

PCPG Newsletter

Communicating Key Information & Concerns
to Geologists and Environmental Professionals

Issue 3 / 2018

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MESSAGE FROM THE PRESIDENT



2019 is just around the corner.

As hard as it may be to believe, 2018 is well over half way gone and 2019 is just around the corner. What does 2019 have in store for PCPG? To begin with, 2019 is a PG license renewal year. We will each need to complete our educational requirements by the end of September 2019. That is literally one year from now!

No worries, your PCPG is here to help: a few great courses are in the planning stage for 2019. For folks testing for their PG or GIT licenses, we are working toward two Professional Geologist review courses. Our Annual March Meeting and Educational event is currently being planned (stay tuned for details). PCPG is considering a reboot of the September 2018 Geologic Applications of Drones in western and/or central PA, a Glacial Geology field course in Northwestern PA and possible Act 2 courses throughout the state. PCPG is always looking for great course ideas and possible instructors. If you have an idea for a course, would like to instruct, or have a suggestion for a great instructor, let us know.

My term as PCPG President ends with 2018. In January 2019 a new president will "take the helm": current BOD member Martin Helmke, Ph. D, PG has kindly agreed to lead us forward through 2020. Martin is a hydrogeologist and a professor in the Earth and Space Sciences department of West Chester University. Martin is a pioneer in the use of Unmanned Aerial Systems (UAS, or drones) for site investigations and resource studies, and has also worked in government and the private sector. PCPG's leadership could not be in better hands. I will not be going too far away, as Past Presidents remain on the PCPG Executive Committee, and will be looking forward to continued PCPG success in 2019.

2019 will also bring us a renewed Board of Directors, but before that can happen, we need to have elections. PCPG is looking for members who want to give back to the geologic community and become a board member. Elections will be in December, but it is not too early to throw your name into the ring, contact any of the PCPG Board of Directors. Please consider running for a board seat. We'll have five seats coming to a vote in December. Here's hoping you'll consider filling one of them.

2019 is shaping up to be a big year for PCPG. I'm certain you'll want to be part of it!!

Dan Billman, P.G.
PCPG President

UPCOMING EVENTS

PCPG Review Course
February 7-8, 2019
Cranberry Township, PA

Two-Day PG Review Course for the Practicing Geologist and
ASBOG Exam Candidate

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

NOMINATIONS BEING ACCEPTED FOR PCPG BOARD OF DIRECTORS ELECTION

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Each Fall PCPG solicits potential Board of Director candidates for our annual online election in December. Five (5) Director positions are open for a three-year term beginning January 1, 2019 and ending December 31 2021.

To be considered for the ballot you must be a PCPG member in good standing with an Individual/Academic, Government, or Corporate membership, and complete and return the Board Candidate Interest Form according to the instructions on the form by 5:00 PM on November 15. [Download Candidate Interest Form.](#)

DEADLINE FOR OUR NEXT NEWSLETTER IS NOV. 30, 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.

2018 PCPG MEMBER SPONSORSHIP RATE

(Rates are listed as amount per issue)

Size	Commitment:	1x	4x
1/2 Page (8" x 5")		\$225	\$150
1/4 Page (3.875" x 5")		\$140	\$95
Business Card (H or V)		\$75	\$50

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Size	Commitment:	1x	4x
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1/4 Page (3.875" x 5")		\$185	\$150
Business Card (H or V)		\$100	\$80

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Please consider the environment before printing this newsletter.

PCPG HAS HAD A BUSY YEAR OF OUTREACH TO THE GEOLOGIC COMMUNITY

Hopefully you have had an opportunity to run into PCPG at a geologic conference or convention recently. Since December of 2017, PCPG has exhibited and/or participated at meetings including the National Brownfields Conference in Pittsburgh and the Pennsylvania Association of Environmental Professionals conference in State College and the 2017 Energy Manufacturing Youth Career Expo in Houston, PA. This October PCPG will be exhibiting at the Brownfields Conference in Bethlehem and Joint Eastern Section American Association of Petroleum Geologists and Society of Petroleum Engineers convention in Pittsburgh and will be sponsoring at the Field Conference of Pennsylvania Geologists, this year taking place in Central Valley, PA.

The PCPG is also considering exhibiting at the ASCE Geo-Congress, March 24-27, 2019, in Philadelphia, PA. We'll let you know when we make that final decision.

Also, PCPG has been actively presenting to students and faculty across Pennsylvania and the region at colleges and universities. Last school year we presented at California University of PA, Drexel University, Edinboro University, Indiana University of PA, Millersville University, Penn State University and West Virginia University, to name a few. On the horizon, this semester, we plan on visiting Clarion University, Lehigh University, Millersville University and WVU.

PCPG is happy to entertain participating in other events, be it conferences or college visits, to get the "PCPG Brand" in front of as many geologists and future geologists as we can. Let us know if you'd like to arrange and/or participate in a PCPG event or college visit in the future. We're always looking for help from the members.



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THE BIG PICTURE: GEOLOGIC AND ENVIRONMENTAL APPLICATIONS OF DRONES

Martin F. Helmke, PhD, PG

Professor of Hydrogeology, West Chester University of Pennsylvania

PCPG sponsored a full-day drone course for geologists and environmental professionals September 28. Twenty-six scientists from five states participated in a series of lectures and hands-on exercises. Instructors included John Ennis, Matt Lyon, Daniel Bochicchio, and Martin Helmke - all scientists and FAA-licensed pilots who manage the commercial drone program for Groundwater & Environmental Services, Inc. (GES).

Course lectures demonstrated how unmanned aerial systems (UAS) can be used to enhance geologic and environmental professional work; reviewed how UAS law, privacy, and airspace control affect scientific application of drones; and shared best practices for using drones to safely collect high-quality data. In the afternoon, course attendees flew ten different UAS aircraft at the Chester County Public Safety Training Campus in Coatesville, PA. Field exercises included aerial mapping, 3-dimensional photogrammetry, thermal infrared imagery, and inspection using a remotely-operated telephoto camera.

Attendees brought a great diversity of scientific and UAS experience to the course. Through networking we collectively identified several new and powerful scientific applications for this emerging technology. PCPG plans to offer this course again in the Pittsburgh area late spring 2019.



Instructor John Ennis (GES) and attendees fly the DJI Matrice 210 RTK equipped with thermal imaging and zoom cameras (photo credit: Russell Losco).



Drone group photo of attendees from a diversity of companies, academic institutions, and government agencies from five states.

MEMBER SPOTLIGHT: RETTEW

Evolutionary History of Geosciences and Environmental Consulting at RETTEW

For 50 years, RETTEW hasn't stopped adapting and evolving. And for the past 25 years, neither have its geosciences and environmental-related consulting services. In 1969, RETTEW began as a surveying and civil engineering company in Lancaster County, Pennsylvania. Growing its reputation for that expertise, the company began adding related engineering services and expanded into complementary environmental consulting expertise.

The First Ten Years: It Begins (1990s)

During the first decade, approximately half a dozen environmental scientists and hydrogeologists worked in RETTEW's geosciences service area. That core team supported land development projects in the commercial and residential markets, cell tower work for telecommunications, and industrial environmental compliance consulting. Their services included water source permitting and evaluations for public and private water

RETTEWSM

supplies, Phase I and II Environmental Site Assessments, underground storage tank closures, the developed and implementation of remedial action plans and geotechnical investigations for several key clients.

The Middle Years: Gradualism (2000 to 2005)

From 2000 to 2005, RETTEW's geosciences service area continued primarily to serve the land development, transportation, and industrial markets. Focus service offerings included environmental due diligence, site investigation, and remediation. To meet the needs of its industrial and land development clients, RETTEW gradually provided additional services, such as professional soil scientist services, sewage enforcement officer services, and hazardous materials management support.

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The Middle Years: Energy Sector Growth (2005 to 2012)

In the mid-2000s, with the exploration and development of the Marcellus and Utica Shale formation shale gas plays, RETTEW's geosciences team expanded rapidly. The group's Lancaster PA footprint, rapidly expanded to most of the firm's dozen offices across Pennsylvania, Ohio, and Colorado. The technical staff grew from 10 to 35, adding both experienced team members and those earlier in their careers, ready to be mentored. Surface water and groundwater sourcing work for oil and gas companies fueled the increase in size of the geosciences team throughout Pennsylvania and Ohio. RETTEW also significantly expanded its geotechnical capabilities, focusing on roadway and pad sites needed for oil and gas facilities.

The Middle Years Parallel: Niche Services (2005 - 2012)

Some of the oil and gas industry's work led to another development for RETTEW's geosciences group: geotechnical engineering, with an emphasis on slope stability and landslides. Although new well pads in the Appalachian mountains were optimal for exploration and production work, lack of thorough soil and underground investigations led to unstable pads and roadways that shifted under the weight of production equipment. Landslides severely impacted the structural integrity of these pads, stalling operations until the sites could be stabilized again. Rettew was called on to investigate the cause of the slides, as well as re-engineer each well pad site to be stable in the future. Once the well pads were reconstructed with the right designs, operations could resume safely without fear of another slide.

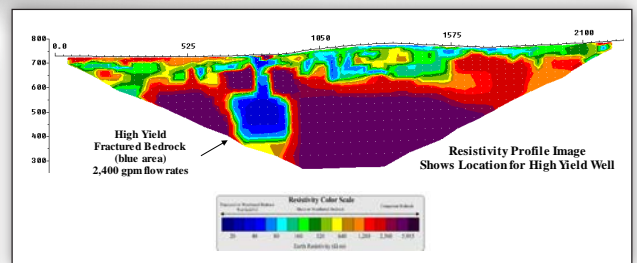
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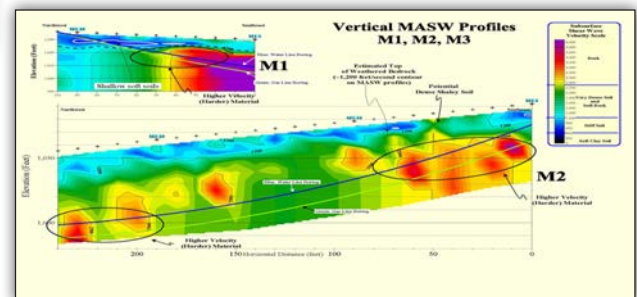
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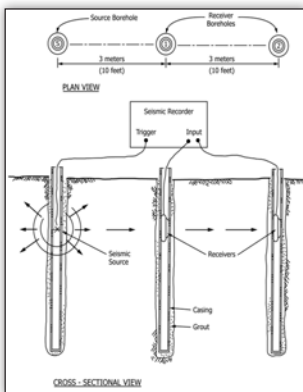
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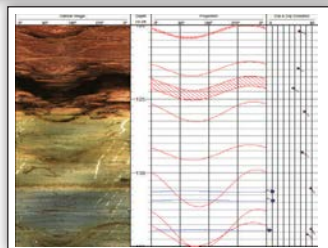


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The Recent Years: Punctuated Equilibrium (2012 to 2018)

RETTEW's geosciences group services have continued to expand sparked by the increase in natural gas and pipeline development. Each project and pipeline involves extensive routing work, including subsurface utility surveys, regulatory compliance assistance, geohazard investigation, landslide repair, baseline water sampling, and bedrock mapping.

In 2012, RETTEW designated a geographical information systems (GIS) group within the firm, providing detailed spatial mapping products, field data collection, and database services. In 2013, RETTEW formed its subsurface utility engineering group. These damage prevention specialists are experts in identifying and mapping underground utilities for all types of projects. In 2017, RETTEW formally established an environmental compliance sub-group, bringing on additional technical staff well-known for helping industrial and commercial companies maintain compliance with local, state, and federal regulations.

In 2018, RETTEW's geotechnical group officially became its own service area to provide program-level geotechnical consulting services and function seamlessly within RETTEW's integrated array of services. Also in 2018, RETTEW acquired a geophysical services firm (Enviroscan, Inc.) that specializes exclusively in non-intrusive, non-destructive geophysics including surface geophysics, marine search and survey geophysics, and borehole geophysics. This team works around the world on sites such as military bases, industrial facilities, archaeological sites, and commercial developments.

...relationships have been a defining factor in the group's growth and achievements.

Today: How RETTEW Arrived Here (2018)

As RETTEW's geologic and environmental consulting competencies have developed over the years, relationships have been a defining factor in the group's growth and achievements. Relationships with clients new and old, with industry specialists, with regulatory agencies, and mentoring within the growing geo-based service areas between senior and junior staff have allowed RETTEW to provide high-quality, cost-effective services that help the firm's projects succeed. As the department and internal teams grew – now at about 60 employees in 2018 – senior leaders have worked tirelessly to balance the fast-growing natural gas work with traditional,

existing environmental consulting services. RETTEW succeeded by hiring and retaining versatile staff and providing employee cross training in the services the groups provide to our varied clients.

Today, RETTEW's geoenvironmental, geotechnical, GIS and geophysical service areas in offices across Pennsylvania, Ohio, West Virginia, and Colorado continue to provide a wide array of earth science services to the firm's clients, and have helped solidify RETTEW's reputation in pipeline permitting/design/construction, oil and gas exploration and production, traditional industrial and commercial environmental consulting, and land development work.

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