PCPG Newsletter

Communicating Key Information & Concerns to Geologists and Environmental Professionals

Issue 4 / 2016

BOARD OF DIRECTORS

General Information: info@pcpg.org

INSIDE THIS ISSUE...

MESSAGE FROM THE PRESIDENT

Dear Membership,

It has been a productive and interesting year, to say the least. It has been a pleasure and an honor being your President and I welcome President-elect Dan Billman to take over the gavel. I'm not going to dwell on ethics, historical experience or anything else. This message is about an experience I recently had with my fellow board members and other members. Earlier this year we had a board meeting in Pittsburgh at the Carnegie Museum of Natural History. Mr. Albert Kollar, Geologist/Collection Manager gave the group a personal tour not only of the museum, but the basement research facilities and the sample storage areas as well.

I wanted to call to everyone's attention this amazing facility we have in Pennsylvania. I have lived in PA for many years, mostly Central and Eastern Pennsylvania. I never realized the amazing geological, historical and teaching venues we have right in our state. We have other venues across the state, but dare I say none with the continuous overall caliber of geologic exhibits. The Carnegie Museum has absolutely incredible geological displays and narratives, as well as current research activities. The minerals collections and displays have won awards. Everybody should make an effort to visit. Of course, there are many other non-geologic displays that are amazing, but given who we are I just focus on the geologically related. The Museum research staff are currently active in discovering new paleontological finds announced in January of this year:

> *"Scientists, including Carnegie paleontologist Matthew Lamanna, PhD, have discovered and described a new super-massive dinosaur species with the most complete skeleton ever found of its type. At 85 feet (26 m) long and weighing up to 65 tons (59,300 kg) in life, Dreadnoughtus schrani is the largest land animal for which a body mass can be accurately calculated."*

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CARNEGIE *Continued from Page 1*

The vertebrate paleontology is one of the stellar aspects. The fossil dinosaur below is an original find by Carnegie himself in the early 20th century in the Morrison formation in Wyoming.

Smaller displays of the vertebrates are once again so incredible I cannot express their significance.

The invertebrate collection is just as high caliber in its quality and display.

Included are a few of the fossils not on display in the main museum. Some of the basement collection we observed could have you lost for hours. I've never been so enthralled during a tour.

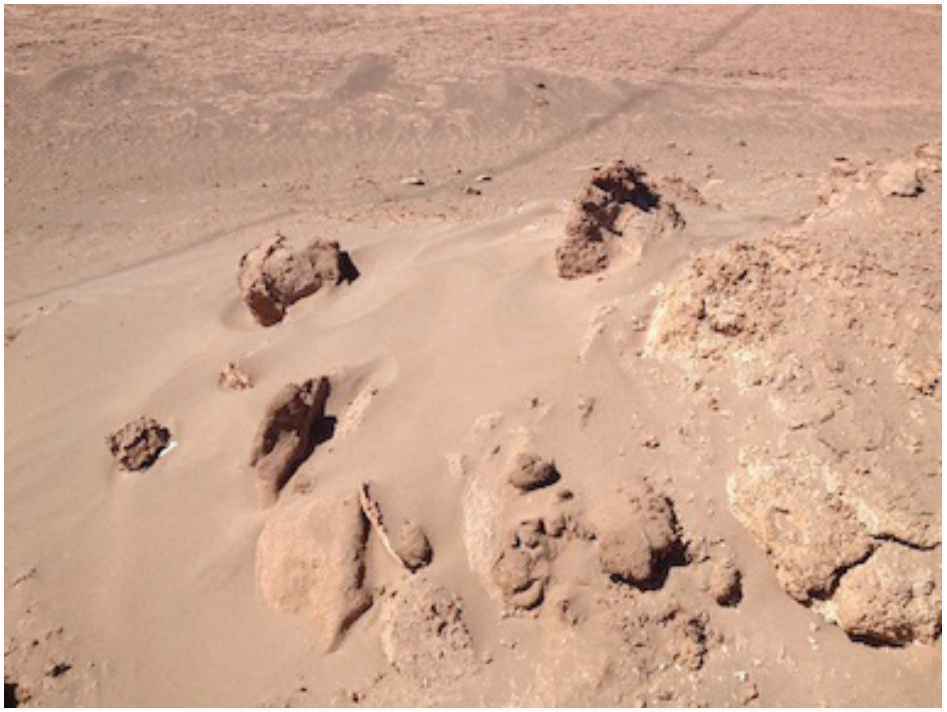
In summary, you should put a visit on your calendar for yourself and your family (http://www.carnegiemnh.org). It will be a worthwhile trip. Also, your organization donated $500.00 to the Carnegie Institute Pals Fund (Patrons and Lauradanae Supporters) which will be earmarked for the Section of Invertebrate Paleontology. Once again, it has been an honor to be PCPG president and serving with the board of directors and hope next year will be safe and productive for all.

Sincerely

Gary M.B Kribbs, P.G.
PCPG President

Inverted Channel Studies in the Atacama Desert of Chile

Jon C. Cawley, Ph.D.,
Smithsonian Center for Earth and Planetary Studies (CEPS)



The High Atacama Desert of Northern Chile ranks among the driest locations on Planet Earth. Tectonic uplift of the region during the Miocene set up a severe rain shadow effect which has continued until present day. As such, the Atacama makes an unusually perfect natural laboratory for the geomorphology of ultra-arid landscapes. In May, 2016, as part of my research geologist role with the Smithsonian (National Air and Space Museum) Center for Earth and Planetary Studies, I was privileged to join a field research group to explore some of the particulars of the salars and quebradas of the high Atacama.

Our group was composed of: Rebecca M. E. Williams (Planetary Science Institute), William E. Dietrich (Univ. California, Berkeley), Alan D. Howard (University of Virginia), Eldar Noe Dobrea (Planetary Science Institute), Ross P. Irwin III, and Jon C. Cawley (Center for Earth and Planetary Studies, Smithsonian Institution, National Air and Space Museum).

In particular, our six-person team was interested in the field survey of older, deflated inverted distributary channels and more recent, occasional mud flows. Because the landscape is so dry, local weathering and mass wasting outstrips all ability of precipitation to remove weathered material from the system. These sediments form dust and talus slopes in place, as well as aeolian features that partially obscure the rock, which has created them. Only occasionally does a local storm move sediment down the cliffs and semi-retired fluvial features into the high inland basins.

From the city of Iquique, the road turns sharply upward, gaining nearly two thousand feet of elevation in less than the first hour of driving. This coast was near to the epicenter of the huge 2014 Chilean earthquake. Much of the roadway along the cliffs here has been replaced and structurally strengthened. It takes several hours, then, to traverse the western fringe of the desert. Blue skies sport high wispy clouds that never rain. In the distance, mining companies dig and strip for nitrates, phosphates, and occasional metals. If you know where to look, the old Trans-Chilean railway, now long-abandoned, still stretches out to the horizon—a single track obscured in places by wind-blown dust.

The low cuts along the railroad grade make an interesting way to measure change in the landscape across a century timescale—bits of fallen rock have mass-wasted onto the track. Bits of broken pottery and wine bottles have begun to develop iridescence and fine layers of desert varnish.

Satellite photography of this region shows numerous, easily delineated distributary channels, inverted channels, and lobed sediment flows. Our field experience showed, in part, that the situation on the ground is far from simple, with the various channel forms and flows exhibiting much different structures and history which can only be determined from up-close ground reconnaissance.

Our first several days were spent surveying and sectioning several different inverted channels. These were meandering structures where a channel had occurred during considerably wetter former era. The channels had moved water and pea- to gravel-sized particles into a temporarily or more permanently flooded lowland. Active splays had flushed finer, more homogeneous muds into back swales between the main channels. In submerged pools within the channels, a “dragon-skin” texture of gypsum crystallization, or of massive halite, served to strengthen and solidify the structure of the channels. While quite different, subaerially exposed drying channel beds and sediments grew lumpy “pigeons” of halite, which also help to structurally harden the channel forms. Later, as the system became drier, deflation by wind removed vast amounts of the finer sediment from between the channels. The salt and gypsum-hardened channel forms, topped with somewhat larger, heavier gravel, remained as sinuous inverted channel rises.

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ATACAMA *Continued from Page 3*

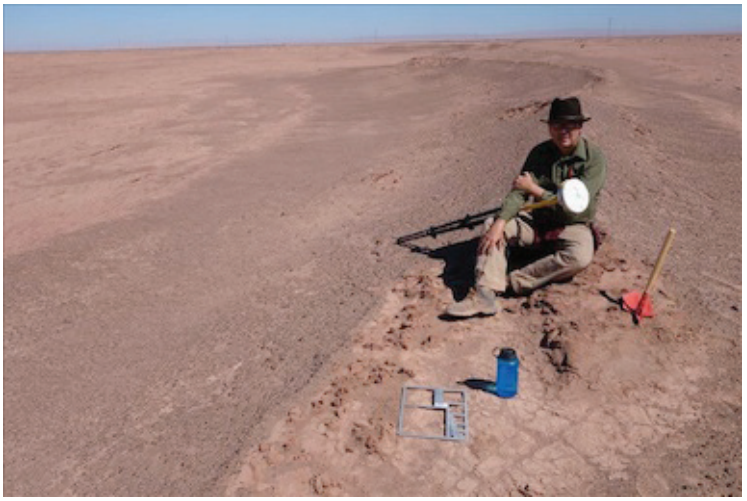
During the rare and occasional modern local canyon cloudburst, vast amounts of thin or more viscous mud spill out over large areas of the wide flat salars. These often nearly-frictionless mud-flows carry with them large boulders, which move forward until some threshold of friction is reached, and then they settle themselves to form channel-edge boulder levees, and oddly placed erratics, emplaced far from their points or origin. Such boulder levees help to control and define the remaining flow, and help determine the preferential path of subsequent flows.

On later days of our expedition, we had the chance to examine several of these sequential mud flows. Here, there were two very different "channel" forming processes that we could discern. The first are older flows and lobes that become preferentially armored with granules or clasts as they wind-deflate through time. The second are defined channels of more fluvial activity of sorts. Although we also determined that some or many of these channels seemed to have occurred late in the history of the flows, and were evidences of various kinds of late-stage dewatering conduits within or along the flow as well.

Bits of caramel-orange desert opal speak of the potential role of silica gels in the chemical weathering of silicates in such arid circumstances. Similarly, desert varnish, a surface expression of minerals dissolved in desert fogs, may preserve histories of climate change in layers as delicate as tree rings. Various clays, iron minerals and sulfates like gypsum give hints of groundwater weathering and diagenesis, hydration within the arid landscapes. The undersides of massive salt deposits harbor hermetic colonies of extremophile bacteria and algae. Such clues to chemical weathering, and such refugia for cryptic life become tools for scientific analysis of conditions that we could encounter on Mars or other planets.

Obviously the use of channels delineated from orbital data are a major resource for analysis and diagnostics of geomorphology of Martian terrains. Past studies have looked at fluvial features, drainage basins, channel networks and paleo-lakes. The inverted channels and mud flows of the High Atacama are fairly good Martian analogues, albeit analogues where you can actually do physical field reconnaissance. It is exciting to stand on a windswept arid desert basin and imagine it as a stand-in for Gale Crater or Noachis Terra. Photographs from the excursion definitely resemble dusty Martian landscapes. In a future PCPG newsletter article, I will attempt to describe some different ways that our observations from the recent Atacama trip might advise analysis of Martian craters and drainages.

Mudcracks



Performing field reconnaissance

Martian-like landscape

Affectionately known as Martian Crater Guy by friends and family, Dr. Cawley held Associate Professorship at Roanoke College for 15 years prior to transitioning to Smithsonian Air and Space. Contact by E-mailing drjoncawley@gmail.com.

Celebrating the Career of Rudy Slingerland, Ph.D.

By Rick Wardrop, P.G.

Source: Penn State Dept. of Geoscience Newsletter (2015-2016)

Rudy has been an incredibly productive faculty member in every dimension...

As a new graduate student at Penn State, I first met Dr. Rudy Slingerland in a course called "Appalachian Field Problems". The objective seemed relatively straight forward: ensure that every new graduate student at Penn State would be grounded in the geology of Pennsylvania and share a common knowledge of its most interesting problems. I soon came to realize that the course came with a bonus; that of spending time in the field with a fine geologist who situated our evolving knowledge in the context of the history of science. It did not take the class long to figure out that "Herr Slingerland" was quite serious about his geoscience, and that we were expected to approach our chosen field with the same respect, curiosity, intensity, and care. In those first days at Penn State, we weren't always happy with our instructor but quickly realized just how much we were learning

Rudy is one of three distinguished Penn State professors of geoscience who have, or will soon, retire from the prestigious program at University Park. He officially retired in June of 2015 but continues to help the Department as an instructor in mathematical modelling and field camp. He specializes in sedimentology, clastic stratigraphy, modelling of earth surface processes and geomorphology. The other two faculty are Michael Arthur (marine geology, geochemistry and paleoclimatology) and Terry Engelder (rock mechanics, structure, and black shale reservoirs) who will officially retire in June 2017. Rudy and his colleagues are part of the old guard of faculty at Penn State who effectively contributed to society by mentoring hundreds of geoscientists practicing in Pennsylvania and around the world.

Rudy is born, bred, educated, practicing, and now retired, in Pennsylvania. He came from a family farm in Troy to obtain a bachelor's degree in geology from Dickinson College. From 1969 to 1971 he served his country in the Vietnam conflict as a member of the Navy Mobile Construction Battalion, or "Seabees". Following his military service Rudy matriculated at Penn State under storied stratigrapher Gene Williams and received his Ph. D. in 1977. Rudy accomplished the highly unusual feat of being hired as a faculty member by his graduate school department and has been a member of Penn State's geoscience faculty for the past 45 years. He served as Department head from 1997 to 2002 and as interim dean for graduate education and research in 2003. He also served on a number of college and department committees and taught a variety of courses, including many field camps, mostly out of Red Lodge, Montana.

Over his career Rudy has been an incredibly productive faculty member in every dimension, supervising 13 Ph.D. students, 22 M.S. students, as well as a large number of senior thesis projects. He has authored more than 70 publications in refereed journals and contributed to nearly 40 books and book chapters. His contributions to research have been recognized with a number of honors including American Geophysical Union (AGU) Fellow, Geological Society of America Fellow, the G. K. Gilbert Award in Surface Processes from AGU's Earth and Planetary Surface Processes Focus Group, and the National Science Foundation's MARGINS Distinguished Lecturer. In 2005 Rudy received Penn State's College of Earth and Mineral Sciences Wilson Research, Service, and Teaching Award. He has informally mentored department heads and many early career faculty. In 2013, one of his former graduate students, Roland P. Sauermann and his wife, Debra C.

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PCPG's Government Affairs Committee (GAC) Update

Mark Ioos, P.G. (Skelly & Loy)

2015-2016 Legislative Session Comes to a Close

The election is over. No more political advertisements (hurray!). Both the House and the Senate finished up their last full day in session on October 26th, 2016. The 2015-2016 legislative session ends on December 31st, 2016. Bills that are not moved out of the legislature and signed by the Governor by this date expire will have to be re-introduced (i.e., start the legislative process over) in the 2017-2018 session. For you legislative junkies, activities in Harrisburg begin anew on January 3, 2017, when the House and Senate formally organize and select leaders and, later in January, name committee chairs.

The GAC follows legislative action in both the House and Senate. The following bills of interest to geologists are being tracked. A more inclusive list of current bills is included on PCPG's website, under Government Affairs, and clicking on "Members-Only content". The bills listed below are the only ones where legislative activity has occurred since the last update in September 2016.

House

- **Environmental Resources & Energy Committee**

HB 577 - Potomac River Basin Commission; Introduction of new legislation that provides for a General Assembly member of the Interstate Commission on the Potomac River Basin to have a designee with voting rights. Proposed legislation submitted on February 23, 2015. Third consideration and final passage, April 4, 2016 (189-0). In the Senate, Referred to ENVIRONMENTAL RESOURCES AND ENERGY, April 12, 2016,; Re-reported as committed from APPROPRIATIONS, Oct. 25, 2016. **Died in Committee**.

HB 1895 - Storage Tank Indemnification Board. New legislation amending the 1989 Storage Tank and Spill Prevention Act to address a vacancy within the makeup of the Underground Storage Tank Indemnification Board. Referred on March 14, 2016 [House]; Reported as amended from ENVIRONMENTAL RESOURCES AND ENERGY, March 16, 2016; Third consideration and final passage, April 4, 2016 (189-0); In the Senate, Referred to BANKING AND INSURANCE, April 12, 2016; Re-reported as committed from APPROPRIATIONS, Oct. 26, 2016. **Died in Committee**.

HB 2343 - Re-designation of Steel Slag; New legislation to eliminate the waste designation for steel slag when it is being sold in the stream of commerce and is not a discarded material. Referred to ENVIRONMENTAL RESOURCES AND ENERGY, Sept. 19, 2016 [House]. **Died in Committee**.

HB 2366 - Unconventional Gas well Location Restrictions: new legislation would amend Section 3215 of Title 58 to prohibit the drilling of unconventional gas wells within 4,000 feet of any existing dam or reservoir and 2,000 feet within an existing water well, surface water intake, or water supply extraction point. Referred to ENVIRONMENTAL RESOURCES AND ENERGY, Sept. 23, 2016 [House]. **Died in Committee**.

HB 2368 - Marcellus Shale Legacy Fund. Beginning with fees collected in 2017, 1% of the fees collected under section 2315 shall be deposited in the Marcellus Shale Legacy Fund use to mitigate environmental damage caused by pipelines in cities of the first class. Referred to ENVIRONMENTAL RESOURCES AND ENERGY, Sept. 23, 2016 [House]. **Died in Committee**.

HB 2403 - Restoring the riparian buffer waiver process. Based upon provision originally included in the Clean Streams Law (Act 162 passed in 2014), the proposed legislation would allow the use of alternative BMPs by developers. Referred to ENVIRONMENTAL RESOURCES AND ENERGY, Oct. 17, 2016 [House]. **Died in Committee**.

HB 2431 - Updating Environmental Standards for Drinking Water - New legislation for the establishment of the acceptable standards of perfluorooctanoic acid (PFOA) and perfluorooctane sulfonate (PFOS) in drinking water. Referred to ENVIRONMENTAL RESOURCES AND ENERGY, Oct. 26, 2016 [House]. **Died in Committee**.

- **Professional Licensure committee**

HB 1704 - Engineer, Land Surveyor and Geologist Registration Law – Amendment; New legislation that amends the Engineer, Land Surveyor and Geologist Registration Law. The legislation makes a number of changes to current exemptions and cleans up some loose continuing education language. This is similar to a bill (HB 1253) introduced earlier this session that removed an exemption commonly referred to as the "industrial exemption". This new bill drops that change. This bill also replaces antiquated terms like "correspondence courses" and "tutorials" with "distance learning". The intent is to strengthen the integrity of the continuing education requirements for licensees under this act. Referred on Nov. 16, 2015 [House]; Reported as amended from PROFESSIONAL LICENSURE, March 16, 2016; Third consideration and final passage, May 18, 2016 (187-3); In the Senate: Referred to CONSUMER PROTECTION AND PROFESSIONAL LICENSURE, May 26, 2016; Re-reported as committed from APPROPRIATIONS, Oct. 26, 2016. **Died in Committee**.

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Member Spotlight: Groundwater Sciences Corporation

GROUNDWATER SCIENCES CORPORATION

Founded in 1987, Groundwater Sciences Corporation (GSC) is an employee-owned environmental consulting firm that specializes in characterizing and remediating contaminated groundwater and soil, developing and permitting public water supplies, and providing geoscience advice. Our principal office is located in Harrisburg, Pennsylvania and is supported by fully-staffed offices in Vestal, New York and Beacon, New York.

Our team of professionals has expertise in geology, hydrogeology, contaminant hydrology, chemical engineering, mechanical engineering, hydrogeochemistry, database management, and the design, construction, and operation of soil and groundwater remediation systems. Our consultants serve on the CSSAB and its subcommittees and work groups, including vapor intrusion, Technical Guidance Manual revision, and the SPL Maximum Extent Practicable guidance revision. Our field services team is experienced in groundwater sampling, monitoring well and pump maintenance, and site restoration. When necessary, these services are supplemented by contractors and professionals in other disciplines.

Our team of professionals has provided environmental consulting services to industrial, commercial, municipal, and legal professional clients at sites across the United States, Canada, Mexico, South America, Europe, and Asia. Our clients range from small real estate developers to some of the largest industrial manufacturing corporations in the world. Our goal is to provide responsive and exceptional consulting services cost-effectively to every client, regardless of project size or complexity.

The majority of our services in the Mid-Atlantic region are performed at Brownfields, leaking underground storage tank (UST), CERCLA, and RCRA sites. Our primary service areas include: remedial investigations/feasibility studies; design, installation, and operation and maintenance of remedial systems; long-term monitoring; regulatory compliance; and litigation support. We take pride in our ability to retain employees; nearly half of our staff has been with GSC for at least 15 years, and more than 25% of our staff has been with us for over 20 years. We also take pride in our ability to retain clients, with the majority of our work each year generated from repeat clients. GSC's commitment to client service and technical excellence is predicated on the involvement of senior project managers and principals, many of whom who have known each other and collaborated on projects for more than two decades. In particular, the significant years of experience by GSC managers and principals allows for more efficient design and implementation of investigations and feasibility studies, innovative design of remedial systems with a focus on reduction in long-term O&M labor and expenses, efficient interaction with clients, and positive interactions with regulatory agencies based on mutual understanding, respect and trust.

For more information, please contact GSC at (717) 652-6832 or via e-mail: info@groundwatersciences.com. Check out our website at www.groundwatersciences.com.

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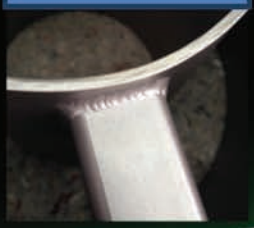

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SLINGERLAND *Continued from Page 5*

Sauermann, created the Slingerland Early Career Professorship to honor Rudy for his work as a scientist, educator, and mentor.

Not only has he been an excellent educator and researcher, but he has had a substantial role in shaping his field. Rudy has played a critical role in bringing sedimentary geology into a new quantitative era in which prediction and hypothesis testing build upon descriptive interpretation. Rudy's quantitative rigor has been highlighted in several well regarded texts including "Simulating Clastic Sedimentary Basins," written with John Harbaugh and Kevin Furlong (1994), and more recently "Mathematical Modeling of Earth's Dynamical Systems: A Primer," co-authored with Lee Kump (2011).

Rudy's outside interests demonstrate the same commitment, thoughtfulness, and attention to both craft and artistry as his science, so I would be remiss not to mention some of them, as well. He was a founding member of the Geohabs (a Department of Geosciences intramural ice hockey team) and was skating for the club well into his 60s. He demonstrates considerable skill playing the piano, and his wood working expertise is the envy of many. He built his own wooden sail boat and is now working on his second antique wooden Chris Craft™ touring boat restoration project. Each of these endeavors seems to receive the same care and attention to detail he gave his students. On behalf of all geoscientists, touched by your talents, a heartfelt thank-you to Rudy Slingerland!

Ref. M. A. Arthur (2016), Rudy L. Slingerland: Thinker, Sailor, Bolder, Wry and, in Penn State Department of Geosciences Newsletter 2015-2016. http://www.geosc.psu.edu/sites/default/files/geosciences2015.pdf.

1962 Chris Craft prior to restoration.
Photo by R. Wardrop

1962 Chris Craft post restoration.
Photo by R. Wardrop

Photo by R. Wardrop

GAC UPDATE *Continued from Page 6*

- **Consumer Affairs committee**

HB 48 – Water Well Construction Standards; proposed legislation submitted on January 21, 2015, Public hearing was held on May 12, 2015. Passed Committee Vote (26-0-1) on June 24, 2015. New printer number PN 1884. Laid on the table, Nov. 30, 2015; Removed from table, Nov. 30, 2015; Laid on the table, Dec. 17, 2015; Removed from table, Dec. 17, 2015; Laid on the table, Feb. 8, 2016. **Died in Committee**.

HB 2114 - Pennsylvania Water Resource Act, new legislation to register extraordinary nonagriculture and nonmunicipal water users and impose a water resource fee for water users; Referred to CONSUMER AFFAIRS, June 27, 2016. **Died in Committee**.

HB 2308 - PA One Call Law, Introduction of legislation to reauthorize the Underground Utility Line Protection Law; Referred to CONSUMER AFFAIRS, Sept. 1, 2016; Re-reported as committed from APPROPRIATIONS, Sept. 27, 2016. **Died in Committee**.

- **Labor and Industry**

HB 430 - Mechanics' Lien Law of 1963; Reintroduction of legislation expanding Pennsylvania's Mechanic Lien Laws to add design professionals as a group that would be able to place a lien on a property if they are not paid for their work. Proposed legislation submitted on February 10, 2015. No Action. **Died in Committee**.

Senate

- **Environmental Resources & Energy committee**

SB 1374 - Funding the Growing Greener III program; New legislation that represents a proposal that will provide $315 million in annual investments for environmental conservation, recreation, and preservation projects to support the Growing Greener III program. Referred to ENVIRONMENTAL RESOURCES AND ENERGY, Sept. 28, 2016 [Senate]. **Died in Committee**.

Continued on Page 11

GAC UPDATE *Continued from Page 10*

SB 1377 - Re-designation of Steel Slag; Introduction of new legislation to eliminate the waste designation for steel slag when it is being sold in the stream of commerce and is not a discarded material; Referred to ENVIRONMENTAL RESOURCES AND ENERGY, Oct. 12, 2016 [Senate]. **Died in Committee**.
SB 1401 - Water Quality Improvement Act - New legislation to impose fees on commercial business that withdraws more than 10,000 gallons of water a day from the waters of this Commonwealth. Requires users to report average daily and annual withdraws to the PADEP. Referred to ENVIRONMENTAL RESOURCES AND ENERGY, Oct. 26, 2016 [Senate]. **Died in Committee**.
SR 385 - A Resolution directing the Joint State Government Commission to conduct a study to analyze and identify which environmental laws and regulations of this Commonwealth have more stringent standards than Federal law requires; Referred to Senate on June 6, 2016. Reported as amended from ENVIRONMENTAL RESOURCES AND ENERGY, Sept. 27, 2016; Adopted, Oct. 18, 2016 (27-21); Transmitted as directed, Oct. 24, 2016. **Died in Committee**.

- **Consumer Protection and Professional Licensure committee**

SB 845 – Licensure of Soil Scientists; proposed legislation submitted on May 20, 2015. No Action. **Died in Committee**.
SB 1235 - Updates to the Pennsylvania One Call Law - New legislation amending the Underground Utility Line Protection Act, which governs the Pennsylvania One Call System. Reported as amended from CONSUMER PROTECTION AND PROFESSIONAL LICENSURE. Signed in Senate, Oct. 26, 2016; Signed in House, Oct. 26, 2016 Presented to the Governor, Oct. 27, 2016; Approved by the Governor, Nov. 4, 2016; Act No. 160.
SB 1374 - Funding the Growing Greener III program; New legislation that represents a proposal that will provide $315 million in annual investments for environmental conservation, recreation, and preservation projects to support the Growing Greener III program. Referred to ENVIRONMENTAL RESOURCES AND ENERGY, Sept. 28, 2016 [Senate]. **Died in Committee**.
SB 1377 - Re-designation of Steel Slag; Introduction of new legislation to eliminate the waste designation for steel slag when it is being sold in the stream of commerce and is not a discarded material; Referred to ENVIRONMENTAL RESOURCES AND ENERGY, Oct. 12, 2016 [Senate]. **Died in Committee**.

State of Pennsylvania - Post Election Fallout

Veto-Proof - State Senate Republicans already had a commanding majority in the chamber, but on Tuesday, November 8th, 2016 they secured a veto-proof majority. All told, Republicans now dominate the Senate by a 34-16 margin – meaning, they have the ability to guarantee that their chamber can override any of Governor Wolf's vetoes. Will this new arrangement lead to gridlock, or compromise? Only time will tell.
State House in Even Stronger Republican Hands - Similar to the gains in the Senate, the state House boosted its own Republican numbers on Tuesday November 8th, 2016, by picking up four seats and losing one to create a 122-81 majority going into the 2017-18 session.

What can we expect in the 2017-18 legislative session? - With strong Republican (conservative) gains in the Senate and House, there may be less impetus to push through environmental regulations such as the water well construction standards. Certainly, there will be fewer regulatory changes that should benefit the Oil & Gas and Mining industries (Ying and Yang).

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GAC UPDATE *Continued from Page 11*

Possible Water Use Fees - Water withdrawn from Commonwealth waterways in excess of 10,000 gallons a day is currently required to be reported to the Pennsylvania Department of Environmental Protection (PADEP). House Bill 2114 (HB 2114) would result in a charge of 1/100th of a cent per gallon if water is withdrawn for use and eventually returned to the source. Water withdrawn and not returned beyond 10,000 gallons a day would be charged 1/10th of a cent per gallon. Based on such charges, the water resource use fee would be levied on 4.4 billion gallons of daily water withdrawals in Pennsylvania, potentially to generating $245 million annually. Revenue generated from House Bill 2114 would be used to fund water-related programs and general governmental operations in the PADEP ($30 million), Department of Conservation and Natural Resources ($25 million), and Fish and Boat Commission ($5 million). The remaining dollars would be used to fund water-related projects within Pennsylvania's six major watersheds.

In June 2016, Representative Garth Everett (R-Lycoming) introduced a bipartisan resolution—House Resolution 908 (HR 908) calling for a study of a new water use fee to fund water quality improvement programs. This resolution directs the Legislative Budget and Finance Committee to conduct a study of the establishment, implementation, and administration of fees for the consumptive use and the use and return of "waters of the Commonwealth" by industrial and commercial users.

In October 2016 the SB 1401 Water Quality Improvement Act was added to the docket. This bill is similar to House Bill 2114 (HB 2114) imposing water use fees for generating revues to pay for water quality improvement programs (specifically the Chesapeake Bay). Although SB 1401 will not be passed in the 2015-2016 legislative session, its submission late in the current legislative session suggests that Senate like the House is considering means for funding water quality programs in the Commonwealth.

SRBC Proposes Consumptive Use Mitigation Regulations

On September 21st, 2016, the Susquehanna River Basin Commission (SRBC) released a proposed rulemaking to amend its regulations, which includes the release of a consumptive water use mitigation policy. The amendments include application requirements and standards for the review of regulatory projects, modifying the rules dealing with the mitigation of consumptive water use, providing for the registration of grandfathered projects, and revising requirements for hearings and enforcement actions. Click Here for copies of the proposed regulation changes, mitigation policy and other supplementary information on the proposal. Written comments on the mitigation policy may be submitted on or before January 6, 2017. Click Here to submit comments online.

New Regulations of Shale Drilling Take Effect - Chapter 78 Update

The new Chapter 78 regulations regarding unconventional gas drilling were published in the October 8, 2016 edition of the Pennsylvania Bulletin and become effective upon publication. The new rules regulate unconventional drilling practices and hydraulic fracturing, as well as related activities. The new rules, have been under development since 2011, and are the first modernization of the Commonwealth's oil and gas surface regulations since the implementation of new horizontal drilling and hydraulic fracturing techniques to capture natural gas from Pennsylvania's shale deposits. The PADEP worked extensively with the natural gas industry to prepare for smooth adoption of the new requirements, which were focused on protecting Pennsylvania's air, water, natural resources, as well as the health of residents.

Hold on Partner - On November 8th, 2016, a judge put a temporary hold on select new rules for Marcellus Shale drilling operations until a court can consider the merits of an industry group's challenge to the new regulations which became effective a month earlier. Specifically, the judge curtailed new rules related to public resource protections, large fluid holding ponds, well site restoration standards, and monitoring for underground hazards around fracking operations. The judge decided that some aspects of the rules might exceed regulators' authority to impose them and that the costs of complying with those provisions now would cause the industry irreparable harm if the sections are later found to be invalid. The Commonwealth Court will now consider the merits of the case, but it has not yet published a briefing or argument schedule. To read more, please see the following link: http://powersource.post-gazette.com/powersource/policy-powersource/2016/11/08/Judge-puts-hold-on-some-new-Pennsylvania-marcellus-shale-drilling-rules/stories/201611080176.

Final Vapor Intrusion Guidance Document

In the November 19th, 2016 edition of the Pennsylvania Bulletin, the PADEP published notice of final technical guidance on Land Recycling Program Vapor Intrusion Into Buildings From Groundwater and Soil under Act 2 (DEP ID: 261-0300-101). The Land Recycling Program Vapor Intrusion (VI) Guidance has been substantially revised to update scientific deficiencies of the current guidance. Screening values and the way they are calculated have been updated and there are multiple clarifications that have been made to language, definitions and procedures. A copy of the final guidance and the comment and response document can be found at the following link: http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-8454.

To update professionals on the new VI Guidance document, the PCPG is offering three training classes (two in December 2016 and one in January 2017). Please see the following link for finding out more about these training classes: http://pcpg.org/page-615951.

DEADLINE FOR OUR NEXT NEWSLETTER IS FEBRUARY 20, 2017

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

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Upcoming Events

January 10, 2017
Vapor Intrusion (VI) Guidance Training
PSU Great Valley
Malvern, PA
http://pcpg.org/event-2359837

February 2-3, 2017
PG Review Course for the Practicing Geologist and ASBOG Exam Candidate
Pittsburgh Marriott North
Cranberry Township, PA
http://pcpg.org/event-2386727

March 7, 2017
PCPG Annual Meeting
Red Lion Hotel
Harrisburg, PA
http://pcpg.org/event-2278185

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

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