

# PCPG Newsletter

Communicating Key Information & Concerns  
to Geologists and Environmental Professionals

Issue 1 / 2018

## BOARD OF DIRECTORS

### President

Dan Billman, P.G., C.P.G.  
Billman Geologic Consultants, LLC  
[dan@billmangeologic.com](mailto:dan@billmangeologic.com)

### President Elect

Martin F. Helmke, PhD, P.G.  
West Chester University of Pennsylvania  
[MHelmke@wcupa.edu](mailto:MHelmke@wcupa.edu)

### Immediate Past President

Gary Kribbs, P.G.  
AEON Geoscience, Inc.  
[gkribbs@gmail.com](mailto:gkribbs@gmail.com)

### Permanent Director (1936-2016)

Richard E. Wright, P.G.  
R. E. Wright, P.G., LLC

### Board Members

Vincent Carbone, P.G., C.P.G.  
HDR  
[Vincent.Carbone@hdrinc.com](mailto:Vincent.Carbone@hdrinc.com)

Tiffani L. Doerr, P.G.  
Evergreen Resources Management Operations  
[TLDOERR@evergreenresgmt.com](mailto:TLDOERR@evergreenresgmt.com)

Brenda Costa, P.G.  
French Creek Valley Conservancy  
[brenda@frenchvalleyconservancy.org](mailto:brenda@frenchvalleyconservancy.org)

Barbara Dunst, P.G.  
EQT Production  
[bdunst@eqt.com](mailto:bdunst@eqt.com)

Kurt Frieauf, Ph.D., P.G.  
Kutztown University  
[frieauf@kutztown.edu](mailto:frieauf@kutztown.edu)

Martin F. Helmke, Ph.D., P.G.  
West Chester University of Pennsylvania  
[MHelmke@wcupa.edu](mailto:MHelmke@wcupa.edu)

Valerie Holliday, P.G., C.P.G.  
GeoLogos, LLC  
[vholliday5@comcast.net](mailto:vholliday5@comcast.net)

Jim LaRegina, P.G.  
Herbert Rowland & Grubic  
[jlairegina@hrg-inc.com](mailto:jlairegina@hrg-inc.com)

Russell Losco, P.G.  
Lanchester Soil Consultants, Inc.  
[soildude@comcast.net](mailto:soildude@comcast.net)

Jennifer L. O'Reilly, P.G.  
Groundwater & Environmental Services, Inc.  
[joreilly@gesonline.com](mailto:joreilly@gesonline.com)

John Torrence, P.G.  
ERM  
[john.torrence@erm.com](mailto:john.torrence@erm.com)

Richard Wardrop, P.G.  
Groundwater & Environmental Services, Inc.  
[rwardrop@gesonline.com](mailto:rwardrop@gesonline.com)

Tom Wagner, P.G.  
Cabot  
[tom.wagner@cabotog.com](mailto:tom.wagner@cabotog.com)

General Information: [info@pcpg.org](mailto:info@pcpg.org)

## INSIDE THIS ISSUE...

President's Message .....	1
Upcoming Events .....	2
Member Spotlight .....	3
Blast From the Past.....	4
Geology Crossword Puzzle.....	5

## MESSAGE FROM THE PRESIDENT



I've been watching a lot of the March Madness Basketball Tournament recently and have noticed that the teams that do well often have a deep bench. True the starters are important, but without bench support, the team may never reach its goals. This reminds me of PCPG, too. At this point, our "bench is not deep." Sure we have an active board of directors, but we need more bench support. Are you willing to be part of the team?

For starters, I am sure that numerous folks reading this newsletter are not members of PCPG. The more members, the stronger the organization. If not a member, please consider joining. The website can be found at: <http://pcpg.org/page-532303>.

Please consider helping out on a committee. A volunteer organization is only as strong as the volunteers working for the greater good. We have openings available on the government affairs, communications, educations, and outreach committees. If interested in helping, please get in contact with me or one of our board members. Find our contact info at: <http://pcpg.org/Board>.

Are you good with social media or web design? PCPG is looking for champions to take up those tasks for the organization. Again, please contact a board member if you can join the team.

PCPG is always looking for new ideas for short courses and workshops. Are you an expert in a specific field? Want to impart some of your years of knowledge? Or do you know a geologist that would make a great instructor? Let us know your ideas for course proposals and instructors.

There are lots of other ways to be involved. Become a sponsor, attend an event, run for the board.

Dan Billman, P.G.  
PCPG President

## UPCOMING EVENTS

Soil Science: An Overview of Principles, Practical Field Methodologies and Applications (220 mins.)

May 2, 2018

State College, PA

1:00 - 5:00 PM

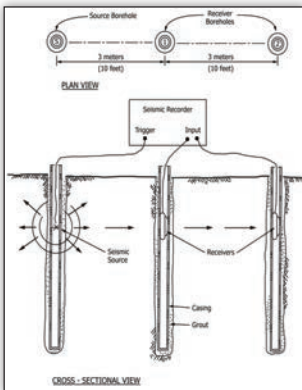
*Don't forget to check the "Courses & Events" calendar on PCPG's [home page](#) frequently for up to date information on upcoming educational opportunities.*



ARM Geophysics solves complex problems and challenges by integrating expertise from Geophysics, Geology, Hydrogeology, Soil Science, Geotechnical and Civil Engineering.

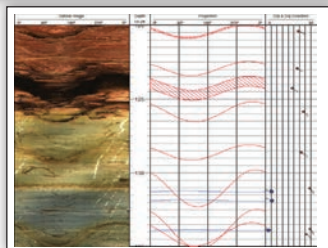
ARM Geophysics has multiple borehole logging systems readily available to help with your next project:

- Truck-mounted Logging Systems
- Portable Logging Systems
- Optical & Acoustic Televiewers
- Fluid Temperature & Fluid Conductivity Probes
- Formation Resistivity
- Three-Arm Caliper
- Heat Pulse Flow Meter
- Density
- Neutron

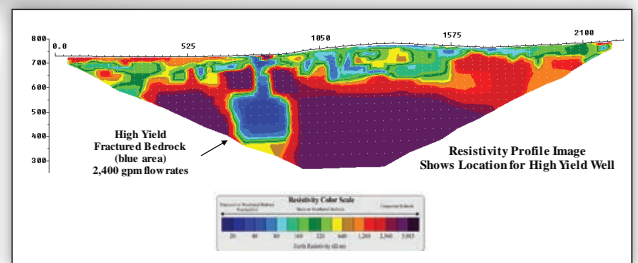


Poisson's Ratio, Shear Modulus, Young's Modulus

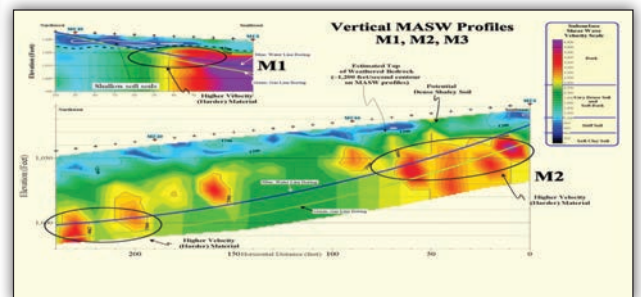
**Cross-Hole Seismic/  
Geotechnical Support**



**Borehole Geophysics**



**Water Supply Development**



**Horizontal Directional Drilling Support**

**Contact Scott Wendling, P.G. today to see how ARM can help you!**  
**[SWendling@armgeophysics.net](mailto:SWendling@armgeophysics.net) | 717-533-8600 | [ARMGeophysics.net](http://ARMGeophysics.net)**



## MEMBER SPOTLIGHT: LIBERTY ENVIRONMENTAL, INC.



"Your efforts show tremendous commitment to our client. Your team is going above and beyond most consultants which is exactly what is needed", shared a Philadelphia attorney. This is the type of routine client feedback the principal owners desired to achieve when Liberty Environmental, Inc. was founded in 2004. With a vision to provide our clients with a trusted advisor to manage environmental affairs, our team takes great steps to truly understand the business goals of our clients and partner with them to solve environmental challenges in the most professional and cost-effective manner.

Headquartered in Reading, Pennsylvania with regional offices in Lancaster, Philadelphia and New York City, Liberty Environmental is a unique, environmental engineering and consulting firm. Our focus is exclusively environmental. Our professional staff, with backgrounds in geology, environmental engineering, environmental science, biology, and water resources, deliver expert consulting services including air quality management, water and waste management, environmental compliance and auditing, storage tank management, site assessment, soil and groundwater remediation, stormwater infiltration and karst studies, wetlands delineations, threatened and endangered species permitting, and building assessment services, to clients across the United States. Our clients are, comprised of manufacturers, private landowners, developers, land planners, financial institutions, and law firms.

PCPG has been very valuable for the advancement of the professional geologists at Liberty Environmental. Senior Project Manager, Kelly L. Kinkaid, P.G. in the firm's Lancaster office has served on the PCPG Board of Directors and is a former Communications Chair for the organization. Kinkaid reflects on her involvement, "Not only does PCPG provide excellent cost effective educational resources to meet PDH requirements, but participation has allowed me to meet geologic professionals from so many disciplines and industries outside of environmental consulting."

Our niche services make Liberty Environmental an ideal partner for teaming. How can we support your next project? We invite you to contact us at 800.305.6019, email Kirsten Deysher, Director of Business Relations, at [kdeysher@libertyenviro.com](mailto:kdeysher@libertyenviro.com) or visit us at [www.libertyenviro.com](http://www.libertyenviro.com).



*Clockwise from left: Mindy Wagaman, Project Scientist at Liberty Environmental, is shown logging soil samples from a sonic drilling event to determine soil characteristics and evidence of petroleum impact in soil at a retail gas station site.*

*Liberty Environmental wetlands scientist delineates a site in eastern Pennsylvania.*

*Liberty Environmental Regulatory Compliance Specialists walk the site with a client in central Pennsylvania.*





# BLAST FROM THE PAST

This article appeared in  
The Atlantic Refining Company's  
Annual Report – 1960



## RESEARCH AND DEVELOPMENT

Looking to the future for new techniques, new processes and new and better products is the challenging assignment of the Research and Development Department.

Scientists at our Dallas, Texas, laboratories search for new knowledge of prehistoric earth formations and new methods of detecting and producing the crude petroleum and natural gas hidden in them. From these laboratories have come important additions to the industry's skills in geology and engineering, making it possible to discover new oil reserves and to recover much higher percentages of reserves already found.

An outstanding contribution during the past year was a new-patented technique of hydraulic fracturing of reservoir rock making use of aluminum pellets as propping agents. This process, used in certain formations, greatly increases crude oil production.

Our laboratories in Philadelphia devote a major part of their effort to the discovery and development of new and better products and efficient processes for their manufacture. The newest challenge to petroleum scientists is the ever-widening span of petrochemicals. Atlantic's research on detergents, aromatics, olefins and polymers continue to add to the growing list of chemicals for modern industry derived from crude petroleum. Our most intensive research efforts are now concentrated on this diversification to build a broader base for our Company's operations.

THE  
**ATLANTIC**  
REFINING COMPANY

ANNUAL REPORT 1960



## PROFESSIONAL GEOLOGIST LICENSING CROSSWORD

Kurt Frieauf 2018

### ACROSS


4. F in FG licensure exam.
7. \_\_\_\_ is the study of water moving on/through the Earth – one of the major concept areas on FG/PG exams (FG/PG = 12%/19%).
9. Number of years of practical geological experience required for licensure as a PG in Pennsylvania (spell out).
10. Number of multiple choice questions on the FG exam (numerals - e.g., 462).
12. Minimum percentage score to pass either the FG or PG exam (spell out).
15. Literally, the study of Earth forms, this discipline is combined with Surficial Processes, and Quaternary Geology on FG/PG exams - FG/PG = 13%/8% examines landforms and the processes that shape the Earth's surface.
16. \_\_\_\_ geology explores the ways rocks deform under stress. Combined with tectonics and seismology, this concept area accounts for 11% and 8% on the FG and PG exams, respectively.
19. Your “stamp” that includes your PG license number, used for identification purposes on official documents you prepare as a professional geologist.
20. Adverb describing the annual frequency of FG/PG exam offering.
21. The General and \_\_\_\_ Geology concept area on FG/PG exams requires analysis and interpretation of remote sensing data, borehole logs, cross sections, and geologic maps, including determining position, scales, as well as distances on topographic maps – it's about how geology is applied outside the office/lab - FG/PG = 21%/20%
22. The study of naturally-occurring, crystalline solid materials with specific inorganic chemical compositions. This is part of a combined concept area on FG/PG exams with the studies of how these phases are intergrown (Petrology), and what those intergrowths and their chemical properties tell us about Earth processes (Geochemistry). This is a more important part of the FG exam (11%) than the PG exam (5%).
24. This non-profit organization provides valuable continuing educational opportunities for geologists and advocates for geology issues relevant to citizens in the Commonwealth of Pennsylvania.


### DOWN

1. P in PG licensure exam.
2. Your \_\_\_\_ Record of Experience is your official summary of your applied geological experience post-dating your college graduation that explains how you've used geologic reasoning in your work.
3. P in PDH – the continuing education requirement for maintaining your license (you know an organization that offers some excellent PDH-earning opportunities!).
5. Organization that writes the FG and PG exams that you must pass to earn licensure in Pennsylvania. They do not grant licenses – they only write the exams.
6. The science of how broken/dissolved rocks are transported, re-precipitated, and lithified into new rocks. Don't forget to study your stratigraphy and paleontology, too, because they're combined with this as an important concept area on the FG/PG exams (12%/6%).
8. Number of multiple choice questions on the PG exam (numerals - e.g., 253).
11. Number of years a Master's degree counts as experience required for earning your PG license in Pennsylvania (spell out).


Continued on Page 6

**Providing Innovative Solutions  
to Complex Environmental Problems**







**BUILDING  
ASSESSMENT**




**SITE ASSESSMENT  
& REMEDIATION**




**REGULATORY  
COMPLIANCE**



**AIR QUALITY**



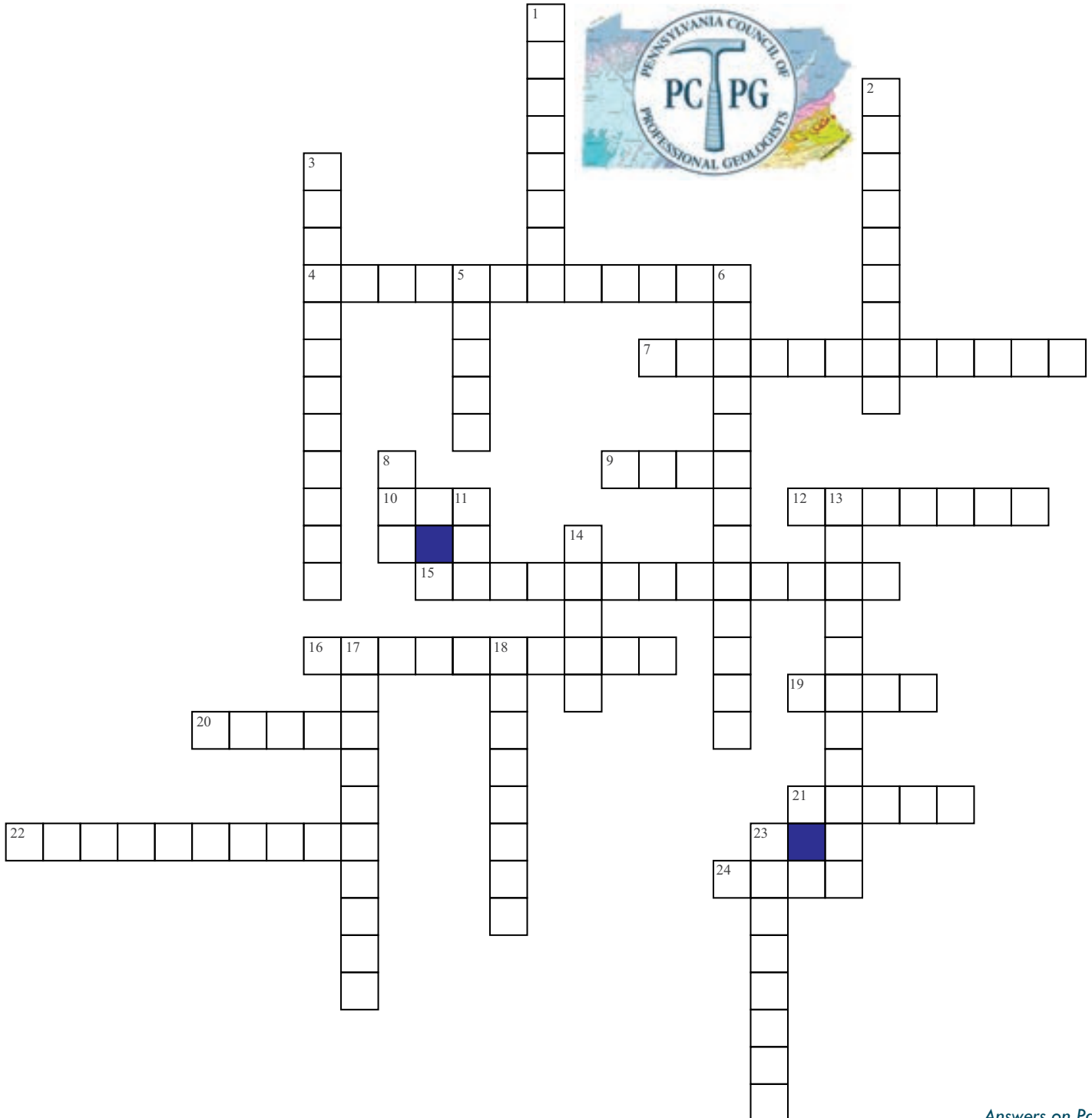
**NATURAL  
RESOURCES**



**WATER  
RESOURCES**

**LIBERTYENVIRO.COM**  
 Reading | Lancaster | Philadelphia | New York  
 Toll Free 800.305.6019

13. \_\_\_\_ Geology studies physical properties of soils and rocks, evaluates potential hazards to humans, and is applied in the design of most human structures. This is a major concept area on both FG/PG exams (11%/19%)
14. The State Registration \_\_\_\_ For Professional Engineers, Land Surveyors And Geologists evaluates candidates, authorizes taking the FG/PG exams, and actually grants licenses in the Commonwealth of Pennsylvania.
17. Number of PDH's needed in the two-year cycle required to maintain your P.G. license (spelled out as one word).
18. T in G.I.T.
23. \_\_\_\_ and Resources Geology study the nature and processes of non-water things in the Earth that have important monetary value (e.g., metals and industrial minerals mining, coal mining, oil/gas production). This is a bigger part of the PG exam (15%) than it is of the FG exam (9%) because many undergraduates do not take a course in this subject, but learn on the job.



Answers on Page 7



- **June 4:** Intro To Water Quality Data Management with AquaChem
- **June 5:** Intro To Aquifer Performance Test Analysis with AquiferTest
- **June 6-8:** Applied Groundwater Modeling with Visual MODFLOW Flex

*Take advantage of Early Bird pricing and bundle all three in a single package to experience deep discounts!*

Visit Waterloo Hydrogeologic to register

[www.waterloohydrogeologic.com](http://www.waterloohydrogeologic.com)

Waterloo  
HYDROGEOLOGIC

NOVA  
METRIX

## DEADLINE FOR OUR NEXT NEWSLETTER IS MAY 25, 2018

For more information, contact our PCPG Newsletter Editor and Communications Committee Chairperson - John Torrence, P.G., by **Email** or telephone at 609-932-7090.

### 2017 PCPG MEMBER SPONSORSHIP RATE

(Rates are listed as amount per issue)

Size	Commitment:	1x	4x
1/2 Page		\$225	\$150
1/4 Page		\$140	\$95
Business Card (H or V)		\$75	\$50

### 2017 PCPG NON-MEMBER SPONSORSHIP RATES

(Rates are listed as amount per issue)

Size	Commitment:	1x	4x
1/2 Page		\$300	\$240
1/4 Page		\$185	\$150
Business Card (H or V)		\$100	\$80

**SPONSORS:** Please remit payment to  
PCPG, 116 Forest Drive, Camp Hill, PA 17011

## 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.

### Mail your check made payable to GEOPAC:

GEOPAC  
116 Forest Drive, Camp Hill, PA 17011

Contributions may be made by personal check or company check only if from a sole proprietorship or partnership. Otherwise, no corporate or business checks may be accepted.

