SAVE THE DATE!
January 31, Concord NC
Matthew Morris,
AEG President, on
Rock Slope Stabilization
# GeoNews—Winter 2012

**Issue Date:** December 31, 2012

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### Deadlines for submittal to AEG Carolinas GeoNews
*can be flexible depending on events*
- Spring – deadline March 1, issue date March 21
- Summer – deadline June 1, issue date June 21
- Fall – deadline September 1, issue date Sept.21
- Winter – deadline December 1, issue date December 21

### Deadlines for submittal for the National AEG News:
- March issue – January 15
- June issue – April 15
- September issue – July 15
- December issue – October 15

### AEG Carolinas Section
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**Cover:** This is a section of Menoher Boulevard, which is the subject of this month’s talk by AEG President Matt Morris on “The History and Progression of Rock Slope Stabilization for Menoher Boulevard, Cambria County, Pennsylvania” Details of the talk are on page 4 and 5 of this issue.

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MESSAGE FROM THE CHAIR
By Paul Weaver, PG,
Chair—AEG Carolinas Section

The Carolinas Section held our fall meeting in Greensboro on October 25 at Natty Greene’s. We were very pleased to have around 55 people attend this meeting. Unfortunately, we had to cancel the meeting that was scheduled for Greenville, South Carolina on November 8 because we only had 3 people RSVP for the meeting up to 5 days before the meeting. We are trying hard to increase the involvement of our South Carolina members in AEG, and any suggestions you may have in regards to how we may accomplish this will be greatly appreciated.

On November 4, I had the privilege of moderating a technical session entitled “Practical Applications of Environmental and Engineering Geology” at the Geological Society of America’s (GSA’s) national meeting in Charlotte. This session was organized and sponsored by our section. We had maybe 50 attendees at the peak of the session. The Carolinas Section also manned the AEG booth at the meeting where we were able to talk to many of our colleagues in the geosciences and where we spread the word about AEG. It’s interesting to note that more than 5,000 people attended the GSA national meeting.

The Carolinas Section, as has become a tradition with us, purchased and gave away 500 earth science tool kits to teachers attending the North Carolina Science Teachers Association meeting which was held on November 8 and 9 in Winston-Salem. Myself and Jane Gill-Shaler were on hand to give away the toolkits and to talk to the teachers. Purchasing of the tool kits was made possible by generous contributions from Brian and Denise Chew of Enviro-Equipment, Jane Gill-Shaler, Mike Vaught of EGIS, PA, and Dr. Charles Welby. We also helped sponsor the Outstanding Earth Science Teacher of the Year and the Outstanding Earth Science Educator of the Year awards by making a monetary contribution of $250 to the awardees.

Our winter section meeting will be held in Concord at Dave & Buster’s on January 31. AEG President Matthew Morris will be the speaker for the meeting. You should receive the announcement for this meeting shortly if you haven’t already.

Your Board is currently investigating entering the 21st century by purchasing hardware/software that would allow us to accept credit card payments at the door for meetings so attendees would no longer have to pay with only cash or check. We hope to have this in place by our spring meeting in 2013. We are also looking into accepting reservations for meetings from our Section website.

There has been a change on your Section Board since my last Message from the Chair article for GeoNews. Jeremy Strohmeyer, whom you elected in August to be our new Secretary, took a job in St. Louis and had to resign from the Board. The Board chose Madeline German of Smith+Gardner to serve out the remainder of Jeremy’s term.

I am pleased to announce that Jennifer Thomas has volunteered to assist Jane Gill-Shaler in putting together GeoNews going forward, with the goal of eventually taking over the reins as newsletter editor. Jane has been our newsletter editor for many years and has done an exemplary job. The Carolinas Section’s newsletter is the envy of all of AEG and is cited whenever any other section needs an example of the gold standard of newsletters. Jane has been wanting to ease her workload for the last few years and we have tried to find someone willing to step up to assist her and to eventually take over as newsletter editor. We are very grateful that we finally found someone in Jennifer and are confident that she will be able to carry on in the high standard that Jane has set.

I want to urge all of you to renew your AEG membership and if you aren’t a member of AEG, to become one. I believe that AEG is a valuable organization for our members and for our profession as a whole. However, we can’t continue our work without the income that comes from membership fees. Renewing or becoming a member is easy by going to aegweb.org and following the instructions.

Thank you all for your membership and support of the Carolinas Section. As always, please feel free to contact me at the email address listed below with any ideas, concerns, comments, etc. that you have for AEG and the Carolinas Section in particular.

Sincerely,

Paul M. Weaver, P.G.
AEG Carolinas Section Chair
pweaver@esspartners.com

Matt Morris, P.G., AEG President and Senior Engineering Geologist with Gannett Fleming, Inc. of Pittsburgh, Pennsylvania, is scheduled to present a talk and slides on the “History and Progression of Rock Slope Stabilization for Menoher Boulevard, Cambria County, Pennsylvania.” Matt’s talks are always lively and packed with useful information, so be sure and make your reservations early. The AEG Carolinas dinner and talk will be on Thursday, January 31, 2013, at our old stomping grounds, Dave & Buster’s in Concord. Details are in the BLUE BOX on the next page.

Abstract: Menoher Boulevard (PennDOT S.R. 271) is the main arterial roadway connecting the City of Johnstown with Westmont Borough in Cambria County, Pennsylvania. The roadway was originally constructed by the Pennsylvania Department of Transportation (PennDOT) in the 1940’s as a major roadway improvement project to connect Johnstown with not only Westmont Borough but also Grand View Cemetery, one of the largest cemeteries in Pennsylvania. The construction of Menoher Blvd. created an alternative route to climb the 460 vertical feet for travelers coming from Johnstown to Westmont, as opposed to traveling the steep carriage road that switch-backed up Yoder Hill. Many local residents still refer to this section of Menoher Blvd as the “Easy Grade Highway”.

Given the construction methods of the period and understanding of rock-slope stability performance, the 170-foot-high cut slope was originally constructed nearly vertical by means of mass excavation and blasting. The rock units present in the slope are Pennsylvanian in age and belong to the lower Conemaugh and Upper Allegheny

(Continued on page 5)
Formations. These formations are comprised of cyclic sequences of sandstone, shale, and claystone with several workable coal seams. Over time, differential weathering between the claystone/shale and overlying, more-resistant sandstone has resulted in undercutting, generating a rockfall hazard to the public and adjacent facilities along this 2,000-foot-long section of roadway.

Gannett Fleming was retained by PennDOT to evaluate the nature of the failures occurring in the rock slope and the effectiveness of the existing rockfall-mitigation measures, as well as to prepare a preliminary mitigation plan to reduce the hazard. Upon completion of the Preliminary Report, PennDOT selected Gannett Fleming to complete the Final Design of the rockfall mitigation system and ultimately deliver the Plans, Specifications, and Estimate package. Given the variable nature of the rock comprising the slope and predominant discontinuity orientations, Gannett developed a mitigation scheme that included a combination of excavation, rock scaling, rock bolting, high-tensile-steel-wire mesh installation, and shotcrete. The project was bid in September of 2012 and construction is anticipated to begin in 2013. This presentation highlights the development history of the Johnstown area, previous rockfall-mitigation efforts, a summary of the evaluations conducted, and the various techniques proposed for future stabilization of the slope.

Bio: Matthew Morris, P.G., is a Senior Engineering Geologist and Project Manager for Gannett Fleming, Inc. based in their office in Pittsburgh, Pennsylvania. Matt’s primary professional interest areas include soil and rock-slope stability design and mitigation and construction geology. He has worked for a variety of federal, state, and local government agencies including the U.S. Army Corps of Engineers, the Pennsylvania Department of Transportation, the West Virginia Division of Highways, and the New Mexico Department of Transportation. Matt has also provided expert-witness testimony and geological services for private clients from Pennsylvania, New Jersey, Ohio, West Virginia, Tennessee, and Arizona.

Matt’s leadership experience with AEG began as the Kent State Student Chapter President in 1998. He served on the Allegheny-Ohio Section Board from 1999 through 2002, at which time he was elected to the Board of Directors. Following a two-year term on the AEG board, Matt was involved in several committees. From 2006 through 2009, he chaired the Allegheny-Ohio Strategic Planning Committee. In 2009, he was elected to the AEG Executive Council and served as secretary, treasurer, vice president and president elect, and now as president. In 2006, he won AEG’s Douglas R. Piteau Award as the Outstanding Member under 35 years of age.

Matt received his Bachelor’s degree in Geology from Clarion University in 1997 and his Master’s Degree in Geology from Kent State University in 2004. In Matt’s time away from the office, field, and AEG duties, he enjoys golfing, fly-fishing, hunting, and skiing.

MEETING DETAILS

Place: Dave & Buster’s; 8361 Concord Mills Boulevard, Concord, NC
Date: Thursday, January 31, 2013
Time: 5:30 PM socializing begins/cash bar
7:00 dinner, 8:00 Matt’s talk
Program: “The History and Progression of Rock Slope Stabilization for Menoher Boulevard, Cambria County, Pennsylvania”
Cost: AEG members $25, non-members $30, students FREE with college ID; Teachers are $10.
Reservations: Please make reservations with Madeleine German by 6:00 PM on Monday, January 28, 2013
Email: madeleine@smithgardnerinc.com
A SHORT NOTE ENGENDERED BY “SANDY”

An opportunity occurred for me to adventure north to the eastern end of Long Island a few days following Hurricane SANDY’S crossing of New Jersey and the New York City area. Its effect was felt the length of Long Island with lesser intensity than that part which crossed New Jersey and flooded parts of New York City. My trip had two purposes, one family-related and one to check on certain parts of the eastern end of the south shore of Long Island which I have visited for lo’ these many years. Unfortunately clouds covered most of the New Jersey shore as I flew offshore of it. Thus I could not observe the regional picture of the longitudinal beach pattern. Certainly in recent years the pattern has been one of large-scale longitudinal cuspat form. In some cases the ends of the concave-seaward beaches are tied to groins “controlling” beach erosion; in other cases the positioning of the seaward-pointing ends of the features seem to be related to natural features.

In a broader sense one can imagine a sine curve along the shoreline in which the portions of the curve convex to the ocean have been eroded by some selective process. The same broad pattern exists along the south shore of Long Island, fronting both the southward facing edges of the barrier islands, such as Fire Island, and the “mainland” part of the island. The pattern is particularly prominent eastward of Shinnecock Inlet which is stabilized by two groins extending into the ocean.

Time limitations prevented me from visiting numerous locations along the south shore, and I concentrated on two which I have observed and photographed over a number of years (decades?). Waves and currents generated by SANDY attacked this particular portion of the shoreline and exposed revetments and bulkheads that “protected” the sizeable houses which today sit on the dunes emplaced when sea level was considerably lower than today. Two of the public beach areas were closed because massive walls of seawater moved by the winds had removed sand in front of the beaches and in one case had eroded part of the parking lot. (Remember that “F=MA whether in the case of moving water against beach sand or a linebacker in a football game against the running back with the football.)

Groins and revetments placed years ago (many in the 1970s and 1980s) were exposed, and a number of the revetments were overtopped. One observation made repeatedly over a number of years along a two to three mile long stretch of the beach area is that the curvilinear pattern of the “beach” observed during periods of fair weather is modified during “average” storms, and erosion of the beach concentrates first at the landward head of the concave curve of the beach. (So does this observation have any use in deciding the location of structures above the landward moving beach??)

Once the area was largely one of agricultural and fishing industries. Think of Long Island potatoes and dairy farming. The “widow walks” at the tops of some of the houses well inland from the beach provided views southward across largely open fields (Think Long Island potatoes and dairy farms) for observers to spot whales offshore and whaling ships returning after extended voyages across the oceans. Farmers used the wide beaches periodically to move their cattle from winter quarters to summer pastures. Over a century ago an “Ocean Boulevard” was plotted with the idea of constructing the road north of the back beach or along the fronts of the dunes.

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forming the upland area. Today that path is about where the average low tide line exists.

As a result of SANDY’S causing the oceanic waters to rise against the land (Sound the trumpets for the charge!), the Napeague lowlands west of Montauk Point several miles were inundated, and for a time the land at the eastern end of Long Island’s south shore became an island as far as modern transportation was concerned. Remember that George Washington predicted that the Montauk Lighthouse would be sitting on an island by itself about 200 years after it was constructed. So it is almost there.

Approximately 35 miles or so west of Montauk Point in the Water Mill and Sagaponack areas Erosion Control Districts have been formed to provide beach “protection” and erosion control protection to residences fronting the beach. A consultant hired by the town in which these areas lie has been studying the best way to protect the shorefront houses and has determined that the back line of the beach has moved over 30 feet northward toward the existing buildings over a number of years.

The consultant has determined that an accumulation of sand that matches the existing beach sand lies offshore a “reasonable” distance and could be utilized to nourish the beaches which lie within the Erosion Control Districts. The question not addressed in the published reports is “How long will the re-nourished beaches stay in their ‘new clothes’ and what will be the cost be to the average landowner within the Erosion Control Districts in the long run?” One estimate for the first beach enrichment program for the one erosion control district in which nourishment charges are calculated on a linear foot facing the ocean is $14,650 per year for the period of bonding in addition to the normal taxes for municipal purposes such as schools, roads, fire and police protection, and other governmental services. No funds can be anticipated to come as “normal” expenses from local, county, state, and federal sources; i.e. other taxpayers.

So what to do? Perhaps the Don Quixote “sculpture” that once graced the dunes some miles eastward should return and solve the problem??

QED

Charles W. Welby

Dr. Charles W. Welby is a former Section Chair for AEG Carolinas and a regular contributor to this newsletter. He may be reached at cww_ral@hotmail.com.
EARTH SCIENCE KIT GIVEAWAY AT NORTH CAROLINA SCIENCE TEACHERS ASSOCIATION MEETING
NOV. 8-9, 2012
By Jane Gill-Shaler, AEG Carolinas Editor

It was gratifying to see all the teachers present at the 2012 North Carolina Science Teachers’ Association (NCSTA) Professional Development Institute in November at the Benton Center in Winston-Salem. What a crowd! Both Paul Weaver and I were privileged to be able to hand out about 400 of the American Geosciences Institute (AGI) Earth Science Week Kits to science teachers attending this event, as we have for many years now.

Funding for the Kits is provided by our generous Sponsors, with additional Kits provided by extra donations from Denise Chew of Enviro-Equipment, Mike Vaught of EGIS, PA, Dr. Charles Welby, and yours truly.

Providing these Kits to science teachers free of charge is one of the ways AEG Carolinas participates in encouraging young people to enter the geosciences as a profession, and to actively support our science teachers by providing them with these teaching materials.

Earth Science Week this year took place October 14-20, and even though the event was officially over by the time NCSTA had their event, most if not all of the activities, posters, flyers, and other items in the ESW Kits are designed to be of value throughout the year. The 2012 Earth Science Week theme was “Discovering Careers in the Earth Sciences.” Included in the kits are:

- A 12-month school-year activity calendar, suitable for hanging
- The new Earth Science Week poster, including a learning activity
- National Park Service items on geologic time and careers
- A genuine field notebook from Rite in the Rain
- NASA education resources on climate, careers, and contests
- A geoscience careers poster from Soil Science Society of America
- A detailed cloud chart by GLOBE

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(Continued from page 8)

- Educational material from the U.S. Fish and Wildlife Service
- A temporary tattoo of the JOIDES Resolution research ship
- A GIS-in-science-education resource from Esri
- Activity sheets from the Association for Women Geoscientists
- Brochures, bookmarks, fact sheets, postcards, and more

The teachers were enthusiastic and appreciative. Paul and I took some short videos of their comments, and we are in the process of editing them into a thank you for our generous sponsors.

Next year (every other year) we are fortunate to coordinate with North Carolina Aggregates Association (NCAA) to collect and bag samples of rocks and minerals to hand out to K-12 teachers for teaching aids. This is a really popular program, and though it takes many hands to prepare the samples, the teachers are really lined up for this event!

If you are interested in getting involved in this useful educational program, or in any of our educational programs, please contact our student coordinator Rick Kolb at rick.kolb1@gmail.com.

Paul Weaver, Chair of the AEG Carolinas Section, setting up the table to give away Earth Science Kits.
As part of our robust educational outreach program, the Carolinas Section of the Association Environmental & Engineering Geologists has been sponsoring the North Carolina Outstanding Earth Science Teacher and Educator Awards (OEST and OESE respectively) for several years. We have supported the OEST and OESE winner in the amount of $250 each to support travel and registration to the NCSTA conference. The awards were instituted by NCSTA to encourage excellence in science teaching (teaching students) and science educating (teaching educators).

This year’s OEST winner is Beverly Owens, an 8th grade science teacher at Crest Middle School in Shelby, N.C. She invigorates her students, fellow teachers and parents with inventive activities and demonstrations that they, in part, are responsible for and really buy into the projects. My favorite project is all 350 8th grade students research different organisms that lived throughout Earth’s history and create a costume based on that organism. This research culminates in a Geologic Time parade, in chronological order, around the school’s athletic track so all get to see what types, and when, organisms lived during Earth’s history. Her nomination form is on the NCDENR website so that you can see how outstanding a teacher she is.

This year’s OESE winner is Judith McDonald, an educator of pre-service elementary teachers at Belmont Abbey College. We are happy to see someone influencing not only future elementary teachers but inspiring girls in underserved communities to become involved in science. Her nomination form is also on the NCDENR website so that you can see how outstanding an educator she is.

The Carolinas Section of AEG has supported the OEST and OESE winners in the amount of $250.00 each to support travel and registration to the NCSTA conference for many years. Thank you to AEG for your continued support of the OEST and OESE Awards.

Randy Bechtel
Check out our new clean carbon CleanInject™
Go to http://www.enviroequipment.com/blog/?p=302

Aggressive Fluid Vapor Recovery Trailer (AFVR)

Enviro-Equipment, Inc. (EEI) is pleased to announce the construction of another Aggressive Fluid Vapor Recovery (AFVR) Trailer, also referred to as Dual Phase Extraction (DPE) and Mobile Multi-Phase Extraction (MMPE). While we have sold AFVR Trailers to clients in the past, we now plan to stock AFVR Trailer units for rental or subcontracting. Clients have the option for as little or as much assistance from EEI as they require. Options range from renting and operating the system yourself to subcontracting EEI to do your entire AFVR event.

Key Features of our AFVR Trailers Include:
- Dekker Oil Sealed Liquid Ring 300 SCFM @ 25"HG
- Epoxy Coated KO Tank with Float Tree for Automatic Transfer Pump Operation
- Progressive Cavity Transfer Pump with Manifold and Totalizing Flow Meter
- Manifold allows pumping from KO Tank to Storage Tank AND Pumping From Storage Tank through Totalizing Flow Meter to discharge point simply by adjusting valves
- Vapor Phase Carbon Drum for Off Gas Treatment
- Ultra Silent Diesel Generator, 230volt 3 Phase, Push Start, Auxiliary 115 and 230V Outlets
- Galvanized Steel Inlet Manifold, 3" Header, (7) 2" Zones with Ball Valve and Vacuum Gauge
- Multiple Sampling Ports
- UL Listed Control Panel

EEI also carries all of the necessary accessories for AFVR events including “tanker truck” cam lock hoses, vapor phase granulated activated carbon media, thermo anemometers, photoionization detectors (PID), flame ionization detectors (FID), well head assemblies and stinger piping.

EEI is your one stop shop for rental of pilot test equipment or full scale remediation systems. We also custom build remediation systems on skids, in trailers or in buildings to your specifications. EEI is a Met Lab Certified Control Panel shop.

Enviro-Equipment, Inc. is your full service center for AFVR Trailers. We build them, so we can maintain and repair them. Whether it's a unit we built, you built or someone else built, we are your one stop service center. Contact Evan Chew at our Remediation Division 1-866-655-5287 or email us at remediation@enviroequipment.com.

ENVIRO-EQUIPMENT, INC. “WHEN IT HAS TO WORK”
www.enviroequipment.com

Exclusive distributor of the CleanInject™ System
An inflatable, near life-size model of the NASA Curiosity rover made its appearance at the NCSTA Professional Development Institute in November. The NASA booth was staffed by Tony Rice, a NASA volunteer, and it was a popular exhibit for teachers and educators to have their photos taken. For the latest video update about the real NASA Curiosity, go to http://www.jpl.nasa.gov/video/index.cfm?id=1170.

NASA volunteer Tony Rice (he is a Solar System Ambassador - check out the outreach website http://www2.jpl.nasa.gov/ambassador/) handed out reams of prepared material to the attendees of NCSTA Conference, and spoke to hundreds of them during the course of the two days. Not only was this great for the teachers, but it increased traffic going by the NCGS booth and Earth Science Week Kits.

The Solar System Ambassadors Program is a public outreach program designed to work with motivated volunteers across the nation. These volunteers communicate the excitement of JPL's space exploration missions and information about recent discoveries to people in their local communities.

There are almost 500 Ambassadors in 50 states, Washington DC and Puerto Rico bringing the excitement of space to the public. Ambassadors are space enthusiasts from various walks of life who are interested in providing greater service and inspiration to the community at large.

The Solar System Ambassadors Program builds on and expands the outstanding efforts undertaken by the Galileo mission since 1997. Because of the success of the original Galileo Ambassadors program, JPL missions exploring Jupiter, Saturn, Mars, Asteroids, Comets, Earth, the Sun and the Universe now come together to expand the program's scope to the Solar System and beyond.

The Curiosity model exhibit was made possible, in part, through a donation to cover shipping and handling by Gill Editing Online.
We're proud to announce that we will be taking delivery of a new Geoprobe® Model 8140LS Roto-Sonic Drill Rig

Key features of this machine are...

* Geoprobe® GV4 Sonic Head w/ Oscillator Frequency 0-135 Hz
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* Variable Location Control Panel per Operator Preference & Safety
* Digital Display Screen w/ Multi-Function Output
* Advanced Warning Display Screens for Operator & Equipment Safety
* Variable Speed Controls for Drilling Operations
* Rear Stabilizer Blade and Drop Rack Tooling Systems
* Maneuvered w/ Wireless or Tethered Ramote Systems
* Front Outriggers have 26” of travel (12” below tracks)
* Rear Outriggers have 28” of travel (12” below tracks)
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* Additional Features include GP50 Pressure Washer, SPX40 Hose Pump, FMC Triplex Pump and more!

To learn more about how the 8140LS can benefit your next project simply reply to this message or give us a call.

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Enviro-Equipment Inc. Successfully Tests Powdered Activated Carbon (PAC) CleanInject™ Remediation System

Enviro-Equipment Inc., a leading innovator of groundwater remediation technologies, which also sells, rents and services environmental monitoring equipment, announced today that it has successfully completed a pilot test of the patent-pending CleanInject™ system. The test used the CleanInject™ system to inject powdered activated carbon (PAC) into a petroleum impacted formation, in order to remediate the groundwater and soil of a State of South Carolina stimulus site. The gas station site was injected in 4 days in August, 2012. The test resulted in an 86% reduction in contaminant concentrations. Notably, although the remedial action performed targeted a limited area, it ended up remediating the majority of contamination present at the site.

The site will be re-sampled in early 2013 to determine if site specific target levels (SSTL) have been reached. If so, then no further action should be required. If not, then additional powdered active carbon (PAC) injections will likely be performed.

“We were delighted with the results of the pilot test, and more importantly, our client was very happy as well,” stated Brian E. Chew Sr. P.G., Principal Hydrogeologist at Enviro-Equipment Inc. “We look forward to cleaning up many sites with this economical process, and hope to spread this groundwater remediation technology to other states and countries, as well.”

Added Chew: “The CleanInject process, which was approved for use by SCDHEC, is now proven to rapidly remediate petroleum impacted groundwater and soil. Other groundwater remediation technologies, such as Sparge and Vent, could take one to two years to produce a similar result, and could cost three to five times more than this technology.”

For more information or media inquiries, contact Brian Chew at brianchew(at)enviroequipment(dot)com or 704-556-7723.

Enviro-Equipment, Inc., a woman-owned small business founded in 1993, rents, sells, and repairs environmental monitoring equipment used for pollution control, groundwater remediation, water and wastewater treatment, safety and industrial hygiene, and environmental assessment. They also design and manufacture custom remediation systems and UL certified control panels. The company’s Charlotte, NC facility offers environmental monitoring instruments, field sampling supplies, safety products, equipment repair, and training. Enviro-Equipment’s customers include colleges and universities, government agencies, industry, and environmental consultants in the groundwater hydrology and industrial hygiene fields in North America. Connect with Enviro-Equipment, Inc at twitter.com/EnviroEquipment, Facebook.com/EnviroEquipment, or http://www.youtube.com/EnviroEquipment.

AE Drilling is Busy!!

AE Drilling Services remains extremely busy with a diverse workload currently. Drilling was completed in October for a large fly ash dewatering project for Progress Energy in Asheville; inclined core drilling & packer testing continues at the new Duck River Dam in Cullman, (Continued on page 16)
ANNOUNCEMENTS

Alabama; deep bedrock drilling & injection well installation is being conducted at three Superfund sites in the Carolinas; & mineral exploration remains strong in the southeastern US & mid Atlantic regions.

Drilling will begin in early Dec on a 500 ft deep seismic evaluation boring for a bridge replacement over Lake Marion (I-95). AE Drilling Services has provided geotechnical, environmental, water supply, and mineral exploration drilling services to fellow professionals for over 40 years. AE Drilling Services, Inc. is located at Two United Way Greenville SC 29607. Their website is www.aedrilling.com, and the owner, Mark Lassiter, P.G., may be reached at 864-288-1986 or by email at mlassiter@aedrilling.com.

EGIS, P.A. has some news

Louis Vaught, a part-time employee of EGIS, P.A. and a civil engineering student at Rose-Hulman Institute of Technology in Terre Haute, IN, received a Level-C license to practice well contracting in the state of North Carolina. EGIS, PA specializes in downhole geophysical and borehole video inspection services, and can assist in well development and rehabilitation. EGIS, P.A. is located at 441 Northside Drive, Chapel Hill, NC, 27516. Their website is www.waterwellvideos.com. Mike Vaught, Principal, may be reached at 919-929-8363, or by email at gwinvest@juno.com. EGIS, P.A. is an AEG Carolinas Silver sponsor, and a funding supporter of our Earth Science Kit program to provide resources to North Carolina science teachers.

Pyramid Environmental Environmental Provides an Assessment of the Historic Lincoln Train Station

Recently, Pyramid Environmental had the opportunity to work with the Gettysburg Foundation and provide them with an environmental assessment of the property containing the Historic Lincoln Train Station, located in Gettysburg, PA.

Lincoln Station was used for a passenger train station from 1858/1859, when the original building was constructed on the subject property, through 1942, when the passenger train service was discontinued. Since 1955, the property has been used as an information center for the Gettysburg Convention & Visitors Bureau (former Gettysburg Tourism Office). It is where Abraham Lincoln arrived for his historic visit to the battlefield and to deliver his famous address, and it was used as a hospital and depot for wounded soldiers after the battle.

Pyramid was chosen to perform the work for the Gettysburg Foundation as a result of our respect in the marketplace, our long-standing relationship with the National Parks Service (who manages the associated Gettysburg National Military Park), and our understanding of the importance of accurate and cost-effective investigations (From Pyramid December 2012 Newsletter).
ANNOUNCEMENTS

(Continued from page 16)

2013 AEG Shlemon Conference, Dam Foundation Failures and Incidents, Denver, Colorado

The next Shlemon Specialty Conference will be held in Denver Colorado May 16-17, 2013. The focus of the conference will be a detailed review of select dam failures and incidents to provide a “lessons learned” to practicing engineering geologists. Several classic dam foundation failure and incident case histories (i.e. Teton, St. Francis, and others) will be studied in-depth along with case histories that are lesser known but just as significant.

The conference will be taught by recognized experts from the United States Army Corps of Engineers, United States Bureau of Reclamation, academia and private consultants. Registration information will be available by September, 2012. For additional information please contact Edwin Friend. The flyer, with complete information, is on page 18-19.

CALL FOR PAPERS

The 7th GEOTECHNICAL, GEOPHYSICAL, AND GEOENVIRONMENTAL TECHNOLOGY TRANSFER CONFERENCE AND EXPO (Geo3T2) April 4 – 5, 2013, Hosted by NCDOT Geotechnical Engineering Unit

We invite you to submit abstracts (paper submission is optional) for the upcoming 7th Geo3T2 Conference in 2013. Abstracts/papers are invited on the topics of:
- Subsurface Exploration
- LRFD Design Issues
- Nondestructive Testing of Deep Foundations
- Shallow & Deep Foundations
- Soil Improvement
- Reinforced Slope / Rock Slopes
- Slope Stabilization
- Retaining Walls
- Geophysical Engineering
- Geoenvironmental Engineering

Important Dates:
- January 25, 2013; Abstract Submittal Deadline
- February 8, 2013: Notification of Acceptance & Publishing Preliminary Program
- March 8, 2013: Paper Submittal Deadline
- March 22, 2013: PowerPoint Presentation Submittal Deadline

Registration: This conference is self-sustained; all authors must complete registration to attend the conference. Please send abstracts/papers/PowerPoint presentations by email to: geo3t2@ncdot.gov with a Subject: Geo3T2 Abstract (or Paper or PowerPoint Presentation)

For more details please visit the conference website at http://www.ncdot.gov/~geo3t2

If you have any questions please contact:
Conference Contact: geo2t2@ncdot.gov, or
Chris Chen (P: 919-707-6863, cchen@ncdot.gov), or Scott Hidden (P: 919-707-6856, shidden@ncdot.gov)
Address: NCDOT Geotechnical Engineering Unit 1020 Birch Ridge Drive, Raleigh, NC 27610
NAME: (LAST)  
FIRST) MEETING STATUS
NAME FOR BADGE: Speaker
COMPANY/INSTITUTION: Sponsor
ADDRESS: Exhibitor
CITY/STATE/ZIP: Student
PHONE NUMBERS: MEMBER
OFFICE ( ) FAX ( )
EMAIL ADDRESS:
CONFERENCE REGISTRATION: # Before 3/1/13 After 3/13 Amount
Member: $325.00 $375.00
Non-Member: $400.00 $490.00
ICEBREAKER (MUST REGISTER) Complimentary
SPONSORSHIPS: # Before 3/1/13 After 3/13 Amount
Igneous: $800.00 $850.00
Metamorphic: $500.00 $550.00
Program: $750.00 $800.00
Student: $300.00 $300.00
KIMBERLITE EXHIBITOR: $1000.00 $1050.00
TOTAL AMOUNT:
SPECIAL NEEDS: Breakfasts and refreshments during
Prefer Vegetarian Meals
breaks will be provided Thursday
Diabetic: and Friday along with lunch on
Thursday.
Other: 
Please indicate method of payment (check one): Make Checks Payable to "AEG"
__Check ___MasterCard ___Discover ___VISA ___American Express
Amount of $ _______________________
Account Number for charge card (include all digits): _______________________
Expiration Date: __________ CVD Code: _______________________
Signature: _______________________
Name on Card (PLEASE PRINT): _______________________
Address for Credit Card Billing: _______________________

If you have any questions, contact: Heather Clark, Meetings Manager
AEG Engineering Geologists
303-757-2926 Office
303-757-4326 Mobile
PO Box 469518, Denver, CO 80246
heather@aegweb.org

Hotel rooms at the Hyatt Tech Center can be reserved at the following website: https://
resweb.aashe.org/go/AEG2013, or call 1-888-421-1442 (Group Rate is $139.00 night
and includes parking and guest room internet)

Association of Environmental & Engineering Geologists

Shlemon Specialty Conference
Dam Foundations Failures and Incidents

Teton Dam Core Trench and Foundation, Idaho, USA from USBR

Hyatt Tech Center
Denver, Colorado
May 16-17, 2013

Fontenelle Dam Incident, Wyoming, USA from USBR

For complete details and sponsorship/exhibitor forms please visit www.aegweb.org/ShlemonDams.
AEG is proud to present the next Shemion Specialty conference. The conference will be held in Denver Colorado, on May 16-17, 2013 and will focus on a detailed review of select dam failures and incidents to provide a “lessons learned” to practicing engineering geologists. The conference format will include 1 hour interactive presentations and a field trip to a dam that recently underwent extensive rehabilitation. Below is the current list of dams to be discussed and the associated presenters:

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic/dam</th>
<th>Presenter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wednesday May 15</td>
<td>Welcome and Introduction</td>
<td>Friend/ Greene</td>
<td>Dr. Goodman, a nationally recognized expert in geology for dam foundations, will provide an overview of the importance of geology in the design and performance of dams.</td>
</tr>
<tr>
<td>8:15-8:45</td>
<td>Keynote</td>
<td>Richard Goodman, UC Berkeley</td>
<td>Malpasset failed in 1959 as a result of uplift pressures on a removable block within the foundation. Little consideration was given to the foundation geology during design. 421 people died.</td>
</tr>
<tr>
<td>8:45-9:45</td>
<td>Malpasset, France</td>
<td>Richard Goodman, UC Berkeley</td>
<td>Wister Dam was completed in 1949 and due to extensive precipitation filled rapidly and during this filling leakage was suddenly observed through the dam with flows up to 20 cubic feet per second. Investigations revealed the embankment experienced cracking and internal erosion due to differential settlement and several remedial actions were later completed to improve the embankment.</td>
</tr>
<tr>
<td>9:45-10:00</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00-11:00</td>
<td>Wister Dam Incident, Oklahoma, USA</td>
<td>Chuck Redlinger, USACE-RMC</td>
<td>Wister Dam failure occurred in 1949 and due to extensive precipitation filled rapidly and during this filling leakage was suddenly observed through the dam with flows up to 20 cubic feet per second. Investigations revealed the embankment experienced cracking and internal erosion due to differential settlement and several remedial actions were later completed to improve the embankment.</td>
</tr>
<tr>
<td>11:00-12:00</td>
<td>St. Francis Dam Failure, California, USA</td>
<td>J. David Rogers, MS&amp;T</td>
<td>The St. Francis Dam failure was one of the worst civil engineering failures in the 20th century in the United States, 450 people died.</td>
</tr>
<tr>
<td>12:00-12:15</td>
<td>Collect Box lunch and load busses</td>
<td></td>
<td>Transportation to Horse Tooth Dam will also be included in the conference registration.</td>
</tr>
<tr>
<td>12:15-6:00</td>
<td>Field Trip to Horsetooth Dam and Reservoir, Fort Collins, Colorado.</td>
<td>USBR</td>
<td>Horsetooth Dam and was rehabilitated between 2000 and 2004 to address dam safety issues with the limestone foundation, seepage through the embankment and foundation, and to improve stability.</td>
</tr>
</tbody>
</table>

**Friday May 17**

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic/dam</th>
<th>Presenter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00-9:00</td>
<td>AV Watkins Incident, Utah, USA</td>
<td>Mark Bliss, USBR</td>
<td>AV Watkins Dam experienced a severe seepage incident in 2006 when 100 to 150 gallons per minute were flowing through a location at the downstream toe. Emergency measures were enacted and the dam was saved and repaired.</td>
</tr>
<tr>
<td>9:00-10:00</td>
<td>Teton, Ririe, Fontenelle Dams – Influence of Organizational Culture on Dam Safety, Idaho and Wyoming, USA</td>
<td>Nate Snoteland, USACE-RMC</td>
<td>The presentation addresses the influence of organizational culture on dam safety and decision-making. Fontenelle Dam (suffered an extreme seepage incident), Ririe (has performed extremely well), and Teton (complete dam failure).</td>
</tr>
<tr>
<td>10:00-10:15</td>
<td>Break</td>
<td>Michael Gobla, USBR</td>
<td></td>
</tr>
<tr>
<td>10:15-11:15</td>
<td>Fontenelle Dam Incident, Wyoming, USA</td>
<td>Mark Golba, USBR</td>
<td>Fontenelle Dam experienced a severe seepage incident during first filling. The dam nearly failed adjacent to the spillway due to excessive seepage through and along the foundation of the embankment. The main incident was preceded by four other incidents that at the time were not identified to be seepage related.</td>
</tr>
<tr>
<td>11:15-12:15</td>
<td>Teton Dam Failure, Idaho USA</td>
<td>Bill Engemoen and Dan Osmon, USBR</td>
<td>Teton Dam failed 4.5 hours after the initial signs of distress. The failure is attributed to several factors including inadequate foundation preparation, inadequate design considerations for the extremely complex geology, lack of properly designed seepage collection systems for the core.</td>
</tr>
<tr>
<td>12:15-1:45</td>
<td>Lunch on your own</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:45-2:45</td>
<td>Silver Lake Dam Failure, Michigan, USA</td>
<td>Kevin Richards, USACE-RMC</td>
<td>Silver Lake Dam suffered from an extensive erosion below the spillway, a result in the release of the reservoir and failure of another downstream dam.</td>
</tr>
<tr>
<td>2:45-3:45</td>
<td>Quail Creek Dam Failure, Utah, USA</td>
<td>Douglas Boyer, USACE</td>
<td>Quail Creek Dam failed due to extensive foundation seepage and the failure caused $12 million in damage and approximately $8 million to reconstruct the dam.</td>
</tr>
<tr>
<td>3:45-4:00</td>
<td>Break</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00-4:45</td>
<td>Summary, Lessons, Learn, Design for Uncertainty</td>
<td>Pete Shaffner, USACE-RMC</td>
<td>This presentation will provide a general summary of the conference and provide information and recommendations on how geologic information should be used help to understand risks and minimize issues with dams and their foundations.</td>
</tr>
</tbody>
</table>
Count on Argus-Hazco as your single-source to support all your environmental projects or applications, including equipment rental, sales and accessories. Combining the recently acquired rental fleet of TRS Environmental with our existing fleet, we offer a comprehensive selection of Environmental Rental equipment for:

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- **Noise & Sound Measurement**
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- **Water Level Measurement**
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- **Water Sampling - Pumps**
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**GeoNews - News of the Profession Winter 2012**

**CALENDAR OF EVENTS - 2013**

*Geological Events in the Carolinas*

Courtesy of AEG Carolinas Section – [www.aegcarolinas.org](http://www.aegcarolinas.org), Last updated December 31, 2012

Send updates/corrections to Rick Kolb, Duncklee & Dunham, [rick.kolb1@gmail.com](mailto:rick.kolb1@gmail.com)

*Meeting Date, Time, and Location are Subject to Change – Please Verify Prior to the Meeting*

---

**Date:** Thursday, January 17, 2013  
(meetings are held monthly on the third Thursday of the month)

**Event:** South Carolina Association of Environmental Professionals monthly meeting

**Location:** 6:30 PM social, 7:00 presentation at Edens, 1221 Main Street; Columbia, North Carolina

**Details:** Craig Dukes, GEL Engineering, craig.dukes@gel.com

**Date:** Thursday, January 31, 2013

**Event:** Carolinas Section Winter Meeting

**Location:** 5:30-9:00 PM; Dave & Buster’s, Concord Mills Mall; Concord, North Carolina

**Cost:** Members $25, non-members $30, students with ID free, teachers $10

**Speaker:** AEG President Matt Morris, Senior Engineering Geologist at Gannett Fleming, Pittsburgh

**Topic:** The History and Progression of Rock Slope Stabilization for Menoher Boulevard; Cambria County, PA

**RSVP** to Madeline German – madeline@smithgardnerinc.com – no later than January 28.

**PDH:** 1

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**Date:** Tuesday, February 5, 2013 (first Tuesday of each month)

**Event:** Engineers Without Borders monthly meeting, Research Triangle Park Professional Chapter

**Location:** 6:30-8:00 PM at the offices of Camp Dresser & McKee; 5400 Glenwood Avenue, Suite 300; Raleigh

**Contact:** Sarah Kahn, [snkahn@gmail.com](mailto:snkahn@gmail.com)

---

**Date:** Thursday, February 21, 2013

**Event:** South Carolina Association of Environmental Professionals monthly meeting

**Location:** 6:30 PM social, 7:00 presentation at Edens, 1221 Main Street; Columbia, North Carolina

**Details:** Craig Dukes, GEL Engineering, craig.dukes@gel.com

---

**Date:** Tuesday, March 5, 2013

**Event:** Engineers Without Borders monthly meeting, Research Triangle Park Professional Chapter

**Location:** 6:30-8:00 PM at the offices of Camp Dresser & McKee; 5400 Glenwood Avenue, Suite 300; Raleigh

**Contact:** Sarah Kahn, [snkahn@gmail.com](mailto:snkahn@gmail.com)

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(Continued on page 22)
(Continued from page 21)

**Date:** Thursday, March 21, 2013  
**Event:** South Carolina Association of Environmental Professionals monthly meeting  
**Location:** 6:30 PM social, 7:00 presentation at Edens, 1221 Main Street; Columbia, North Carolina  
**Details:** Craig Dukes, GEL Engineering, craig.dukes@gel.com

**Date:** Wednesday, March 27, 2013  
**Event:** Afternoon presentation to the geology department at Furman University; Greenville, South Carolina  
**Speaker:** Jahns Lecturer Jim McAlpin  
**Location:** Phyler Hall, Furman University, room and time to be determined  
**Contact:** Rick Kolb, rick.kolb1@gmail.com

**Date:** Thursday, March 28, 2013  
**Event:** Lunch and afternoon presentation at geology department at UNC-Charlotte  
**Speaker:** Jahns Lecturer Jim McAlpin  
**Location:** McEniry Hall, UNC-Charlotte, room and time to be determined  
**Contact:** Rick Kolb, rick.kolb1@gmail.com  
**PDH:** 1

**Date:** Friday, March 29, 2013  
**Event:** Morning presentation at geology department at UNC-Chapel Hill  
**Speaker:** Jahns Lecturer Jim McAlpin  
**Location:** Mitchell Hall, UNC-Chapel Hill  
**Contact:** Rick Kolb, rick.kolb1@gmail.com

**Date:** Wednesday, April 17, 2013  
**Event:** Meeting of the North Carolina Board for the Licensing of Geologists  
**Location:** 9:00 at Upton Associates; 3733 Benson Drive; Raleigh, North Carolina  
**Contact:** Barbara Geiger, ncblg@bellsouth.net; (919) 850-9669

**Date:** September 8-15, 2013  
**Event:** AEG Annual Meeting  
**Location:** Westin Hotel; Seattle, Washington
MEMBERSHIP REQUIREMENTS

MEMBER: Applicants for Member Class shall hold a degree in geology, engineering geology or geological engineering, or a degree in a related professional field with 90 semester-hours of credit in the geosciences. In addition, an applicant shall be practicing in the field of Engineering Geology, Environmental Geology or Hydrogeology. Annual Dues for new (first-time) Members = $75.00 per year for the first year of membership. Otherwise Annual Dues = $115.00. Applicants who qualify for Member Class, but are engaged in full-time teaching at the Primary, Secondary or post-secondary level are eligible for Teacher Status (Annual Dues = $35.00).

AFFILIATE: Applicants for Affiliate Member Class shall be scientists or engineers who work with engineering geologists, teachers engaged in middle-school and high school Earth Science education, or persons interested in engineering geology. Annual Dues = $75.00 (Teacher Dues = $35.00)

STUDENT: Applicants for Student Member Class shall be full-time students enrolled in an academic program in the geosciences or in a related field in engineering. Annual Dues = FREE.

INTERNATIONAL: Applicants shall hold the same requirements as for Member Class, but may select from the following dues schedule: $35, which includes the Environmental and Engineering Geology Journal; $45 with the Journal, the Annual Directory and the Annual Meeting Abstracts; or $55 with the Journal, Annual Directory, Annual Meeting Abstracts and the AEG News.

AEG memberships are based on calendar year. Applications received after October 1 will be entered for following calendar year.

APPLICATION FORM

Please complete this form and mail it with your Annual Dues payment to the Association’s Headquarters office for processing. New member applicants do not pay Section dues for their initial year of membership.

Name: ____________________________
(Please print your name as you would like it shown on your membership certificate.)

Preferred Address: ____________________________
________________________________________
________________________________________

Work Phone: ____________________________ Fax: ____________________________

Preferred E-mail: ____________________________

Second Address: ____________________________
________________________________________
________________________________________

Home Phone: ____________________________

Desired Class of Membership: ____________________________ Annual Dues Amount: ____________________________

Certification: ____________________________
(Signature)

My signature attests that to the best of my knowledge, I meet the academic and practice requirements for the membership class I have requested and that all entries on this application are true and correct. I also authorize AEG to charge my credit card for the dues payment, if I selected the credit card payment option.

☐ Enclosed is my check for the amount of Annual Dues of $ ____________.

Credit Card Payment Option
☐ Discover ☐ Master Card ☐ Visa Amount of Dues to be charged to my card = $ ____________

Card Number: ____________ Expiration Date: ____________

Submission: Send this form with your check or credit card authorization to:
Association of Environmental & Engineering Geologists, PO Box 460518, Denver, CO 80246
Phone: 303-737-3910; FAX: 303-737-3910; AEG Web: www.aegweb.org
AEG CAROLINAS SECTION – SPONSOR INFORMATION

The Carolinas Section of AEG supports many of its activities with financial assistance provided by our sponsors. Our activities include quarterly meetings, periodic field trips and seminars, a quarterly newsletter, and email announcements about our meetings and geoscience related activities. In addition, we donate large quantities of educational resources to science teachers.

We offer several levels of sponsorship, but they all have one goal: to keep the sponsor’s name in front of our members and to bring you business. We have a real commitment to connecting our sponsors to potential buyers and will do all we can to help you build your business. Most of our members are practicing professionals with responsibility for selecting subcontractors, so our group is a great place to find new customers and to catch up with existing clients in an informal setting.

Our sponsors provide the financial support that allows us to have reasonably priced dinner meetings, host seminars, provide discounted dinner meeting costs for students and teachers, underwrite the cost of newsletters and our web site, provide geoscience mentors for students and young professionals, and support science education tools to our teachers and in our schools. All costs listed below are per year and end in December. New sponsorships received after October will continue to December of the following year.

Silver Sponsor ($250):
GeoNews Newsletter: Business card size ad (2” high x 3-1/2” wide), four times per year.
Meetings: Listing on a Sponsor Poster, located at sign-in table.
Verbal acknowledgement by name in Chairman’s introductory comments.
Meeting Exhibit: Space for tabletop display at one meeting.
Email Announcements: Listing of your company name on each AEG Carolinas Section email announcement (our email list is currently over 1,000 people)
Web Page: Acknowledgement on the AEG Carolinas Section Web Page, www.aegcarolinas.org, with a link to your site.

Gold Sponsor ($375):
GeoNews Newsletter: Quarter-Page ad (4-1/2” high x 3-1/2” wide), four times per year.
Meetings: Listing on a Sponsor Poster, located at sign in table.
Verbal acknowledgement by name in Chairman’s introductory comments.
Meeting Exhibit: Space for tabletop display at two meetings.
Cost of meeting waived for one person on the exhibit date.
Email Announcements: Listing of your company name on each AEG Carolinas Section email announcement (our email list is currently over 1,000 people)
Web Page: Acknowledgement on the AEG Carolinas Section Web Page, www.aegcarolinas.org, with a link to your site.

Platinum Sponsor ($500):
GeoNews Newsletter: Half-page ad (4-1/2” high x 7” wide), four times per year.
Meetings: Listing on a Sponsor Poster, located at sign in table.
Verbal acknowledgement by name in Chairman’s introductory comments.
Meeting Exhibit: Space for tabletop display at three meetings.
Cost of meeting waived for one person on the exhibit date.
Email Announcements: Listing of your company name on each AEG Carolinas Section email announcement (our email list is currently over 1,000 people)
Web Page: Acknowledgement on the AEG Carolinas Section Web Page, www.aegcarolinas.org, with a link to your site.

Platinum PLUS Sponsor ($600):
Same as Platinum, but with a FULL PAGE ad in GeoNews. Limited to 2 Sponsors per year.

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Businesses or individuals can also advertise in GeoNews without being a full sponsor. The annual rates for advertising in GeoNews are as follows:
- Business Card $ 40.00
- Quarter Page $ 60.00
- Half Page $ 100.00
- Full Page $ 200.00

Please complete the form below and mail to Jane Gill-Shaler, AEG Carolinas newsletter editor. Please call or email if you have any questions (contact information below).

AEG Carolinas Section Sponsorship Form

Please begin our sponsorship of the Carolinas Section of the Association of Engineering Geologists. Our sponsorship level is: _______Platinum PLUS Section Sponsorship, $600/year
- _______Platinum Section Sponsorship, $500/year
- _______Gold Section Sponsorship, $375/year
- _______Silver Section Sponsorship, $250/year
- _______GeoNews Newsletter Sponsorship Only (see above)

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Cell: __________________________________________
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Website URL: __________________________________
Date of Payment: _______________________________
Something about your company (use back of page for more room) ______________________________________

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_____________________________________________
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Please enclose a business card or email ad in jpg, pdf, or doc to Jane Gill-Shaler at janehgillshaler@gmail.com.

MAKE CHECK OUT TO AEG CAROLINAS
Snail mail form and payment to: Jane Gill-Shaler, AEG Carolinas Newsletter Editor
1636 West Lexington Ave., High Point, NC 27262
(Modified 12/17/2011)

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Thank You, AEG Carolinas Sponsors!!

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Pine Environmental Services, Inc. 8411 Garvey Drive, Suite 113 Raleigh NC 27616 www.pine-environmental.com
Paul Federline, 866-646-7463, pfederline@pine-environmental.com 891-713-0008; Pine Environmental Services, Inc., ”The Environmental Supply and Support People” is the largest environmental supply and leasing company in North America. Pine is the leading provider of rental equipment in the nation with the latest instruments available. Pine Environmental Services, Inc. takes pride in their unprecedented customer support and competitive pricing. Extended hours of operation and after-hour emergency support are on hand.

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Con-Test Analytical Laboratory 39 Spruce Street East Longmeadow MA 1028 www.contestlabs.com
Tom Veratti, 413-5253332, tveratti@contestlabs.com, Becky Wood, 904883-6924, bwood@contestlabs.com; Con-Test is a full service, privately owned and independent laboratory which provides environmental and industrial hygiene analytical services with a conveniently located service center in Charlotte, NC.

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