A. Devlin related DCNR's history of managing gas development in State Parks and Forests and how the recent Marcellus play compares, from both financial and technical/regulatory perspectives.

One of the many informative topics presented at the Annual Meeting included a somewhat lighthearted talk by Thomas D. Gillespie, P.G., President of the State Registration Board of Professional Engineers, Land Surveyors and Geologists, regarding some of the pitfalls in applying for P.G. licensure and what the Board needs to see in a successful application. This presentation was very well received by the meeting attendees who were able to take away a wealth of practical information to share with junior staff members on the types of information needed to demonstrate geologic proficiency for obtaining registration.

The large amount of positive member input/feedback regarding the program was greatly appreciated. We look forward to seeing all of you, as well as new faces, at our next meeting scheduled for April 26th at "The Inn at Reading" in Reading, PA. Also on this date, PCPG is offering a short course on Karst Assessment, Remediation, and Infrastructure Sustainability. Thanks to all who made the PCPG's 2012 Annual Meeting a huge success!

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For more information, contact our PCPG Newsletter Editor and Communications Committee Chairperson, Kelly Lee Kinkaid, P.G., by E-mail or by telephone at 610-375-9301.

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