

"The best geologist is one who has seen the most rocks."
H.H Read, FRS, 1940

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2016 Summer Newsletter

Recap of SEGS Mosaic Phosphate Mine Field Trip

On July 30, 2016, the SEGS hosted a field trip to the Mosaic Company's South Pasture Mine in Bowling Green, Florida to examine the geology and observe mining operations. The field trip was well attended. We had 29 enthusiastic SEGS members and 3 Mosaic representatives. The group gathered for a dinner meeting in Lakeland the evening before the field trip. We were enlightened with presentations by Peter Karashay, geologist with the South Pasture Mine, Ravi Nalamothu, P.E. with HSW Engineering, and Sam Upchurch, P.G., Ph.D. The field trip was led by Tom Scott, P.G., Ph.D. and Peter Karashay, and included tours of dragline excavations, washer pits, oversize piles, settling ponds, beneficiation systems consisting



Dragline at the Mosaic South Pasture mine

of flotation and chemical processes, and land restoration/reclamation, including a mature 32-year-old cypress wetland. Participants were also allowed to search for fossils amid processed debris piles. Fossils encountered included Miocene and Pliocene-age vertebrates and invertebrates of terrestrial and marine origin. Typical specimens include material from large sharks, dugongs, marine mammals (whales), crustaceans, echinoids, fossilized wood, horses, elephants, stingrays, and mollusks.

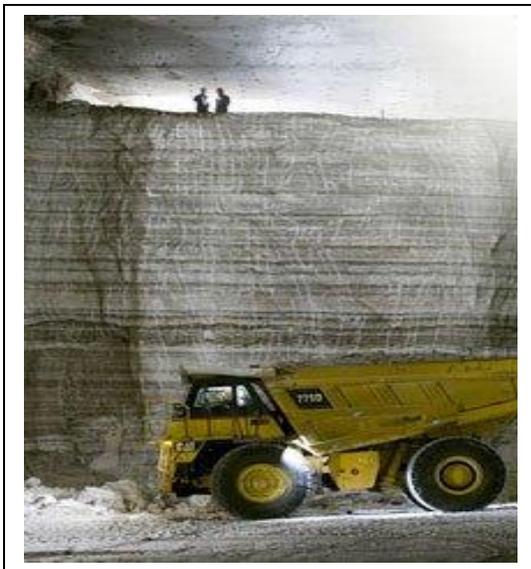


The SEGS is extremely grateful to the Mosaic Company for allowing the SEGS to tour their facility.

SEGS Schedules Next Field Trip for October

Cote Blanche Island, Salt Dome Mine (Underground): Salt Diapirism and Geology of the Louann Salt (Jurassic) St. Mary Parish, Louisiana October 13-14, 2016

The SEGS Field Trip Committee, led by Clint Noble, P.G., has organized a field trip to examine the spectacular subsurface geology of the Cote Blanche Island Salt Dome Mine, located south of Lafayette and Baton Rouge, on the Louisiana coast. Here, several “islands” (including nearby Avery Island, home of the world famous Tabasco Pepper Sauce Factory) have emerged from the coastal marsh as a result of the intrusion of subsurface salt diapirs. The salt is the Jurassic Louann Salt, a massive evaporite formation in the western Gulf, deposited in the young Gulf of Mexico Basin during the initial rifting phase of the breakup of the Pangaeon supercontinent. Later burial of the salt by thick Mesozoic and Cenozoic sediments mobilized the salt, forming a great variety of intrusive salt structures, especially the



Salt truck at the Cote Blanche Island mine

petroleum-trapping salt domes. More than 500 salt domes are known from the northern Gulf Coast. Some of the coastal and inland domes that nearly reached the surface have been mined for salt. Participants may collect beautiful, large halite crystals, sylvite, and other minerals in the mine, which is entirely underground. The Louann Salt is nowhere exposed in outcrop. Cote Blanche Salt Dome has been mined since the 1960's, but has only rarely been accessible to geologists. This is indeed an exceptionally unique field opportunity for SEGS members!

A technical presentation on the mine will be given on Thursday October 13 in New Iberia, LA. The actual field trip will occur on Friday October 14. Please stay tuned for additional details.

Introducing Our New Treasurer Andy Lawn

We would like to announce that Andy Lawn, P.G. has been elected by your SEGS Executive Committee as Treasurer. Andy previously served as Vice President and President for the SEGS in 2010 and 2011, with notable field trips to the Dry Tortugas in 2011 and the Cody Scarp (his thesis area) in 2014. Upon moving to Tallahassee to start another branch office for HSW Engineering, Andy took over for Harley Means, who served as Treasurer for many years. We welcome Andy back and thank Harley for his years of service to the SEGS.



SEGS is an entirely volunteer-driven organization that depends on the efforts of the Executive and other committees to conduct the organization's business, including planning and implementing field trips, usually to areas inaccessible to the public. Please consider volunteering for a committee. Any assistance is greatly appreciated. Reach out to any of our committee members for additional information; serving is fun, rewarding, and a great resume builder!

PRESIDENTS MESSAGE

Hello members,

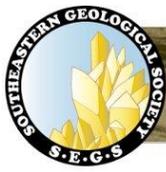
The SEGS continues to organize and lead topical, informative, and fun field trips that have been very well received by the participants. Look out for more information regarding the upcoming trip to Louisiana. We have had two field trips this year that were very interesting with one more outstanding trip coming up in October. The Everglades trip in February and the South Pasture Phosphate Mine trip in July were very well attended. During the Friday night dinner meeting preceding the Everglades field trip, Dr. Hal Wanless, a professor at University of Miami, provided an informative presentation on global warming with very real evidence of the impacts occurring to South Florida. The South Pasture Mine trip provided a good view of modern day phosphate mining. Additionally, we had the Mosaic employees detailing the exhaustive restoration efforts by Mosaic Corporation to bring mined areas back to original or improved conditions. Look elsewhere in this newsletter for information regarding our upcoming field trip into a Louisiana salt mine.

Organizationally, we've been working to update our operations in order to continue to serve our membership. Due to the increased demands of his "day job" Harley Means resigned his position as SEGS Treasurer – after years of dedicated service – and Andy Lawn has volunteered to serve as our treasurer. We've initiated a plan to update and upgrade our website such that our guidebooks and newsletters are more accessible. We're constantly updating our membership lists in order to resolve communications problems that unfortunately plagued some of our members. And, we strive to be transparent with our bookkeeping by including financial statements in at least one of our dinner meetings every year. All of these initiatives were undertaken to address comments and feedback that we've received from our members over the past couple of years so please – keep them coming. I'm confident that the new officers will work to address them and in so doing continue to improve our organization.

As we move forward, we're adding new objectives that I'm confident will broaden and strengthen our organization. The SEGS board is working to create a scholarship for college students in the southeast that intend to major in geology. This initiative is in the formulation stage so look for more details as we move forward. The nucleus of a Scholarship Committee has formed so if you have any expertise or interest organizing scholarships, please contact one of the SEGS board members.

A big Thank You! to Harley Means for his dedication to SEGS and the geology community in Florida. Additionally, I'd personally like to thank my fellow officers, the field trip organizers, and all the volunteers that have helped SEGS consistently meet that goal. Thank you all. For those of you who haven't had an opportunity to lead a trip yet, please consider it. We can all benefit from your knowledge and experience.

Thanks and see you in the field,
Bryan Carrick, P.G., SEGS President



GCAGS Annual Convention Scheduled for September

As you may know, the SEGS is affiliated with The Gulf Coast Association of Geological Societies (GCAGS) along with the following geological groups:

- Alabama Geological Society
- Asociacion Mexicana de Geologos
- Austin Geological Society
- Baton Rouge Geological Society
- Corpus Christie Geological Society
- East Texas Geological Society
- Houston Geological Society
- Lafayette Geological Society
- Mississippi Geological Society
- New Orleans Geological Society
- Shreveport Geological Society
- South Texas Geological Society

The GCAGS is hosting its 66th Annual Convention in Corpus Christi, Texas in September. They will convene with the Gulf Coast Section of the SEPM (Society for Sedimentary Geology). The theme for 2016 is “**Looking Back – Thinking Forward**”, which was developed with the thought that there is little new oil being made, but with technology, innovation, and luck, we are looking at older, once disregarded fields and making a future that will lead to America’s energy independence. The GCAGS has prepared an exciting technical program with over 110 oral and 60 poster presentations planned. There will be four outstanding short courses, four field trips, a K–12 teacher training, and more.

AIPG Annual Conference Scheduled for September

This year, the 53rd meeting of the American Institute of Professional Geologists National Conference is being held in the beautiful and historic city of Santa Fe, New Mexico. Set aside September 10th to the 13th to attend this year’s conference, “**New Mexico: Land of Geologic Confluences and Cultural Crossroads**”. The New Mexico section is co-hosting the event and are delighted to host and show off our enchanting land. It’s an exciting time for geologists as we are continuously challenged to work with economic resources and environmental responsibilities inherent to our profession. As always, our national conferences provide opportunities to learn from knowledgeable speakers and one another’s experiences. The AIPG planning committee has been working to organize several field trips and tours. The geologically dynamic landscapes of northern and central New Mexico include the unique rift valley of the Rio Grande, stretching from southern Colorado to Chihuahua, Mexico. The confluence of three geologic provinces, the Colorado Plateau, the Basin and Range and the Southern Rocky Mountains has left wonderful landscapes and exciting geology. Field trips include the Valles Caldera, Ghost Ranch, Taos Pueblo, Sandia Crest, and several other tours that will be available for you to experience these unique and rich crossroads.



AIPG Election Result for New Officers

Elected officers for 2017

- AIPG National 2017 President Elect (2018 President) — Doug Bartlett, CPG, Arizona
- AIPG National 2017 Vice President — Matt Rhoades, CPG, New Mexico
- AIPG National 2017 & 2018 Treasurer — Jim Burnell, CPG, Colorado
- AIPG National 2017 & 2018 Editor — John Berry, CPG, Texas

Incumbent officers for 2017

- AIPG National 2017 President — Adam Heft, CPG, Michigan
- AIPG National 2017 Past-President — Helen Hickman, CPG, Florida
- AIPG 2016 & 2017 National Secretary — Keri Nutter, CPG, Alaska

The four Advisory Board Delegates will be elected on Sept. 10, at the Advisory Board Meeting in Santa Fe, New Mexico.

Legislative Update

*Provided by: Philip L. Leary, AICP, Principal, Leary Governmental Affairs
(Courtesy of Florida Association of Professional Geologists (FAPG))*

With the end of the 2016 legislative session, the House and Senate passed several bills important to FAPG's priorities and mission, including a budget that will strongly fund environmental clean-up programs and cut taxes. On your behalf I worked closely with legislators and business groups to pass good, sound policy that will help strengthen our industry, protect ground water resources, lower taxes, and reduce regulation. **And very importantly, we defeated legislation that would have eliminated the Professional Geology Firm's "Certificate of Authorization" and maintained our parity with professional engineering firms.**

The following are final actions on bills and the 2016-17 Budget **Legislature Passes \$82.3 Billion Budget**

After the budget was presented to lawmakers on Tuesday and the mandatory 72-hour "cooling off period" was complete, the Legislature passed the state's \$82.3 billion budget for the 2016-2017 fiscal year. Next year's budget marks a nearly \$3 billion increase from this year's budget.

After extensive debate last Thursday and Friday, the budget passed both chambers with overwhelming bipartisan support. Several termed-out Democrats voted in support of the budget for the first time in their 8 years in office. The \$82.3 billion plan surpasses what was first proposed by both the House and Senate. The House's original proposal was under \$80 billion and the Senate's was just under \$82 billion.

The biggest story on this year's budget deal is what's not in it. The budget does not include either of Gov. Rick Scott's top priorities: a \$1 billion tax cut and \$250 million in Enterprise Florida funding to help recruit new businesses to the state. These missing items loom large as we move into "veto season," where Gov. Scott has the final say on whether or not to approve the budget.

Amendment 1 Dollars Directed to Environmental Projects

Despite objections from the environmental community and former Gov. Bob Graham, the Legislature again rightfully



allocated Amendment 1 funds to water projects and environmental protection and restoration instead of spending money on unnecessary land acquisition.

Amendment 1, passed in 2014, allocates 33 percent of documentary stamp tax revenues to water and land conservation. For the 2016-2017 fiscal year, more than \$930 million is available for Amendment 1 spending, nearly \$200 million more than last year.

This year's budget includes \$92 million for land conservation, including \$35 million for conservation payments to agricultural landowners, \$27.7 million for Everglades land acquisition and \$15.2 million for Florida Forever. The rest of the funds are directed at specific water and environmental projects and land management, including \$144.5 million for environmental site clean-up as follows:

Environmental Site Clean-up Funding

\$118 million for Petroleum Tank Cleanup Program

\$8.5 million for Dry Cleaning Site Cleanup Program (\$2 million dollar increase from 2015)

\$17 million for Local Government Cleanup contracting (\$7 million increase from 2015)

\$1 million for State Lands Contaminated Site Cleanup

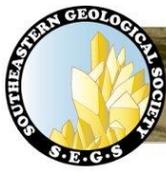
SB 1052/HB1187 Regulated Professions and Occupations: Revises DBPR's responsibilities & duties; revises provisions relating to licensure, certification, & regulation of yacht & ship brokers, labor organizations & labor business agents, talent agencies, athlete agents, asbestos consultants & contractors; veterinary acupuncture & veterinary massage, hair wrapping, body wrapping & nail polish applying, electrical & alarm system contractors; architects, interior designers, landscape architects, & professional geologists. **HB 1187 passed out of the full House 116-2 (with no geologist amendment) and the full Senate. It was amended on to HB 557 passed and signed by Governor.**

SB 100/HB 697 Petroleum Restoration Program (Sen. Wilton Simpson and Rep. Jamie grant) Revising the eligibility requirements of the Abandoned Tank Restoration Program; deleting provisions prohibiting the relief of liability for persons who acquired title after a certain date; revising the conditions for eligibility and methods for payment of costs for the low-risk site initiative; revising the eligibility requirements for receiving rehabilitation funding; reducing the number of sites that may be proposed for certain advanced cleanup applications, etc. **Both the Senate and House passed the Senate Bill and the bill was signed into law by the Governor.**

SB 92/HB 351 Contaminated Sites (Sen. Greg Evers/Rep. Brad Drake) Contaminated Sites; Defining the terms "background concentration" and "long-term natural attenuation"; requiring the Department of Environmental Protection to include protocols for the use of long-term natural attenuation where site conditions warrant; providing that institutional controls are not required under certain circumstances if alternative cleanup target levels are used; providing additional contamination cleanup criteria for brownfield sites and brownfield areas, etc. **CS/HB 351 which unanimously passed out of both Houses and has been signed by the Governor.**

SB 166/HB 19 (Rep. Jenne/Sen. Soto) Well Stimulation Treatments: Prohibits well stimulation treatments for exploration or production of oil or natural Gas. Oil and Natural Gas Production or Recovery: Defining the terms "hydraulic fracturing" and "well stimulation treatment"; prohibiting a person from engaging in hydraulic fracturing or performing well stimulation treatments in this state or the waters adjacent to this state; prohibiting a person from disposing of related materials and byproducts of hydraulic fracturing or well stimulation treatments, etc. **Both the House and Senate bills were not agendaed for a hearing, and died in committee.**

HB 191/SB 318 Regulation of Oil & Gas Resources by Rep. Ray Rodrigues/ Rep. Cary Pigman and Sen. Garrett Richter – Regulation of Oil and Gas Resources; Preempts regulation of all matters relating to exploration, development, production, processing, storage, & transportation of oil & gas; declares existing ordinances & regulations relating thereto void; provides exception for certain zoning ordinances; revises DEP rulemaking authority; requires permits be obtained before performance of high-pressure well stimulation; deletes provisions



requiring Division of Resource Management to get certain approval from municipal governing bodies; requires division to consider additional criteria when issuing permits; authorizes DEP to issue permits for performance of high-pressure well stimulation; requires DEP to conduct study; requires applicants & operators to provide surety; increases maximum amount for civil penalties; requires DEP to designate national chemical registry as state's registry; requires service providers, vendors, & well owners or operators to report certain information to DEP; requires DEP to report certain information to registry; provides that act preempts & supersedes certain regulations. The bill that would have regulated fracking died after it was withdrawn from consideration during its second hearing before the same committee that had rejected it. The bill sponsored by Sen. Garrett Richter, R-Naples, withdrew the bill when he realized he did not have the votes to pass it out of committee.

SB 552/HB 7005 Environmental Resources; Provides for conservation lands database; provides assistance to self-suppliers of water; authorizes pilot projects for certain water management districts (WMDs); requires adoption of minimum flows & levels for Outstanding Florida Springs; requires concurrent adoption of recovery or prevention strategies & minimum flows & levels; provides for Central Florida Water Initiative Area; authorizes allocation of water by SFWMD; requires monitoring of consumptive use permits; provides for certain preferred water supply sources; prohibits modification of permitted water allocations; provides priority consideration to certain public-private partnerships for water storage, groundwater recharge, & water quality improvements on private agricultural lands; revises Northern Everglades & Estuaries Protection Program; revises membership qualifications for Harris Chain of Lakes Restoration Council; requires certain funding plans in water resource development work program; authorizes private landowners to assist WMDs; requires promotion of certain cost-share criteria; creates the Florida Springs & Aquifer Protection Act; authorizes funding for nutrient & sediment reduction & conservation pilot projects; revises requirements for basin management action plans; provides treated potable water supply as designated use of surface waters; requires DEP & DACS to assess water resources & conservation lands. **HB 7005 passed out of the full House and Senate and was signed into law by the Governor. Effective July 1, 2016**

SB 400/HB 561: Organizational Structure of the Department of Environmental Protection GENERAL BILL by Sen. Alan Hays and Rep. Neil Combee - Organizational Structure of the Department of Environmental Protection; Authorizing the secretary of the Department of Environmental Protection to establish divisions as necessary to accomplish the missions and goals of the department, etc. **The Senate Bill passed unanimously out of the full Senate, was sent to the House and the House bill was substituted for the Senate bill, passed unanimously and was signed by the Governor.**

HB 589/SB 1052(Rep. Cary Pigman/Sen. Alan Hays) Environmental Control; Prohibiting water management districts from modifying or reducing consumptive use permit allocations if actual water use is less than permitted water use due to water conservation measures or specified circumstances; requiring the Department of Environmental Protection to adopt by rule a specific surface water classification to protect surface waters used for treated potable water supply. **The Senate Bill passed unanimously out of the full Senate, was sent to the House and the House bill was substituted for the Senate bill, passed unanimously and signed into law by the Governor.**



The Southeastern Geological Society (SEGS) is a non-profit group of avocational and professional geologists dedicated to advancement of the geological sciences.