

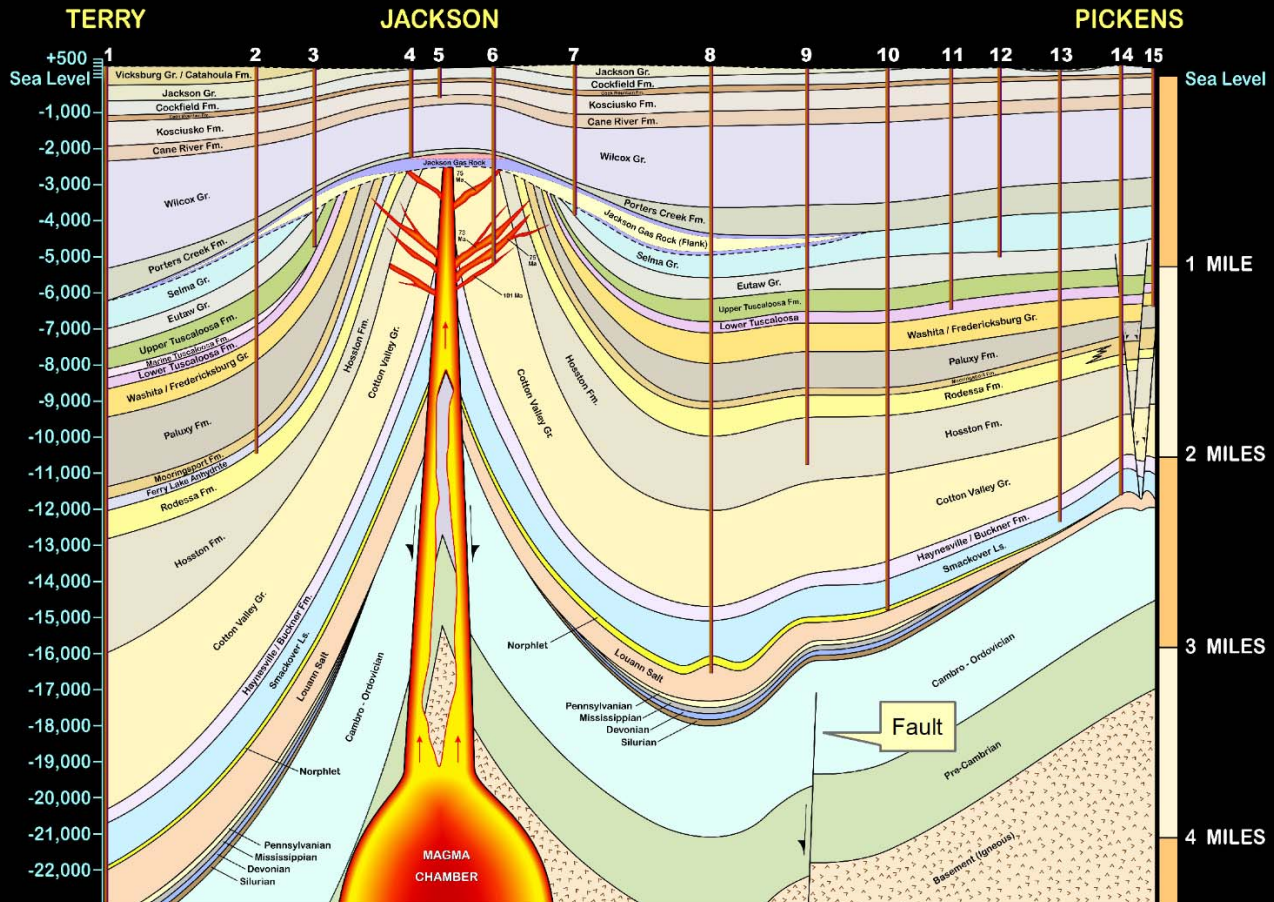
MISSISSIPPI GEOLOGICAL SOCIETY

eBULLETIN

Volume 63

No. 9

May 2015



BOLAND & JOHNSON AWARD WINNERS

IN MEMORIAM: DUDLEY J. HUGHES

SPRING FLING & POSTER SESSION: ABSTRACTS

MDEQ's OFFICE OF GEOLOGY FINDS FAULT



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PRESIDENT'S LETTER

Ezat Heydari



Greetings:

It has been a great year and I am delighted to have been given the opportunity to serve the Society. My term is ending and MGS will be under the great leadership of Jack Moody.

During the past year I tried to move the Society in the direction originally outlined by our previous President Neil Barnes. The goal is to broaden the scope of the Society and enhance participation by academics, state agencies, and oil and gas operators. We made some progress but we have a long way to go.

Student presentations during our Fall BBQ meeting changed the atmosphere of our first meeting. Students link us to academia and enhance our communication. We have at least four student presentations for the Spring Fling this year. These should also make our last meeting a very lively one.

Major changes are in the process of coming to MGS. We have initiated a protocol to become a more dynamic, and outwardly society. The pathway to achieve these is through the transfer all of MGS activities from an e-mail based system to an interactive web based platform. Matt Caton has taken charge of this change and is moving us in that direction. When implemented, we will become a highly visible society to people outside of the MGS world. Contributors will have a world wide exposure.

We are also in the process of preserving the historical records of the Society. Stanley King has worked hard to organize and classify these documents so that they are ready to be scanned. In due time they will be posted on MGS website and available to all.

I like to send my greatest gratitude to the MGS board who have been extremely supportive of our activities. To Matt Caton who tirelessly put our Bulletin together every month; to Joe Johnson who made sure we have speakers for our luncheons; to Bill Bagnall who kept the Society in a sound financial standing; to Steve Walkinshaw who managed our current website; to Dave Cate who organized Boland and Johnson awards; to John Ryan, Larry Baria, Stanley King, Rick Erickson, and Maurice Birdwell who fulfilled a variety of society duties.

I look forward to see you on Thursday.

Regards,

Ezat

2014-2015 MGS MEETING SCHEDULE

When	What/Who	Where
September 11, 2014	Fall BBQ	Jackson Yacht Club-5:30pm
October 9, 2014	John Allen Tuscaloosa Marine Shale	River Hills – 11:30am
November 13, 2014	Carl Fiduk Tectonics and Depositional Episodes of the GOM	River Hills – 11:30am
December 5, 2014	MAPL Christmas Party and Dance	Duling Hall - 7pm
January 8, 2015	Frank Vincent Shallow Oil “Re-Discovery” at Washington Field	River Hills – 11:30am
February 12, 2015	David T. Dockery III, RPG Structural Geology of MS and Oil and Gas Fields	River Hills – 11:30am
March 12, 2015	Dr. Ezat Heydari Sedimentary Rocks of Gale Crater, Mars	River Hills – 11:30am
April 9, 2015	Boland Scholarship Awards	River Hills – 11:30am
May 14, 2015	Spring Fling Poster Session	Jackson Yacht Club 5:30pm



OFFICERS MEETINGS

September 4, 2014
October 7, 2014
November 11, 2014
January 6, 2015
February 10, 2015
March 6, 2015
April 7, 2015
May 12, 2015



BOLAND SCHOLARSHIP FUND

CONGRATULATIONS

Congratulations to this years Boland Scholarship and Johnson Memorial Award winners and thank you to the following sponsors for their generous donations to the Boland Scholarship Fund!

**Boland Family
Dave Cate
George T. Smith
Jack Douglas
Chris Franks
I. Meade Hufford
Maurice Birdwell
Charlie Williams
Jim Michael
Vaughn Watkins
Mary Zimmerman
Millsaps College
WM & Liz Patterson**



BOLAND SCHOLARSHIP

Regan Byrd Mississippi State University



Regan Byrd – Regan is from Florence, Mississippi and is a Senior at Mississippi State where she will graduate this May with her B. S. in GeoScience. Her overall GPA is 3.69 and her major GPA is 3.67. She plans to attend graduate school with an Environmental or Hydrogeology focus. She has been an intern with Neel-Schaffer, Inc. involved in environmental site assessments and groundwater sample tests. She has also worked as a Lab Technician with Soil-Tech Consultants involved in processing soil samples and running sieve analyses. Regan has received the Dunn Memorial Scholarship at MSU and is a member of the President's and Dean's Honor Rolls. She has mentored for the Boys and Girls Clubs in Starkville.



BOLAND SCHOLARSHIP AWARDS

Peshani Herath University of Mississippi



Peshani Herath – Peshani is a native of Sri Lanka and a Senior at Ole Miss. She is a dual major and will graduate with a B. S. degree in Geological Engineering in May followed by her Physics degree. Her overall GPA is 3.84 and her major GPA is 3.99. She plans to attend graduate school and is considering several colleges in the western states. Her career interests are in the Environmental or Geophysical fields. She has interned at the Goddard Space Center in Maryland during the summer months and also while at Ole Miss. Her honors include the Chancellor's Honor Roll and the Barksdale Honors College at Ole Miss. She has been a volunteer for the Oxford Lafayette Humane Society for the past 10 years.



BOLAND SCHOLARSHIP

Patrick Lazzarino University of Southern Mississippi



Patrick Lazzarino – Patrick is from Hattiesburg, Mississippi and is a Senior at the University of Southern Mississippi and will graduate in May with his B. S. in Geology. His overall GPA is 3.94 and his major GPA is 4.0. Patrick received a B.S. degree in Business Administration from USM in 2010. He plans to attend graduate school with a career focus in GeoChemistry. While attending school, Patrick has also been the full time body shop manager for his family’s auto repair business in Hattiesburg. He has been a member of the President’s and Dean’s List at USM since 2006. He is active in the Southern Geological Society and has received the Award of Excellence, a DOE Instructional Grant and the Foundation Scholarship at USM.



BOLAND SCHOLARSHIP

Theresa Woehnker
Millsaps College



Theresa Woehnker – Theresa is from Austin, Texas and is a Junior at Millsaps College. She will graduate in May, 2016 with a B. S. degree in Geology and a minor in Economics. Her overall GPA is 3.51 and her major GPA is 3.66. Her future plans include graduate school. She currently interns at Jura-Search, Inc. where she is involved in oil and gas exploration. She currently holds the Dudley Hughes Exploration Scholarship at Millsaps and is a Dean’s Scholar. She is a Geology Department tutor, a member of the AEG and has been involved with the Millsaps Honor Program doing stream erosion studies in the Jackson area. She has been a member of the Millsaps Women’s Lacrosse and Cross Country teams.



DUSTIN JOHNSON MEMORIAL AWARD

Ashley Ritter University of Mississippi

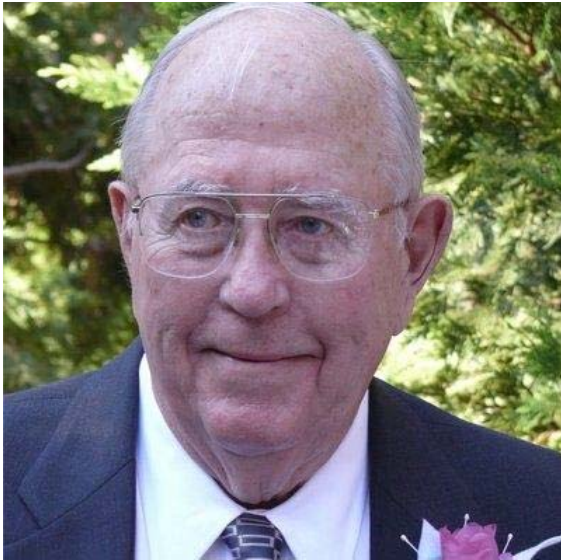


Ashley Ritter – Ashley is from Boise, Idaho and is a Senior at Ole Miss where she will graduate in May with a B. S. degree in Geological Engineering. Her future includes graduate school with a career interest in Hydrogeology. She has achieved an excellent scholastic record at Ole Miss, all while steadily working several jobs to finance her education. She currently works at the MMRI and is a Research Asst. at the National Center for Physical Acoustics. In addition, she tutors students and is a teaching assistant. She has received awards from the Shreveport Geological Society, the Mississippi Engineering Society and the Desk and Derrick, all of which help finance her education.



IN MEMORIAM

Dudley J. Hughes 1930-2015



Dudley J. Hughes, acclaimed geologist and philanthropist, 85, of Jackson died Tuesday, April 21. Dudley was the beloved husband of Robbie Hughes for 64 years.

Dudley Hughes grew up in Texas, and graduated from Texas A&M in 1951. Hired by Union Producing Co. as a field geologist and scout, he was almost immediately called up for active duty by the military. He served as a first lieutenant in the U.S. Army antiaircraft artillery in the [Korean War](#) and was awarded the [Bronze Star](#) Medal for distinguishing himself by meritorious service. He wrote a book, *Wall of Fire*, about his Korean War experience.

After returning to the United States, Dudley Hughes rejoined Union Producing in Mississippi. He and his twin brother Dan Hughes formed a partnership and later started a company, Hughes & Hughes, for independent operations. Since that first lease in 1951, Mr. Hughes has had an extremely accomplished 40-year career in exploration geology.

Mr. Hughes received numerous professional and civic honors. He was elected to Membership of All American Wildcatters, a group limited to 100 members in the U.S. He was inducted into the Mississippi Business Hall of Fame in 1996; awarded the Geosciences and Earth Resources Distinguished Achievement Medal at [Texas A&M University](#) in 1997 the American Association of Petroleum Geologists' 2008 Outstanding Explorers Award; the Colonel Edwin L. Drake Legendary Oilman Award in 2010, honoring a lifetime of achievement with the oil and gas industry; and the "Distinguished Alumnus Award" and the Sterling C. Evans Medal, the two highest awards that Texas A&M gives to their alumni. He also authored the book *Oil in the Deep South*, along with several technical papers.

Mr. Hughes' professional contributions to geological exploration include extensive philanthropic donations. Mr. and Mrs. Hughes were named the 2009 Philanthropist of the Year by the state of Mississippi. He has been a loyal supporter of the Texas A&M College of Geosciences, and gave an endowment to the Texas A&M Berg-Hughes Center.

He was a member of numerous industry associations and served on many committees, including being the Co-Founder of the Metropolitan Supper Club.

In addition, he has been a generous supporter of the Mississippi Museum of Art, the Mississippi Museum of Natural Sciences, as well as many educational institutions and church related organizations.

An avid outdoor sportsman, he made annual trips to Great Britain for more than fifteen years, shooting grouse, partridges and pheasants during season. Another favorite sport was fishing for Atlantic salmon in Canada. Art was also a major interest in his life, and he loved collecting paintings and tapestries. Although an astute geologist and highly successful businessman, this soft-spoken and scholarly man will most of all be remembered by his big heart and generous spirit by all who knew him.

He is survived by the love of his life, Robbie Watson Hughes; his two daughters, Vikki Hughes Johnson (Price) and Cynthia Hughes Meehl (Brian);

grandchildren, Mims Hughes Wright (Kelly), Elizabeth Watson Wright (Jesse Higginbotham), Neal Price Wright, Holly Rob-in Meehl and Rose Kendall Meehl; and great-grandchildren Felix and Wren Wright. He is also survived by his twin brother Dan Hughes, his twin sisters June Hughes Ainsworth and Jane Hughes Christian (Jim). Dudley Hughes was predeceased in death by his father, Dan Greenwood Hughes, and his mother Winnie Williams Hughes.

Our overwhelming gratitude goes to Dr. Mark Meeks, the compassionate caring employees of Campbell Cove at St. Catherine's Village, and Kelly from Gentiva Hospice.



MGS SPRING FLING

POSTER SESSION

Depositional environments of the Norphlet Formation (Jurassic) – Little Cedar Creek and Brooklyn Fields, southwest Alabama
Catherine Henry

The Norphlet Formation is an Upper Jurassic siliciclastic unit that is located in the states of Arkansas, Louisiana, Mississippi, Florida and Alabama. Although located across the southeast, the Norphlet has been studied extensively in southwest Alabama because of its oil and gas production, both onshore and offshore. The Norphlet Formation has been of interest to the petroleum industry since the discovery of Mary Ann Field, Mobile Bay, Alabama in 1979 for its major deep gas reservoirs in the eolian dune sands. The purpose of this study is to understand the depositional environments of the Norphlet Formation and their effect on reservoir quality in Little Cedar Creek and Brooklyn Fields as they are potential exploration targets. Mud log and e-log data has been collected from over 200 wells in Little Cedar Creek and Brooklyn Fields. With this data a study area base map, a pie-chart lithofacies map, and four lithology (evaporite, shale, sand, gravel) percentage maps of the top 100 feet of the Norphlet have been constructed using ArcMap. The Norphlet is understood to be a predominantly regressive depositional unit that is dominated by four main lithofacies, evaporites, shale, sand, and gravel, constituting a sequence of continental clastics. Regionally, the Norphlet has been defined as deposition on a broad desert plain, bounded on the north and east by the Appalachian Mountains and Wiggins arch, and on the south by the evolving Gulf of Mexico basin. Sand and gravel sourced from these highlands were deposited in the proximal and distal margins of alluvial fan, alluvial plain, and wadi environments. This sediment was then reworked and transported by eolian processes and deposited in the interdune and dune environments of the region. As dune deposition was occurring, a marine transgression (Smackover deposition) followed and reworked the eolian deposits. With this understanding of Norphlet deposition in a regional sense of southwestern Alabama, the depositional environments will be reconstructed to the study area of Little Cedar Creek and Brooklyn Fields.



MGS SPRING FLING

POSTER SESSION

Pyrite and Iron Oxide Associated with Burrows in the Prairie Bluff Formation, Starkville Mississippi

Jacob Sharp and Brenda L. Kirkland

Red stained burrows stand out in relief against the white chalk of the Prairie Bluff Formation in many locations. One outcrop in city limits of Starkville has been the focus of repeated studies by student researchers. The 38 x 21 meter site crops out as a ravine in silty chalk with abundant nodules (1-5 cm in diameter) and occasional burrows (5-100 cm long). The outcrop is crossed by joint sets, which show 1-3 cm wide zones of tan discoloration along fractures. Thin sections of burrows show that they are composed of layers of pyrite, gypsum, calcite, and red iron oxide. XRD data confirms the presence of pyrite, calcite and gypsum. Some samples contain dehydrated, filamentous microbes between layers of minerals suggesting that microbes play a role in formation of the mineral suite. SEM images show filaments ~10 microns wide, which are interpreted as fungal hyphae, as well as filaments <5 microns wide, and bacilliform microbes, which are both interpreted as bacteria. Abundant evidence of dissolution implies that sulfuric acid may occur as one phase of the chemical weathering process.



MGS SPRING FLING

POSTER SESSION

A Petrographic Analysis of the Microbial Thrombolite Buildup in the Oxfordian Smackover Formation, Little Cedar Creek Field, Alabama

Natalie Samai-Odegaarden

The discovery of hydrocarbons in the Smackover Formation in the Little Cedar Creek Field, Alabama in 1994 piqued interest with researchers. The established stratigraphic framework for this region allows the exceptional opportunity to carry out detailed microfacies analysis of the microbial thrombolitic component in the Jurassic (Oxfordian) buildups through core description, thin-section, and isotopic analysis to identify the succession of organisms, microbial carbonate deposition, and diagenesis that contributed to formation of these thrombolite buildups. The Little Cedar Creek Field parallels the up dip limit of the Smackover Formation approximately 3.2 km (2 miles) away. Based on the cores used in this study, the Smackover was intercepted at depths ranging from 3,321.4 to 3,567 meters (10,897-11,703 feet) and contains buildups 2 to 13 meters (7-42 feet) thick. Five microfacies were defined (brown laminated, repeating centimeter-scale cycles, chaotic, black *Renalcis* like-layers/dendritic structures, and dark lens shapes). In a few instances small sponges form a primary framework, but in most of the buildup, distinct layers of microbially precipitated micrite forms in succession one on top of the other. Because Jurassic microbial carbonates are important hydrocarbon reservoirs of global interest, understanding these complex thrombolitic buildups, can help explain variation in reservoir quality.



MGS SPRING FLING

POSTER SESSION

A comparative study of cation and anion sorption characteristics at the Al(III), La(III) and Ce(IV) hydr(oxide)-water interface

Russ Anderson

The University of Southern Mississippi
Department of Geography and Geology

Rare earth elements (REEs) are widely used in industrial applications; as components in batteries, electronics, and as catalysts for industrial processes including petroleum refining. The versatility of rare earth oxides (REOs) is largely attributable to the tunability of their surfaces to yield materials with very different reactivities. This tunability and the recognition that REEs are not as rare has led to interests into new application of REOs e.g. soil contamination remediation. The tunability also means that the potential environmental effects (beneficial or deleterious) of any intentional or unintentional release of REOs will depend largely on the degree of alteration and associated surface properties. The most common method for tuning the surfaces of rare-earth hydr(oxides) is thermal treatment at different calcination temperatures. As these hydr(oxides) are progressively heated, chemical dehydration/dehydroxylation results in the sequential loss of surface hydroxyls yielding a surface with increasing oxygen: hydroxyl ratios. This research focuses on the use flow adsorption microcalorimetry to study and compare the acid-base dissociation character and anion-cation sorptive behavior of surface hydroxyls on Ce(IV) and La(III) hydr(oxides), their transitional phases, and their oxides. Specifically, these research questions will be addressed; (i) How the nature of the metal affects acid-base characteristics of La(III), Ce(IV), and Al(III) hydr(oxides), transitional oxyhydroxide phases, and oxides (ii) How the point of zero net charge (PZNC) of La(III), Ce(IV), and Al(III) hydr(oxides) changes as a function of calcination temperature and hence transition from hydr(oxide) to oxide (iii) How heat induced alterations of La (III) and Ce (IV) hydr(oxides) and transitions to their respective oxides affect adsorption (kinetics and mechanisms) of anions and cations.



MGS SPRING FLING

POSTER SESSION

Biogeochemical Alteration of Particulate Pyrogenic Organic Carbon (PyC)

Jason M. Stuart

Department of Geography and Geology

The University of Southern Mississippi

The resistance of plant derived pyrogenic organic carbon (PyC) to abiotic and biotic means of degradation has led to increased interest in the role of PyC as a potential carbon sink, as well as a strategy for sequestering atmospheric CO₂ to mitigate excess carbon emissions. As wildfires continue to increase in size, the role of PyC in areas subject to burning will become more significant. Though much research pertaining to the fundamental properties of PyC degradation have been performed in a controlled lab setting, there has been very little work regarding PyC degradation in a field setting where factors such as precipitation and temperature fluctuate seasonally. This work focuses on various degradation characteristics of two different types of plant derived PyC, placed in both a burned and unburned setting, over a study period of 1-year. There are three goals to this research: (1) Observe the effects of temporal fluctuations in various meteorological parameters (e.g. temperature, precipitation) on the field degradation of PyC. (2) Observe differences in PyC degradation in repeatedly burned areas compared to an unburned setting. (3) Observe differences in PyC degradation in PyC formed from different feedstocks. The results of this study should serve to improve understanding of the degradation of PyC in areas similar to the pine forests of South Mississippi, as well as improving the accuracy of predictions of CO₂ sequestration potential by PyC in these areas.



Students, educators and education itself once again will be the focus of a special issue of the AAPG Explorer, when in August we offer our annual Geoscience Education edition.

[Reserve Your Spot Now!](#)

Conceived as an encore to last year's successful education-initiative launch, this year's special edition will provide the latest news, features and reports that center on the people who are teaching, the programs that are succeeding, the techniques that are trending, the concepts that are emerging and the students who are learning the latest in geoscience education.

Stories in the August Explorer already will include:

- o The importance of geoscience education on a global scale – and several looks at those who are shaping and delivering it.
- o Interviews with award-winning teachers about current trends and future forecasts.
- o Cutting-edge, often dazzling training technology that's in use or being developed by several of the industry giants.
- o Student expos – Enter the young: The Explorer will shine a spotlight on the people and concepts behind geoscience educational events all over the world.
- o The struggles and successes of the institutions and educators responsible for tomorrow's geoscience workforce.

The 2014 Geoscience Education issue of the AAPG Explorer proved to be among the year's best received and best referenced editions.

This year's issue promises to be even better.

Plan now to be part of the summer's top read.

SPOTLIGHT ON EDUCATION

Reservations Due:

July 2

Materials Due:

July 9

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For editorial, contact [Brian Ervin](#).

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MGS HONORARY MEMBER

STANLEY KING

Congratulations Stanley!

Thanks for all the time and effort you have contributed to the Mississippi Geological Society over the years. We welcome you as our newest honorary member. Cheers!





CALL FOR PAPERS
65th GCAGS Convention
September 19-22, 2015 •
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Houston, Texas



New Oil and Gas Discoveries
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To participate in the 2015 GCAGS Convention
Oral and Poster presentations

An abstract of up to 250 words should be submitted no later than **December 13, 2014** to Technical Program Chair, Linda Sternbach (linda.sternbach@gmail.com).

After notification of acceptance on **January 20, 2015**, authors submit extended abstracts (1-2 pages) or full papers up to 12 pages to the GCAGS Transactions by **February 20, 2015** to GCAGS Transactions Editor, Steve Levine.

Full instructions for manuscript submissions will be posted online at www.gcags2015.com.

Publish your work in the upcoming GCAGS Journal !!
(a new peer-reviewed journal of Gulf Coast Geoscience).

Instructions: An extended abstract of at least 600 words, including 1–2 representative figures, Should be submitted by **December 2, 2014** to Journal Editor, Barry Katz (BarryKatz@chevron.com).

After acceptance, a full manuscript must be submitted by **March 24, 2015**.

Full instructions for manuscript submissions will be posted online at www.gcags2015.com.



MGS MONTHLY COLUMN

David T. Dockery III, RPG

MDEQ'S OFFICE OF GEOLOGY FINDS FAULT

David T. Dockery III, RPG, and Barbara Yassin, Mississippi Office of Geology

Not that the fault was ever lost; the story goes like this. In the September 1997 issue (v. 18, no. 3, p. 33-45) of *Mississippi Geology*, David Dockery, John Marble, and Jack Henderson published an article on "The Jackson Volcano," which included a north-south cross section from Pickens in the north, across the Jackson Dome and the buried volcano at its core, and to Terry in the south. The cross section was based on 14 oil and gas exploration wells and an Office of Geology test hole at the crest of the Jackson Dome. In preparation for the first Children's Educational Fair sponsored by Mississippi Children's Museum Partners and the Junior League of Jackson, which was held at the State Agricultural Museum on April 2-4, 2008, the Office of Geology and geologist Steve Walkinshaw and graphic artist Candy Goolsby of Vision Exploration prepared educational geologic visuals for the event. This included a revision of the earlier Jackson Dome cross section, including the same 15 wells but with the advantage of available seismic data obtained by Vision Exploration. This revised cross section and locator map were published in the July 2008 (page 4) issue of MDEQ's newsletter *Environmental News*.

The Vision Exploration cross section included the basement rock beneath the Louann Salt, which was not shown on the original cross section. These rocks contained only one basement fault under well #9, a down-to-basin normal fault with an east-west orientation, which terminated in the Cambrian-Ordovician section at a depth of about 3 miles below the surface. Above the fault, a hinge line/anticlinal structure extended through the Jurassic and Early Cretaceous section.

Saturday evening at 7:39:23 p.m. on May 2, 2015, a 3.2 magnitude earthquake hit four miles southwest of Canton, Mississippi, at a depth of 5 kilometers \pm 2 kilometers. Within thirty minutes at 8:08:35 p.m., a 3.0 magnitude aftershock hit five miles southwest of Canton at a depth of 5 kilometers \pm 2 kilometers. The Jackson Dome cross section passed just east of the earthquake epicenters. The following Monday, Barbara Yassin plotted the epicenters on the cross section location map along with faults depicted on oil and gas exploration structural contour maps. As seen in the figure below, the basement fault of the Vision Exploration cross section lined up with the epicenters in an east-west trending fault. The depth to the top of the fault as drawn is about 5 kilometers or 3.1 miles below the surface. A geologist with Denbury Resources was contacted to check company seismic data at the site of the epicenters. Denbury data showed no faults associated with the epicenters; seismic data at the site was described only as "a thick pile of sedimentary rocks."

At a depth of 5 kilometers, even with a \pm 2 kilometer uncertainty, the Canton earthquakes are more likely to have occurred in the pre-salt bedrock rather than above the salt, and thus are not related to salt tectonics. The location map of the cross section includes known faults associated with salt tectonics, none of which is present at the Canton earthquake epicenters. Also, the fact that Denbury's new seismic data showed no fault associated with the earthquakes indicates that the earthquakes were caused by a deeper, less recognizable fault.



MGS MONTHLY COLUMN

David T. Dockery III, RPG

Tuesday afternoon of May 5, Walt Grayson of WLBT called Robbie Wilbur, of MDEQ's Public Relations, for an interview on the Jackson Volcano at "ground zero," the Jackson Coliseum.

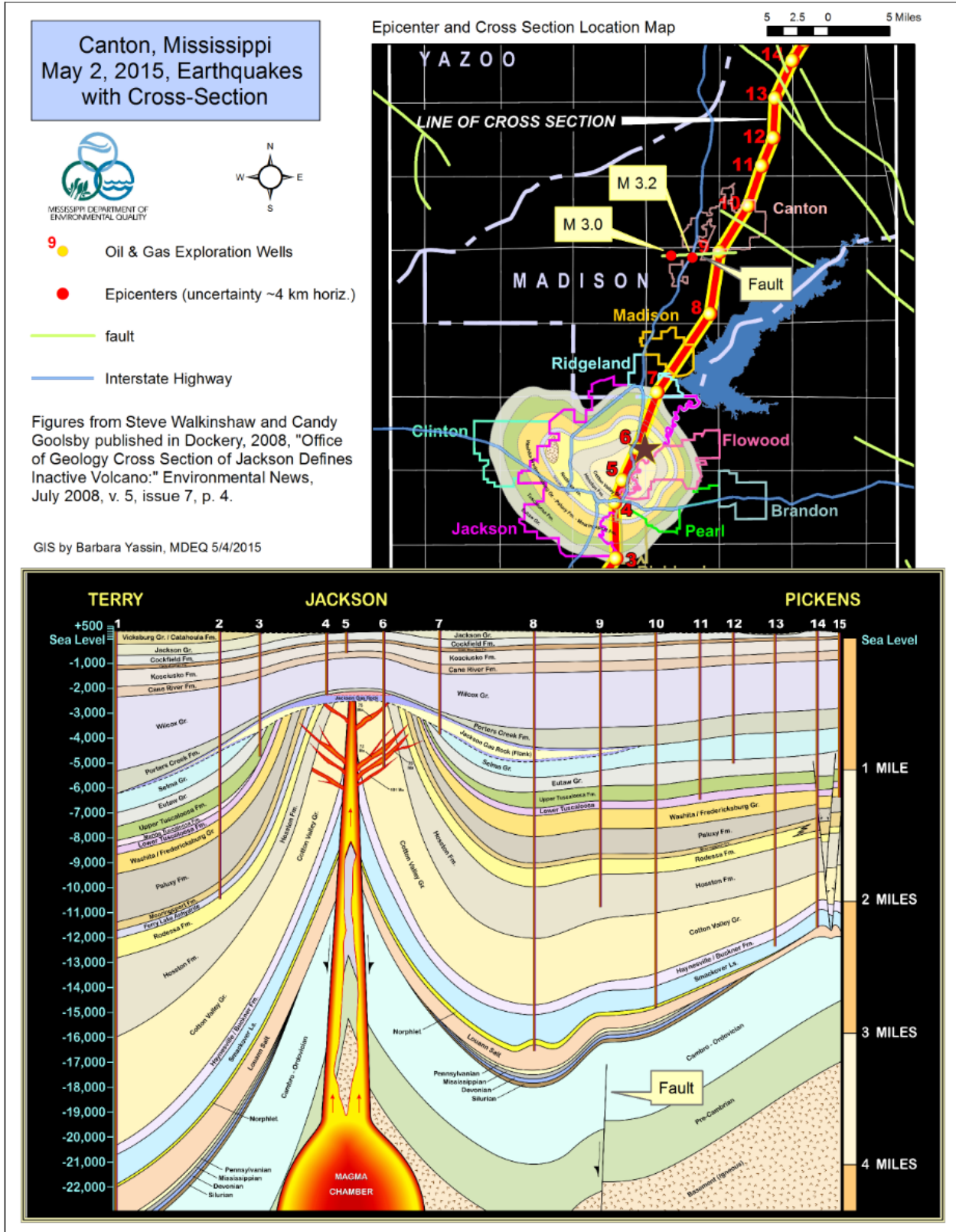




MGS MONTHLY COLUMN

David T. Dockery III, RPG

In the interview with Dockery, Grayson asked about the Canton earthquakes and was sent a version of the figure shown here.





Power Plays: Geothermal Energy in Oil and Gas Fields

Conference Workshop
May 18-20, 2015
SMU Campus in Dallas, Texas

The SMU Geothermal Lab is hosting our 7th international energy conference and workshop, *Power Plays: Geothermal Energy in Oil and Gas Fields*, on May 18-20, 2015 on the SMU Campus.

Over 200 individuals in field operations, project development, technology, finance, engineering and resource assessment from the geothermal, oil, gas and renewable energy sectors are expected to attend.

The conference goal is to connect attendees with the knowledge, technical expertise and equipment options they need to successfully transition existing oil or gas fields into an electricity-generating system. This year our focus broadens to include geophysical exploration topics.

Topics of discussion include power generation from flare gas, waste-heat, and geothermal fluids, along with research updates on induced seismicity, onshore and offshore thermal maturation, Play Fairway Analysis and basin modeling. SMU researchers will present results from their Fall 2014 Eastern North American Margin Community Seismic Experiment (ENAM CSE) research. In addition, equipment such as one-well systems, desalination and other new technologies will be explored.

A pre-conference workshop on May 18th, **A Primer on Geothermal Energy Resources**, provides a focused introduction for those new to the geothermal and energy communities. Four Continuing Education Credits are provided. The workshop is limited to the first 50 registrants to provide a classroom atmosphere with ample time for questions and answers.

The conference details are:

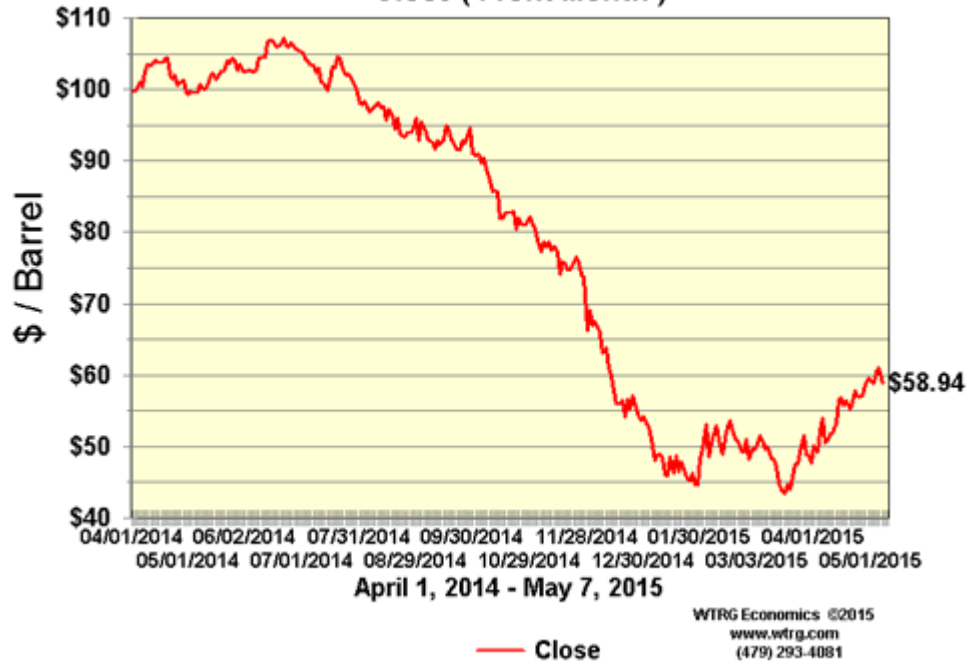
Name: *Power Plays: Geothermal Energy in Oil and Gas Fields*
Date: Workshop May 18; Conference May 19-20, 2015
Location: SMU Campus, Dallas, Texas
Website: <http://www.smu.edu/Dedman/Academics/Programs/GeothermalLab/Conference>
Contact: Maria Richards, mrichard@smu.edu, 214-768-1975



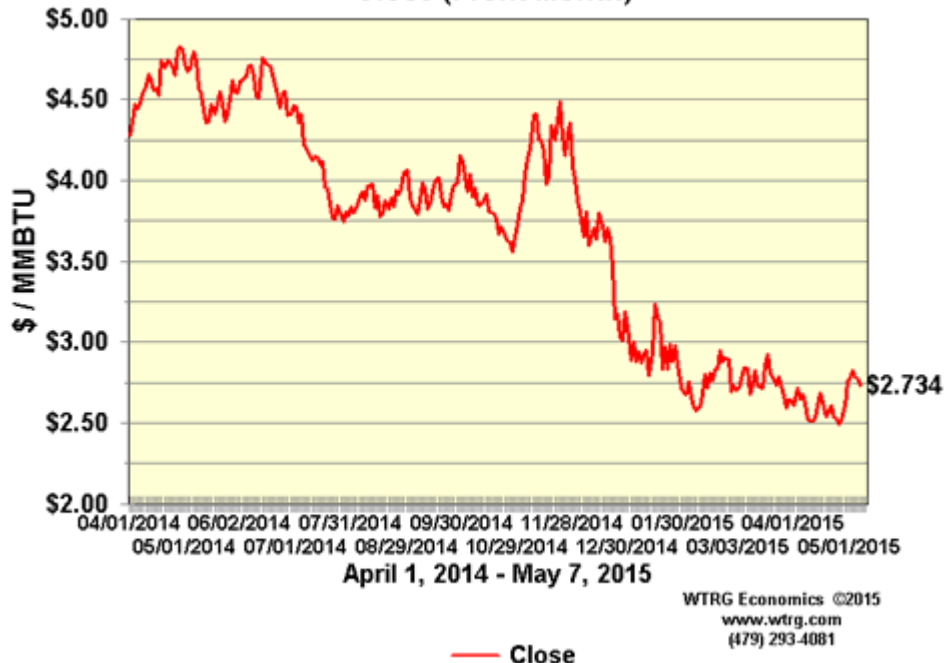


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* This list is updated on a monthly basis.
Please contact Bill Bagnall if you have any questions.

GEO LINK POST

USGS TAPESTRY OF TIME AND TERRAIN <http://tapestry.usgs.gov> The CCGS is donating to all of the 5th and 6th grade schools in the Coastal Bend. Check it out—it is a spectacular map. You might want a framed one for your own office. The one in my office has glass and a metal frame, and it cost \$400 and it does not look as good as the ones we are giving to the schools. Call Owen 510-6224 if you want one for your office for \$150. Duncan, Mike, Chris, Dave, Bob Randy, Seb., Kevin, Ken, Craig, Patrick, Robert.

FREE TEXAS TOPO'S <http://www.tnris.state.tx.us/digital.htm> these are TIFF files from your state government that can be downloaded and printed. You can add them to SMT by converting them first in Globalmapper. Other digital data as well.

FREE NATIONAL TOPO'S [http://store.usgs.gov/b2c_usgs/b2c/start/\(xcm=r3standardpitrex_prd\)/.do](http://store.usgs.gov/b2c_usgs/b2c/start/(xcm=r3standardpitrex_prd)/.do) go to this webpage and look on the extreme right side to the box titled TOPO MAPS DOWNLOAD TOPO MAPS FREE.

<http://www.geographynetwork.com/> Go here and try their top 5 map services. My favorite is 'USGS Elevation Date.' Zoom in on your favorite places and see great shaded relief images. One of my favorites is the Great Sand Dunes National Park in south central Colorado. Nice Dunes.

<http://antwrp.gsfc.nasa.gov/apod/astropix.html> Astronomy picture of the day — awesome. I click this page everyday.

<http://www.spacimaging.com/gallery/ioweek/iow.htm> Amazing satellite images. Check out the gallery.

<http://www.ngdc.noaa.gov/seg/topo/globegal.shtml> More great maps to share with kids and students.

www.geo.org Don't forget we have our own web page.

<http://micro.magneet.fsu.edu/primer/java/scienceoptiscu/owersof10/>

<http://asterweb.jpl.nasa.gov/galery/default.htm> Great satellite images of volcanoes

<http://terra.nasa.gov/gallery/> More here

www.ermapper.com They have a great free downloadable viewer for TIFF and other graphic files called ER Viewer.

www.drillinginfo.com This is an incredible (subscription) well and completion data service for independents. Can be demo'ed for free.

<http://terrasrver.com/> Go here to download free aerial photo images that can be plotted under your digital land and well data. Images down to 1 meter resolution, searchable by Lat Long coordinate. Useful for resolving well location questions.

<http://www.fs.fed.us/gpnf/volcanocams/msh/> This is a live cam of Mt. St. Helens refreshed every 5 minutes. At the bottom are old videos of past eruptions in this cycle. It is worth a watch especially now.



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Joseph H. McDuff
Geologist



351 Chapel Loop
Mandeville, LA 70471
985.845.9430
jhmcduff@charter.net

Philip L. Cook

Petroleum Geologist

105 Livingston Drive
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