



Atlanta Geological Society Newsletter

Next meeting of the Atlanta Geological Society is
May 26, 2009

Fernbank Museum of Natural History (Clifton Road)
Social begins at 6:30 pm – Meeting begins at 7:00 pm

Editor's Perspective...

May 2009

It was quite gratifying to attend last month's meeting. Certainly, Dr. Edmund Medley's talk on a forensic investigation in California was most interesting and entertaining. The part that struck me the most was the gathering of the Atlanta Geological Society, the Association of Engineering Geologist and the American Institute of Professional Geologists to share a meal under the shadow of the big dinosaurs and meet up with a different circle of colleagues. The spirit of professional cooperation in that great hall of the museum; it was a good evening.

As this year for the AGS winds down, we are all looking forward to the June Social and vacations. Something else to think about over the summer might be the goals for the next year for the Society. There have been improvements in the electronic face of the Society with the revised website. The high level of speakers throughout the year has been very satisfying as well as interesting. The participation in the Science Fair helps out those kids develop their science careers. But what for next year? Expanded membership? Involvement in the science magnet schools in the area. Give it some thought over the next few months, if you please.

Ben Bentkowski
AGS Newsletter Editor

The May Meeting

Join us Tuesday, May 26, 2009 at the Fernbank Museum of Natural History, 760 Clifton Road NE, Atlanta GA. The pre meeting social starts at 6:30 pm and the meeting will start at 7 p.m. The evening's program will be provided by Mr. Raj Mahadevaiah and Mr. Alan Sanders of Environmental International Corporation – an environmental engineering firm headquartered in the Atlanta metro area. They will be speaking on '**Eliminating Perpetual LNAPL Remedial Programs**'.

Mr. Mahadevaiah is President and CEO of EIC and has a M.S. degree in Civil Engineering (Groundwater Emphasis) from the University of Oklahoma, USA. Also, he is a registered professional engineer in 13 states. Over the last 25 years, Mr. Mahadevaiah has developed expertise in conducting, environmental assessments and remediation, project management, and litigation support at over 200 sites in the North America, The Caribbean, The Middle East, South Asia, and other nations.

Mr. Sanders is a Professional Geologist registered in Georgia and Alabama and has worked at EIC for over 12 years currently as a Project Manager integrally involved in EIC's Non-aqueous Extraction Technique which will be a topic of Tuesday's meeting.
Editor

MAY'S SPEAKER IS:

Mr. Raj Mahadevaiah and Mr. Alan Sanders will be speaking on **ELIMINATING PERPETUAL LNAPL REMEDIAL PROGRAMS**. Over the years, environmental professionals have become increasingly frustrated in perpetual light non aqueous phase liquid (LNAPL) remedial programs. After years of wasteful spending, some have actually given up on remedial spending and are leaning more towards monitored natural attenuation (MNA) based cleanup programs even when LNAPL is present. Due to regulatory and off-site drivers, MNA-based strategies are severely restrictive when LNAPL is persistent.

Additionally, most remedial managers are challenged with limited budgets, regulatory pressure, potential for off-site liabilities, and other site specific drivers. It is often difficult to evaluate whether a few inches of LNAPL in a well is just a nuisance or if several feet is truly indicative of a large reservoir of oil. Conventional tools such as bail-down tests or pump tests are tainted with water, leading to erroneous conclusions on whether a full-fledged long-term remedial program is justified. This often leads to perpetual remedial programs with limited results. EIC has developed a unique recovery-recharge testing approach which determines if LNAPL recovery is truly sustainable at a given location. If sustainable, test data provides a basis for calculating design recovery rates which is invaluable in properly sizing the recovery systems. If the recovery is unsustainable, however, a less intrusive process such as bailing or monitored natural attenuation (MNA) can be justified on technical merits rather than obscure assumptions. This approach can be applied on a portfolio of sites to eliminate low-risk sites that otherwise demand long-term cash reserves.

During the presentation, EIC will also answer the following related questions:

- What measures have to be employed to increase LNAPL mobility into a recovery well?
- How does one verify if LNAPL recovery is sustainable?
- What is the optimal LNAPL recovery rate in a selected well?
- Is long-term remediation justified?
- Is it possible to overcome asymptotic recoveries?
- Is it possible to eliminate water or vapor recovery during LNAPL recovery?
- How do you reduce lifecycle costs?
- How are remedial end points projected and verified?
- How can you detect on-going leaks and spills?
- How is remedial progress measured in a fluctuating WT environment?
- When is MNA feasible?

Environmental International Corporation's unique nonaqueous extraction technique (NET) is engineered to operate in a variety of geologic formations from simple sand-and-gravel aquifers to complex bedrock environments in a wide geographic extent including 20 states.

EDITOR'S PERSPECTIVE

Perhaps I have a biased perspective but I'm amazed by the references to geology in the paper and on television. Why just this morning on the front page above the fold was the photo and announcement of the 'missing link primate' an ancient cat-sized lemur. Since when do paleontology stories make it to the front page of the Wall Street Journal? I'm sure the regular readers of the AGS newsletter have noticed over the last year the peppering among the other announcements and news items. For example, look elsewhere in this issue for a story that describes how approximately half of the elevation of the western US is due to thermal expansion of the crust.

On television now is a series on the History Channel HD called **How the Earth was Made** [http://www.history.com/video.do?name=How the Earth Was Made](http://www.history.com/video.do?name=How+the+Earth+Was+Made) This hour long show goes to interesting locations like Iceland and the San Andreas Fault, has short interviews with academic authority types sometimes complete with thin sections. Did you know the magma chamber under the Yellowstone Caldera extends to a depth of 400 miles and we're overdue by 40,000 years for the next cataclysmic eruption that could spread ash from the Pacific to the Mississippi? Yikes!

A bit less serious but still enjoyable are the references to geology in the more popular media. What practicing hydrogeologist among us has not nodded in agreement when David Byrne of Talking Heads sang "Under the rocks and stones, there's water flowing underground ... how do I work this?" You may have missed it but T'Pol in Star Trek Enterprise Episode 27 said, "You can check my records. I've been to Yellowstone and Carlsbad Caverns. I'm a scientist and that includes geology." I had to laugh when Tommy Lee Jones in that slightly silly movie Volcano (where a volcano erupts in downtown Los Angeles) calls out "Get me a geologist! Get me someone who knows what the hell is going on!" A sarcastic friend of mine asked which did he get; a geologist or someone who knew what the hell was going on? I get his point but still I had to laugh.

All in all, I'm grateful for all the earth science offerings available today. Unlike some contrived reality show, its a true to life reality show. By the way, I'm currently reading a book titled Barren Lands. It is about diamond prospector in northern Canada; some crazy loon looking for the proper mineral assemblages to indicate kimberlites who's now worth millions. Perhaps a dollar for every mosquito bite! Expect a book review in an upcoming newsletter.

Ben Bentkowski
Newsletter Editor

AGS Members...The Professional Registration Committee Needs YOU...

If you are an AGS member and would like to contribute to the Professional Registration Committee by leading a lecture on one of the subjects listed below, then please contact me either by e-mail or at the monthly AGS meetings. The lecture should be for one hour followed by a Q&A session. We need different speakers for each workshop. Your volunteering to teach on one of these subjects is essential to the success of the Professional Registration Committee – we need more widespread participation by the AGS membership. Speakers can be compensated for expenses and will receive certificates to acknowledge their participation.

The following content domains are covered in the Georgia Professional Geologist exams:

- | | |
|---|---|
| A. General Geology | B. Mineralogy, Petrology, & Petrography |
| C. Sedimentology, Stratigraphy, & Paleontology | D. Economic Geology & Energy Resources |
| E. Structure, Tectonics, & Seismology | F. Hydrology & Environmental Geochemistry |
| G. Engineering Geology | |
| H. Quaternary Geology, Geomorphology, & Surficial Processes | |

We do not "teach the test" our aim is to review fundamental concepts of the earth sciences and acquaint candidates with industry specific information not easily obtainable from the literature. Please inform anyone who might be interested in becoming a professional geologist of our workshop. Please consider joining us even if you are not a P.G. candidate. The workshops are interesting and informative.

Ken Simonton, P.G., Chair
Professional Registration Committee

www.atlantageologicalsociety.org

Additional Information about May's Speaker, Mr. Raj Mahadevaiah

At numerous sites, Mr. Raj Mahadevaiah has conducted multimedia due diligence and compliance audits for ISO 14001-related projects involving air, surface water, soil, groundwater, hazardous waste, and noise issues at various facilities. He has designed, implemented, operated, and maintained remediation systems at petrochemical storage and distribution facilities, public and private electric utilities, refineries, conveyance facilities, superfund sites, landfill, RCRA sites, and other hazardous waste facilities.

At several sites, Mr. Mahadevaiah has critically evaluated existing remediation systems and developed cost-effective alternatives. He also developed telemetry-based remediation systems to manage remote sites in the Caribbean. In addition, he has solved environmental puzzles from multiple sources, during litigation support, and successfully served as an expert witness in trials for industrial, insurance, and law firms. Apart from over a dozen technical papers presented at various locations worldwide, Mr. Mahadevaiah has also served as a panelist representing the Electric Utility Industry concerning "The RCRA Reauthorization Bill proposed by the US Congress," at the Air and Waste Management Conference held in Vancouver, British Columbia.

AGS PROFESSIONAL GEOLOGIST WORKSHOP MAY 2009

The Atlanta Geological Society will have a two-hour Professional Geologist Candidate workshop Saturday, May 30, 2009. Our own Ken Simonton, P.G. will have a presentation covering structural geology.

The class will be held in the Human Development Classroom in the annex of the Fernbank Science Center from 10:00 am to 12:00 pm. The Fernbank Science Center is located at 156 Heaton Park Drive, Decatur, Ga., and is approximately 1-mile north of the Fernbank Museum. The Center does not open until 10:00, just knock on the front door anytime after 9:00 am and you will be let in. For more information on this venue, go to <http://fsc.fernbank.edu>.

The class is open to everyone and two Professional Development Hours are available for attendees. If you are not an AGS member, please consider joining.

Ken Simonton, P.G.

AGS Career Development Committee

www.atlantageologicalsociety.org



<http://comics.com/> Look for Pickles, April 21, 2009 <http://www.gocomics.com/calvinandhobbes/>



Fernbank Museum of Natural History
Upcoming Public Programs and Events
 (All programs require reservations, including free programs)

**Fernbank
 Museum of Natural History**

767 Clifton Rd, NE Atlanta, GA
 404-929-6400

For tickets and details on exhibits, films,
 and events, please visit our website at
www.fernbankmuseum.org

On Exhibit:

- *Entrance Plaza, featuring a family of Lophorhothon dinosaurs*
- *Dinosaurs: Ancient Fossils, New Discoveries (through 8/16/09)*
- *Scenic Stone Mountain: Photographs by Larry Winslett*

Now Showing in IMAX: (Check our website for special screenings)

- *Under the Sea*
- *Dinosaurs Alive!*
- *Galapagos (Friday nights only)*
- *Martinis and IMAX: Friday evenings, 5:30 p.m. – 10 p.m.*

**Now Showing in the Fernbank
 IMAX movie theater:**

(Check our website for special screenings)

- *Under the Sea*
- *Dinosaurs Alive!*
- *Galapagos (Friday nights only)*
- *Martinis and IMAX: Friday evenings, 5:30 p.m. – 10 p.m.*

Upcoming Public Programs:

- **90 Days of Dinosaurs.** May 25- August 22, featuring a variety of promotions and activities. Check website for full calendar. Included with Museum admission or membership.
- **Dinosaur Block Party.** Saturday, May 30, 10 a.m. – 2 p.m. Included with Museum admission or membership.
- **Museum Sleepover.** Wednesday, June 3, 6 p.m. – 9:30 a.m. the following morning. Members: \$75, Nonmembers: \$100; per person. (Next sleepover Sunday, August 2, 6 p.m. – 9:30 a.m. the following morning).

Martinis & IMAX® is presented at the Fernbank Museum of Natural History every Friday evening, January through November; from 5:30 p.m. to 10 p.m. Enjoy no cover charge when you visit us between 5:30 p.m. to 6:30 p.m. This event includes a wine bar, where featured wines can be purchased by the glass and by the bottle. Dinner is also served in the Dining Room, where smaller parties can order chef-prepared dishes-from gourmet pizzas to prime entrées-and dine together in a more intimate and sophisticated setting. Desserts and coffee are available as well.

As always, a full cash bar is offered in the Great Hall where patrons can enjoy a lively atmosphere and musical performances by some of Atlanta's best jazz artists. Bands perform live from 6:30 p.m. to 10 p.m. IMAX® film tickets are \$10. For those who wish to enjoy the atmosphere of Martinis & IMAX® without attending a film presentation, there is a \$5 cover charge after 6:30 p.m. The cover charge is waived for members and patrons who purchase an IMAX® ticket. To purchase tickets in advance, call 404.929.6400.

AGS Treasurer Report

AGS Treasurer Report – April 2009

Membership Dues Payment Status:

	Professional	Student	Corporate	Complimentary
2008	45	5	2	0
2009	60	8	17	
Delinquent*	62	-	-	0

*Members >2 years delinquent.

Finances:

Account Balance as of April 3, 2009 - \$2,305.28

Contact the Treasurer if you wish to receive a copy of the 2008 financial summary

Ken Bechely, Treasurer

ken.bechely@aecom.com

Phone (770) 990-1415

ANNOUNCEMENTS FROM THE TREASURER

PayPal is coming to AGS !!!

Now that the new web site is up and running, and our electronic banking account is established, we will soon have a PayPal Account for dues payments. Please watch the AGS Web Site for the link to PayPal to simplify your dues payments.

2009 Membership Dues

AGS operates on a calendar year, and your 2009 dues were due in January 2009. The AGS Treasurer is accepting 2009 payments now. If you cannot attend a meeting then please consider mailing your dues to the AGS Treasurer along with the completed last page of this newsletter. Also, *please make sure that we have your most current e-mail address.*

Membership Mailing List to be Purged

In April 2009 the E-Mail will be purged of delinquent members that are > 2 years delinquent on membership dues. Please check your membership status so you won't be dropped from the meeting reminders and newsletter distribution. Once you are dropped you'll realize that there is a void in your life, as you'll suddenly remember that you aren't getting the AGS meeting announcements and the monthly newsletter alerts. Please contact the AGS Treasurer to avoid such an interruption in your routine.

Please contact Ken Bechely if you are unsure of your membership status. If you know of a member that no longer is receiving the newsletter notification, have them contact the Treasurer.

Ken Bechely

AGS Officers

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 Phone (404) 463-0679

Treasurer: Ken Bechely
ken.bechely@aecom.com
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AGS 2009 Meeting Dates

Listed below are the planned meeting dates for 2009. Please mark your calendar and make plans to attend.

May 26 – Raj Mahadevaiah and Alan Sanders of Environmental International Corporation

June 30 – Annual Social – BBQ and IMAX

AGS Committees

AGS Publications: Allison Keefer
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www.atlantageologicalsociety.org

NEWS STORIES

Geophysicists Show That Crust Temperature Variation Explains Half Of Elevation Differences In North America

February 1, 2008 — Geophysicists determined that tectonic mountain-building processes are not the only factor that determines elevation in North America. The temperature of the crust affects its density, and lower density crust will rise higher than colder, higher density crust. The heat in question comes from the Earth's interior and also radioactive decay of various elements in the crust. Broadly, the Rocky Mountain region of the United States has the hottest crust, as well as the highest general elevation.

New findings reveal that most of North America is kept afloat by heat within Earth's rocky crust and deeper mantle -- and if not for the heat, much of our continent would sink below sea level. "What we found out is that when you heat the continents they also expand and part of the consequence of that is that they sit up higher," David Chapman, Ph.D., geophysicist at the University of Utah, said.

The heat and temperature inside earth are critical for places like the Rocky Mountains, because it's warmer and more buoyant underneath, pushing the Rockies up. But underneath lower coastal cities like New York and LA, it's cooler, less buoyant, with lower elevations. "The heat is caused by largely by radioactivity, which has a very very long time scale, so no one is going to sink into the ocean because of our discovery," Dr. Chapman said.

http://www.sciencedaily.com/videos/2008/0213-world_on_water.htm

This link has some of the most detailed images of Saturn ever collected. It is just amazing!

<http://www.dailymail.co.uk/sciencetech/article-1172205/Saturn-close-Sensational-cosmic-images-bring-ringed-planet-life.html>

WORD OF THE DAY: from The Free Dictionary

Rupicolous

Definition: (adjective) Thriving among or inhabiting rocks.

Synonyms: rupestral

Usage: The botanist was fascinated by the rupicolous plants that thrive on limestone cliffs and outcrops.

Try using that in a sentence tomorrow! Ed.

Join the Atlanta Geological Society

Membership Application/Information Update Form

Annual membership dues for the Atlanta Geological Society are \$25 for professional membership, **\$5 for students (new reduced rate)**, and \$100 for corporate sponsorship (which includes up to 4 professional memberships). For further details, contact the AGS Treasurer:

Ken Bechely

Phone: 770-990-1415

Email: ken.bechely@aecom.com

Make checks payable to the "Atlanta Geological Society" and remit with the completed form to:

Atlanta Geological Society

Ken Bechely, Treasurer

1455 Old Alabama Rd., Ste. 170

Roswell, GA 30076

Name: _____

Organization: _____

Address: _____

Mailing Address: _____

Phone: (Work) _____ (Home) _____ (Cell) _____

Fax: _____

Email 1: _____

Email 2: _____

Ready to Serve the Society?

Remember that although we have officers and various standing committees, it is ultimately the membership that keeps the Atlanta Geological Society active and growing. We have a world of experience within our membership. Please consider volunteering. Your Atlanta Geological Society needs you.