



NEWSLETTER

60th Annual Meeting and Field Review - South of Joplin



Damon Basset and Dr. Kevin Evans explain facies relationships of Mississippian-age strata along Highway 49, south of Pineville. (Photo by Dr. Tom Plymate)

A Note from the President

Apparently it's spring already, even though it seems like the annual meeting was just yesterday. I sincerely hope that everyone enjoyed our long overdue visit to the far southwest corner of the state. It was one of the highlights of my career so far, to be able to put together a meeting for such a wonderful organization. I was also particularly pleased that we were able to coordinate the meeting jointly with the Missouri Association of Professional Soil Scientists. I hope this year was the first of many joint meetings with MAPSS.

As many of you are probably aware, in early March the Missouri Senate held a hearing on Senate Bill 809. I would like to thank the Missouri Geologists Consortium for all their work disseminating information and making contact with legislators. In cases such as this, I think it is more important than ever for us to stay active in our local and state government and to maintain healthy relationships with other professional groups such as MAPSS. If you have any questions or comments about the current bill, please feel free to make comments through the website (www.missourigeologists.org/), [Facebook](#) page, or [LinkedIn](#) page.

Finally, I'm sure the fall will be upon us as rapidly as spring has come, so it is my pleasure to announce that your president-elect, Dr. Aaron Johnson, associate professor at Northwest Missouri State University, is busy preparing what is sure to be an impressive annual meeting in southeast Missouri. We will be visiting a Doe Run mine, examining surface processes at the mine, and exploring other economic localities. I have been on field trips with Aaron in the past and I can say with certainty that he knows how to put on a good show!

Take advantage of our new social media pages and keep in touch!

See you in the fall,

Damon

2014 Annual Meeting: September 12th – 14th in Salem, MO

The field trip for the 61st annual meeting of the Association of Missouri Geologists will investigate lead-zinc-copper sulfide mineralization in the Viburnum Trend during the day on Friday. The annual business meeting and banquet will be held Friday evening. Prior to the tour, members will undergo outfitting and safety training at the Doe Run Company, West Fork Facility. Members who plan to attend should bring their own steel-toed boots and hard hats if at all possible, since quantities will be limited at the mine site. Lights and other safety equipment will be provided. The focus of the trip will be a visit to one of the operating lead mines in the trend, along with a tour of the surface milling and processing facilities. The tour likely will extend from 7:30 am to about 3:00 pm. The website, www.missourigeologists.org, will be updated as soon as more information is available.



AIPG Poster Contest

Don't forget that AIPG will be hosting a poster contest at this fall's AMG banquet! The AIPG—Missouri section will pay banquet fees for participating students and award tuition assistance cash prizes to the top three presenters in the amounts of \$600, \$400, and \$200 for first, second, and third places respectively. Undergraduate and graduate geoscience students from all Missouri universities and colleges are welcome to participate.

Get Linked In

AMG is now part of the LinkedIn network, thanks to George Davis who is managing the connection portal. Since the fall of 2013 George has been providing social media specifically pertaining to the interest of AMG members. Participation is limited to Missouri geologists, those with a legitimate interest in Missouri geology, and promoters of jobs in Missouri Geology. The site can be accessed at:

http://www.linkedin.com/groups?home=&gid=6506873&trk=groups_most_recent-h-logo

Missouri Geologists' Consortium Update

On Wednesday, January 22, 2014, the Missouri Geologists' Consortium (MGC) held the first panel discussion with invited representatives of the Missouri Geological Survey and the Board of Geologist Registration. The meeting was very well attended and will likely be a recurring annual event.

Currently, MGC has several geologists tracking bills and other actions that could directly and indirectly impact public health, safety, and environment or related topics such as natural sciences education and related funding. Our current database lists several hundred House & Senate Bills, House & Senate Joint Resolutions, and House & Senate Reviews. We are enthusiastic about the positive results of our actions, but there still are some bills of concern.

Of particular recent concern were Senate Bill 809 and House Bill 1891. SB 809 would have removed registered geologists of regulatory requirements on all projects involving decisions/investigation regarding land, water and air resources where geologists would normally be in responsible charge of certain activities. After a groundswell of letter writing to the bill sponsor and in-person testimony of several MGC members before a senate committee, the language in SB 809 was withdrawn. HB 1891 would have allowed an individual to engage in the practice of geology that affects public health, safety and the environment without being a registered geologist. As above, letters and emails written to bill sponsors and district

representatives likely resulted in the bill stalling without further legislative action. SB 691 on sinkholes appears not be threat as some of the requirements were removed.

Several other bills still draw scrutiny and require our attention and action, as they are in conflict with the MGC's Mission Statement. These include HB 1303, HB 1472, and SB 968. Take a minute or two and check out these bills online and decide if you feel the responsibility to write your district legislator and the bill sponsors and voice your concern and opposition. Meeting information is available on the MGC's website: <http://mogeologists.wordpress.com/>.

The MGC is reaching out to affiliated groups/boards/commissions (i.e. State Oil and Gas Council, Well Installation Board, Missouri Retired Teachers Association, MSPE, ACEC-MO) to develop strong lines of communication and develop ways we can help each other and jointly address issues. MGC is working to develop a plan to ensure a sound future for all Missouri geologists and citizens. Your ideas and participation are welcomed and encouraged.

The MGC ratified the following Mission Statement: *The Missouri Geologists' Consortium (MGC) is a non-partisan grassroots organization that supports the sound practice of geology in the best interest of Missouri's citizens. The MGC monitors the Missouri legislature for proposed and pending legislative impacts to geologists and the practice of geology in Missouri. The MGC may endorse or oppose specific legislation. The MGC is dedicated to the best interest of long-term public safety and advocates for actions that help to achieve this goal. The MGC will not endorse or oppose specific candidates for any elected office. With communication, participation and coordination, the MGC also supports the activities of other Missouri geology entities and organizations that benefit this mission.*

Duane Kreuger

Geology at a Glance:

Geology Plays a Big Role in MoDOT's Newest Major Accomplishment, the Stan Musial Veterans Memorial Bridge in St. Louis

George Davis, Missouri Department of Transportation



On February 9, 2014, officials from Missouri DOT, Illinois DOT, the Federal Highway Administration, and many other organizations and contractors were in St. Louis for the grand opening of the new Stan Musial Veterans' Mississippi River Bridge. This bridge is the largest in Missouri's highway system, and the third largest cable-stayed bridge in the United States. Built at a total cost of \$640 million dollars, crews worked over one million man-hours, placed 8 million pounds of reinforced steel (the weight of 363 school buses) and over 14.8 million pounds of girders (the weight of 925 full-grown elephants). The final span of 1500 feet stands 400 feet tall at the central supporting piers, two-thirds the height of the Gateway Arch.



Geology of the subsurface played a critical part in the overall design of the project. Exploratory drilling in 2010 completed by Geotechnology, Inc. determined limestone bedrock to be the supporting strata under the bridge. Later that year, an Osterberg load cell set a world's record load test of 36,067 tons on the limestone. This determined that the column size of the main piers could be increased and the number of columns per pier could be reduced without compromising safety of the structure while reducing the overall cost to the public for the bridge. Twelve individual drilled columns of concrete and reinforcing steel were poured in 2010 based on these test results.



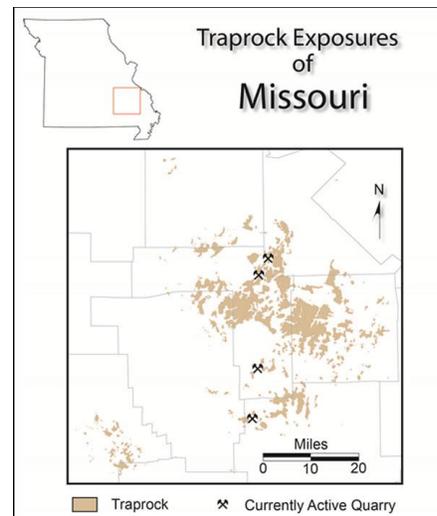
The bridge was designed at MoDOT's request to exceed standards for performance during seismic events, for shear-induced motion up to 0.23g for a 2500-year return period event. This means that the bridge would perform adequately and be open to traffic immediately following a 975-year event, and within a short time after a 2500-year event. The bridge design criteria also addressed pier scour, impacts from barges and other riverine traffic, and the live loads involved. Geotechnical design was accomplished by HNTB of Kansas City, Missouri.

Traprock Resources in Missouri

Dave Bridges, Missouri Geologic Survey

The Missouri Geological Survey has recently completed an analysis and assessment of traprock potential in Missouri. Traprock is a term used by geologist and rock producers describing any dark colored, fine grained, igneous aggregate. This assessment was performed to assist the Missouri Department of Transportation in evaluation of materials availability for use on potential construction projects. This assessment discusses several aspects of the traprock industry in Missouri including: physical and chemical properties, financial impact, resource availability and future development of the resource. The assessment also looks at the overall and per industry value of the resource to the Missouri economy. All of this information is highlighted in a webpage located at :

<http://dnr.mo.gov/geology/geosrv/imac/traprock.htm>.



Missouri Geological Survey Develops New Tool Using Google Earth

The Missouri **Geosciences Technical Resource Assessment Tool** ([GeoSTRAT](#)) is an interactive application that makes geologic and hydrologic data readily available for public use. GeoSTRAT enables users to easily visualize and explore geospatial data using an interactive map that has been developed on a 3-D globe for added visualization of the land surface. Data such as geology, water wells, sinkholes, historic mine locations, caves, springs, dye traces, well logs, aquifers, and losing streams can be downloaded in formats compatible with a variety of free and commercial mapping software.