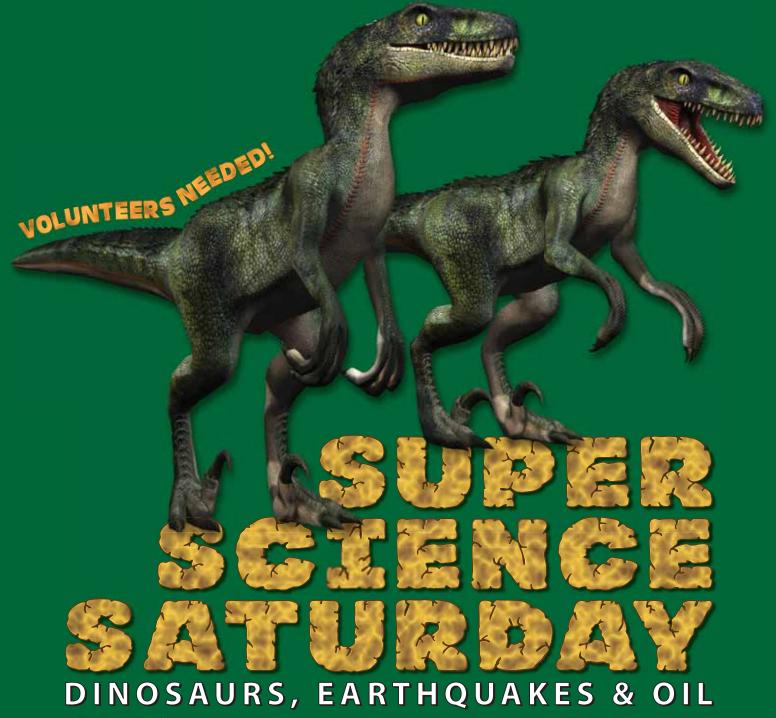


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Published monthly by the New Orleans Geological Society. This issue was sent to press on January 29, 2017.

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Cover Photo by Gordon Dietzman (National Park Service) The Mississippi River above Minneapolis, MN

In many ways, the complex, muddy waters of the powerful Mississippi River we see here in New Orleans bears little resemblance to the calm, shallow river upstream of Minneapolis and seen on this month's cover as it travels from its headwaters at Lake Itasca to its terminus at the Gulf of Mexico. The Minnesota stretch of the Upper Mississippi is marked by a series of lock-anddam complexes, long stretches of languid flow, natural rapids, bedrock bluffs, gorges, and even a waterfall. The formation of the Mississippi began to take shape 35,000-10,000 years ago during the retreats and advances of the Wisconsin Glaciation, the last major glacial event of the Great Ice Age. Around 12,300 years ago, one of the subsidiary lobes of the continental glacier retreated, forming a large braided stream of glacial meltwater that would serve as the origins of the great river. The formation of the Upper Mississippi as we know it is largely attributed to the prehistoric Glacial River Warren that drained the Glacial Lake Agassiz and cut into the unconsolidated glacial outwash downstream of the more resistant Ordovician Plateville Limestone. This knickpoint allowed for the development of the Warren Rivers Falls, which gradually retreated upstream as the St. Peter Sandstone underlying the more resistant Plateville formation began to erode and eventually led to the formation of the modern St. Anthony Falls located near downtown Minneapolis.



From the Editor

If you were to rank popular conversation topics overheard at any given NOGS event, the participation of early career geologists in NOGS would undoubtedly break the Top Five. Like other organizations, we often face a dilemma in how to appeal to a new generation of young professionals without compromising tradition or potentially alienating other members. When I first joined NOGS as incoming Editor-Elect almost two years ago, I was in my early twenties and only several months into my first "grown up" job. I largely agreed to the nomination only because Tavia Prouhet, a mentor and former NOGS LOG editor, submitted my name and assured me the role of editor wasn't terribly work intensive (side note: she lied about the second part). But if not for Tavia's encouragement and the support of other NOGS leaders, I would have missed out on one of the most rewarding experiences of my career. My experience of joining isn't necessarily a blueprint for building a diverse membership, but the behavior of my mentors and supporters is. They took the time to get to know me at luncheons, encouraged me to take on a specific role within NOGS and to make it my own, and made it clear that I am considered a peer regardless of my age, inexperience, or gender. Whether this means inviting a younger coworker to a NOGS event, suggesting that a recent grad submit a photo or column to the NOGS LOG, or just sitting next to a new attendee at a luncheon and asking them about themselves, I encourage you to take that first step in cultivating someone else's NOGS experience.

Laura Sorey, Editor

₋aura



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The New Orleans Geological Society was formed in 1941, with an initial membership of only 55. It has always been an active professional society and presently has a membership of 500.

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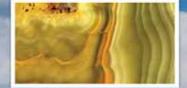
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From the President

When I write this column I try to choose a topic that is relevant to our diverse membership, which comprises of retirees, active professionals in various phases of their careers, and students hoping to begin their professional career. It is to the latter two groups that I decided to write this month's column. It is an opinion piece, in that it reflects my view of what is a very personal decision.

A topic that is often pushed to the back burner is the need to balance our professional life with the other things that make life worthwhile. I assume that you have others who you care about and who care about your well-being. If you have nothing in your life but your job and like it that way, you can stop reading now.

When starting one's career, the focus is on doing well and making a good first impression. Later, when we have become established, there is constant pressure to get a raise or a promotion. In a bad environment, like the one the oil industry currently faces, the pressure to keep one's job can become overwhelming. All of this is as it should be. The question is how do we strike the balance that keeps our career moving along the way we want while achieving a satisfying and rewarding relationship with our family/ significant other, friends and relatives?

It is easy to get caught up in trying to get the highest ranking and devoting your life to work, but in the long run it doesn't work out too well. In my experience, the job will take up as much of your life as you let it. Sometimes we believe that by devoting all our time to the job, we will advance our career and become "successful". This often works for our career. However, that doesn't guarantee success in the other aspects of our life. In fact, it often makes it impossible. It's important to prioritize what is most important to you and then focus most of your time and energy there. There is not a "one size fits all" way to do it, but I have made a few observations over the years.

This is what I do to put things in perspective. When you leave a company, the corporate entity still moves on. You may get the proverbial gold watch and a hearty handshake, but that's about all. Something more valuable that you can take with you are the relationships you developed with the friends and colleagues you worked with. These people who made your life more enjoyable while working will do the same for you after you leave the company. This may sound cynical to some, but the company, per se, is a lifeless

object. It's the people who work there who give it some personality.

If you choose to have a family, I would say that this is the most important balance you need to achieve. It will not come about by chance. It is something you must nurture constantly. You and your spouse/significant other chose to come together because of a deep love for each other. This relationship can easily suffer from the demands of a career if some balance is not reached that allows it to flourish. The other factor that is difficult on relationships is children, particularly when the children are troubled. In a former life, I was a middle school science teacher for four years in New Jersey. Most of the parents were uppermiddle class, well-educated professionals. Many were very involved with their children, in and out of school, but not all. The twelve and thirteen year-olds I taught were at the age of acting out and testing boundaries. The children whose acts of defiance I categorized as "mischievous" were generally from families where the parents were involved with their children in all aspects of their lives. Those whose acts I characterized as "malicious" generally had parents who were less involved. In my classroom, you could act out once and get a warning. On the second occurrence, you got after school detention with me as your host. During that hour I often talked with the students about their behavior. What I learned is that the more "malicious" acting students had given up hope of getting much of anything from their parents. The "mischievous" students seemed to know their parents cared about them but were acting out in a healthy way for children turning into adults.

All of us enter our careers with dreams of success, wonderful friends, and a family that gives us great joy and satisfaction. In my opinion, one of the best ways to achieve these things is to balance the demands of work with your needs and the needs of your family.

NAPE will be held in Houston from February 15-17 at George R. Brown Convention Center. I only attended once about ten years ago, but I found it fascinating. What particularly struck me was the energy and enthusiasm of the people showing prospects there. This prolonged downturn has sapped the energy of many of us, but if there is going to be a rebound in our industry this year we might first see signs of it in the presenters at NAPE.

See you at the February luncheon.

Al Melillo

T E E



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Member-at-Large



February 6 • NOGS Luncheon

Holiday Inn Downtown Superdome

\$3.00 validated parking in hotel garage

Presentation:

U.S. Geological Survey Assessment of the Tuscaloosa Marine Shale

Guest Speaker:

Paul C. Hackley

U.S. Geological Survey • Reston, Virginia

See page 8 for Abstract and Biography

HOLIDAY INN DOWNTOWN SUPERDOME

Check with concierge or front desk for location. Lunch served at 11:30 am

ADMISSION:

Without reservation \$35.00 Student Member with reservations...... FREE

February 15-17

NAPE Summit

George R. Brown Convention • Houston, Texas For more information: http://napeexpo.com/shows/about-the-show/summit

April 15

SuperSaurus Saturday

Louisiana Children's Museum • New Orleans, Louisiana For more information: tom.bergeon@upstream.com

May 1

NOGS Annual Golf Tournament

Money Hill golf Course • Abita Springs, Louisiana For more information: annette@nogs.org or 504-561-8980

ABSTRACT DEADLINES:

February 1

2017 GCAGS Annual Convention

For more information: Lee Billingsley at technicalprogram@qcags2017.org

March 1

11th Annual LA Groundwater, Surface Water, and Water Resources Symposium For more information: https://lwrri.lsu.edu/lawater-2017/

March 31

Petroleum History Institute Symposium For more information: http://petroleumhistory.org

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Continued from previous page

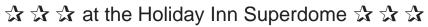
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2018(a)	Earl Cumming	Reservoir Frameworks LLC	985-630-6898	earlcumming@bellsouth.net



Feb. 6 NOGS Luncheon Presentation





U.S. Geological Survey Assissment of the Tuscaloosa Marine Shale

Presented by

Paul C. Hackley

U.S. Geological Survey • Reston, Virginia

ABSTRACT

The U.S. Geological Survey (USGS) is assessing undiscovered hydrocarbon resources in the Tuscaloosa Marine Shale (TMS) of south Mississippi and adjacent areas of Louisiana. This three-year project will estimate undiscovered resources via established USGS methodology using new data from analyses of organic petrology, geochemistry, and mineralogy of rock samples, oil chemistry, sediment provenance (detrital zircon U-Pb geochronology), biostratigraphy, fluid inclusion microthermometry, and subsurface mapping. Results to date suggest low organic carbon (avg. TOC ~0.75%) and dominance of gas-prone Type III kerogen, potentially inconsistent with a self-sourced model for TMS-producted oils. However, although the TMS displays poor present-day source rock properties, oil-source correlation data suggest it is the best candidate for a local source rock and has apparently expelled oils to conventional reservoirs and retained oils for production by horizontal drilling and artificial stimulation. The presentation will discuss this and other aspects of the USGS study, which is scheduled for completion in mid-2017.

BIOGRAPHY

Paul Hackley is a research geologist at USGS in Reston, Virginia. His experience includes international work on coal deposits and source rocks, and Gulf Coast basin energy resource studies



including coalbed methane, coal resource assessment, conventional oil and gas assessment and shale petroleum systems. His primary research interests are in organic petrology and its application to fossil fuel assessment. He manages the USGS Organic Petrology Laboratory.



THE JANUARY LUNCHEON RESERVATION DEADLINE IS FEBRUARY 3RD. CONTACT THE NOGS OFFICE

"And Looking Ahead . . . "

The next luncheon will be held on March 6. Our guest speaker will be announced later this month. Contact the NOGS office at 504-561-8980 or use the PayPal link at www.nogs.org to make your reservation.





CALENDAR OF EVENTS: FEBRUARY — MARCH 2017

If you know of upcoming seminars or academic events that may be of interest to our members, please email the event details to Laura Sorey at nogseditor@gmail.com to be included in the monthly calendar.

2016	EVENT	LOCATION	CONTACT / INFO
1 Feb	Submission Deadline for 250-word Abstract/Summaries for Planned Papers and Posters for 2017 GCAGS Annual Convention		Lee Billingsley technicalprogram@gcags2017.org
6 Feb	NOGS Luncheon Paul Hackley U.S. Geological Survey Assessment of the Tuscaloosa Marine Shale U.S. Geological Survey • Reston, Virginia	Holiday Inn Superdome	annette@nogs.org or 504-561-8980
10 Feb	BRGS Luncheon	Baton Rouge Mike Anderson's Seafood	lisapultz@cox.net
15 Feb	President's Day		
15-17 Feb	NAPE Summit	Houston, Texas	http://napeexpo.com
16 Feb	SIPES Luncheon Speaker: TBA	Metairie Andrea's Restaurant	Carol St. Germain 504-267-3466
28 Feb	Mardi Gras		
1 Mar	Abstracts Deadline for 11th Annual Louisiana Groundwater, Surface Water, and Water Resources Symposium		http://lwrri.lsu.edu/lawater-2017/
6 Mar	NOGS Luncheon Speaker: TBA	Holiday Inn Superdome	annette@nogs.org or 504-561-8980
10 Mar	BRGS Luncheon	Baton Rouge Mike Anderson's Seafood	lisapultz@cox.net
15 Mar	SIPES Luncheon Speaker: TBA	Metairie Andrea's Restaurant	Carol St. Germain 504-267-3466
17 Mar	St. Patrick's Day		
31 Mar	Abstracts Deadline for Petroleum History Institute Symposium		http://petroleumhistory.org/
15 Apr	SuperSaurus Saturday	Louisiana Children's Museum	tom.bergeon@upstreamexp.com
1 May	NOGS Annual Golf Tournament	Money Hill Golf Course Abita Springs, LA	annette@nogs.org or 504-561-8980



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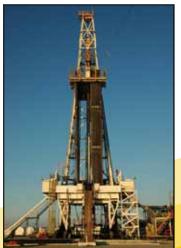
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New Orleans Geological Auxiliary News

"The objective of the Auxiliary is to promote fellowship among the wives of the members of the New Orleans Geological Society and to render assistance to NOGS upon request."

On Wednesday, November 9, the members of NOGA gathered at Café b on Metairie Road for the annual Fall Luncheon with Alma Dunlap and Mary Walther serving a co-chairs. As usual there was lots to talk about including football and the election. President Trudy Corona and Charley's 50th anniversary celebration with family and their New England cruise was certainly one of the highlights. Guests attending were Janie Finn and Roseanne Guerra, daughters of Judy Lemarié and Peggy Rogers, respectively. Roseanne was visiting from Marietta, Georgia. Everyone enjoyed the delicious food and generous portions as well as the martinis, compliments of NOGA. The table decorations of yellow ribbon runners scattered with ivy and fall colored flowers were cleverly designed by Alma Dunlap.

I hope everyone had a delightful Thanksgiving and a Very Merry Christmas.

As we now head into 2017, Margie Conatser and Pat Williamson are making plans for our next luncheon on February 8, at Ralph's on the Park. Our guest speaker that day will be author and historian, Ron Drez. Ron will be speaking about his new book *General Billy Mitchell; Predicting Pearl Harbor, Imperial Japan and War,* which will be out in the spring.

Mary Walther, NOGA Board



Janie Finn, Judy Lemairé



Alma Dunlap, President Trudy Corona, Mary Walther



Peggy Rogers, Roseanne Guerra

New Orleans Geological Auxiliary Membership Application

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FEBRUARY 2017 13 NOGS LOG





South Louisiana and Offshore Gulf of Mexico Exploration and Production Activities

LAFAYETTE DISTRICT, ONSHORE AREA By Carlo C. Christina and Kevin J. Trosclair

The Baker-Hughes United States rig count for the week of December 23 was 653, up 60 rigs from the prior month. Rig activity in the U.S. continues to gradually increase from a low of 404 rigs in May of 2016. The Louisiana rig count (not including the OCS) averaged 27 rigs for the month of November, a decrease from 30 rigs the prior month.

North Louisiana Rigs:	23
South Louisiana Rigs:	
Land	
Inland Waters	1

During the month of December only 2 permits to drill for oil and gas were issued by the Office of Conservation, Lafayette District. One was a shallow 1500 foot test on a salt dome and the other was a re-permit, nothing interesting to report.

Drilling in South Louisiana during the year 2016 was a series of highs and lows. The number of permits issued ranged from a **high of 16 in April to a low of 2 in December.** Total number of permits issued for the year was an **all time low of 101 wells.** Not surprisingly, there were **only 2 new discoveries** during the year in the Lafayette District.

The price of **Brent Crude oil** ranged from a **low of \$33.52 in January** to a **high of \$54.96 in December.** The price of **Henry Hub Natural Gas** ranged from a **low of \$2.35 in January** to a **high of \$3.70 in December.**

Following is a summary of the new discoveries and of the significant completions during the year.

NEW DISCOVERIES

LLOX completed the #1 Rathborne Land, (SN 249458), as a **new discovery** for the **Northeast Boutte Field**, (A), in St. Charles Parish. It was completed flowing **254 BOPD** and **4108 MCF** through perforations 12,595 to 12,675. The well was drilled to a total depth of 12,933 feet in a directional hole located 6122 feet from the surface location in Sec 43, 13S-21E, approximately 2 miles south of production in St. Rose Field. It was re-perforated one month later and flowed 141 BDPD and 1654 MCFG.

Hilcorp Energy completed the #1 ExxonMobil, (SN 249752), as a gas well flowing **6307 MCF** and **60 BCPD** through perforations 13,583 to 13,645, overall. It was permitted as a **wildcat**, but the operator has requested the new field name **South Outside Island**, **(B)**. The well is located 2 miles south of production in Outside Island Field, Vermilion Parish. It was drilled to a total depth of 14,445 feet in a directional hole 7,561 feet southwest of the surface location. [No Section, Township or Range given]

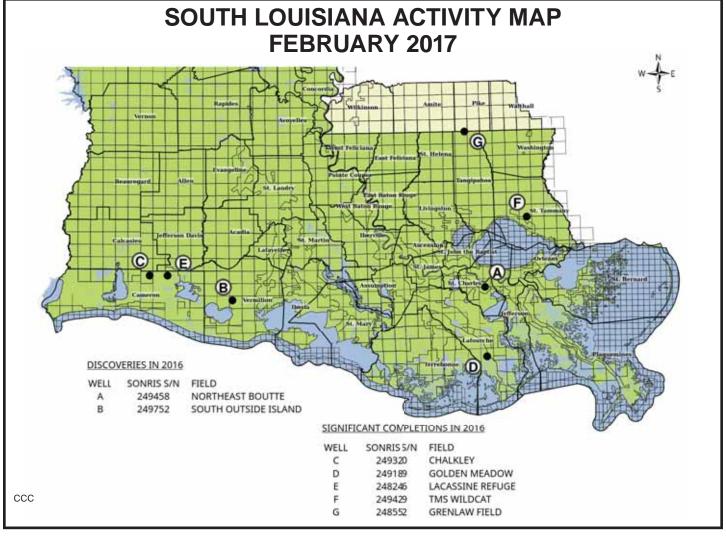
SIGNIFICANT COMPLETIONS

In Cameron Parish, **Chalkley Field**, (C), Hilcorp Energy Company completed the #13 Sweet Lake Land & Oil Co Inc. (SN 249320), as a gas well in the Camerina 1, C Reservoir flowing **8,015 MCFD** and **800 BCPD** through perforations 12,834 to 12,886 feet, overall. The well was drilled to a total depth of 13,083 feet in Sec. 14, 12S-7W, offsetting several wells producing from deep Miogyp sands at depths of 14,000 feet to 16,000 feet.

LLOX completed the #1 LL&E, (SN 249189), as a gas well in **Golden Meadow Field, (D),** Lafourche Parish flowing 4199 MCF and 85 BCPD through perforations 14,526 to 14,560, overall, in a Big hum sand having **more than 200 feet of pay.** The well was drilled on the north flank of the old prolific field to a total depth of 14,770 feet in Sec. 64, 19S-21E.

In Cameron Parish, Lacassine Refuge Field, (E), Shoreline Southeast completed the #13 Lacassine Co B, (SN 248246), in Sec. 18, 12S-5W





as a gas well in the Lower Miogyp sand through perforations 17,458 to 17,626, overall, and flowed **31,019 MCFG** and **132 BCPD**. It was re-completer through perforations, 17,412 to 17,626 feet, overall, flowing **20,311 MCFG** and **55 BCPD** and has now produced more than 5,889,425 MCFG and 16,359 barrels of oil.

In St. Tammany Parish, after a 2 year legal battle to drill and FRACK a **Tuscaloosa Marine Shale well,** (**F**), Helis Oil & Gas Company drilled its #1 Eads Poitevent to a total depth of 13,430 feet in a vertical hole. The Marine Shale section was cored in the interval 12,960 feet to 13,022 feet. After interpreting all information obtained from this interval Helis elected not to sidetrack and drill a horizontal hole and the well was plugged and abandoned. It was located in Sec. 34, 7S-12E approximately 7 miles northeast of the Townsite of Mandeville.

Halcon Louisiana Operating Co. completed its **Tuscaloosa Marine Shale** well in **Greenlaw Field**, **(G)**, Tangipahoa Parish flowing **845 barrels of oil per day.** The #1 Franklin was drilled to a total depth of 17,960 feet in Sec. 53, 1S-7E and completed through

perforations 11,930 to 17,904 feet which were fracked in a horizontal leg measuring 6570 feet from the surface location. The well spudded in December 2014 and was shut down between February 2015 and September 2016 when it was completed.

OFFSHORE GULF OF MEXICO SHELF AND DEEPWATER ACTIVITIES

by Al Baker

During **December 2016**, the **BOEM** approved **65** Gulf of Mexico drilling permits. Of these, **5** were for shelf wells and **60** were for deepwater wells. Of the total number of permits, there was **1 new well permit** issued on the shelf and **5 new well permits** issued in deepwater. The shelf new well permit is the first one issued in the last 5 months. Shelf activity appears to be picking up in the near future as recent exploration and/or development plans have been submitted to the BOEM for approval by ANKOR Energy, Arena

Offshore, Energy XXI, Fieldwood Energy Offshore and LLOG Exploration Offshore.

The single new shelf well permit was for a **development well.** It was awarded to **Arena Offshore** for their **West Cameron 522** #**A-10** well.

The five new deepwater well permits were for exploration wells. Anadarko Petroleum was awarded two permits for their Green Canyon 727 #3 and Walker Ridge 52 #3 wells. Chevron U.S.A. and subsidiary Union Oil Company of California were granted permits for the Mississippi Canyon 166 #1 and Walker Ridge 678 #PS-2 wells. Shell Offshore was given a permit for their Walker Ridge 508 #12 well.

On December 30th, **IHS-Petrodata** reported that the Gulf of Mexico mobile offshore rig supply stood at **105**, which is one more than last month. The marketed rig supply consisted of **49** rigs, of which **36** were under contract. The marketed contracted versus total rig supply utilization rate is **34.3%**, while the marketed contracted versus marketed supply utilization rate stands at **73.5%**. The marketed rig supply number is **1** more than last month, and the contracted rig supply number is **1** less than last month. In contrast, the December 2015 fleet utilization rate stood at 61% (versus 46.7% today) with 75 out of the 123 rigs under contract.

As of December 30th, **BakerHughes** indicated that there were **22** active mobile offshore rigs in the Gulf of Mexico, which is **61.1%** of the rigs under contract mentioned above. This active rigs number is 1 less than reported last month. Of the 22 rigs, **2** are located on the **shelf** and **20** are situated in **deepwater**. The current active rigs count compares to 25 active rigs during the same period last year, representing a **12%** decline (minus 3 rigs) in yearly rig activity.

As of December 30th, the **BakerHughes** total U.S. rig count stood at **658** rigs **down 65.9%** from the **September 26, 2014 high** of **1931** rigs, but up **254** rigs or **62.9%** from the **May 20, 2016 low** of **404** rigs. By comparison, the rig count stood at 698 rigs a year ago. Of the current 658 rigs, **525** are **oil rigs** and **132** are **gas rigs**.

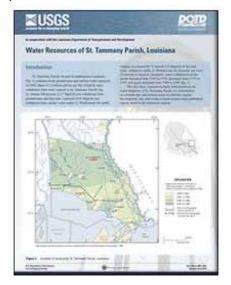
On December 12th, the **Anadarko Petroleum** announced that its **Warrior** exploration well located in **Green Canyon** area encountered **more than 210 feet of oil pay** in multiple high-quality **Miocene-aged reservoirs.** The well was drilled to a **total depth of 26,957 feet** in a **water depth of 4,144 feet.** The Warrior discovery is situated about 3 miles from the Anadarko-operated K2 Field and is expected to be tied-back to Anadarko's nearby Marco Polo production facility.

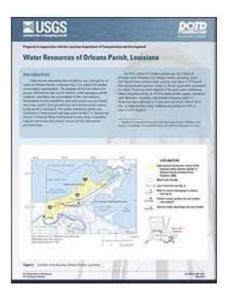
USGS Water Resource Information - Parish Fact Sheets

The note below is from the USGS website.

The USGS is summarizing basic information on water resources for each parish in Louisiana and presenting the information in fact-sheet format. Information presented includes groundwater and surface-water availability, quality, development, use, and trends. These brief summaries of water resources will provide parish officials, local officials and concerned citizens with information needed to make decisions about current and future development in their parish. So where can you get your hands on this great resource?

http://la.water.usgs.gov/ParishWaterResources.html





NOGS 75th Anniversary

In honor of the 75th anniversary of the New Orleans Geological Society, we are releasing a series of office and personal mementos commemorating NOGS's seventy-five years of dedicated service to geology, professional development, and science education in New Orleans. If you're interested in purchasing any of these commemorative pieces, please contact Annette Hudson at info@nogs.com or 504-561-8980 for order details and exact pricing. ORLEANS GEOLOGICA

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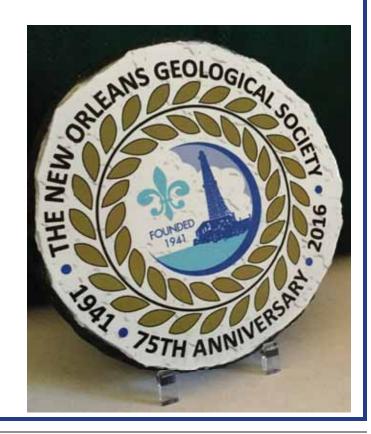
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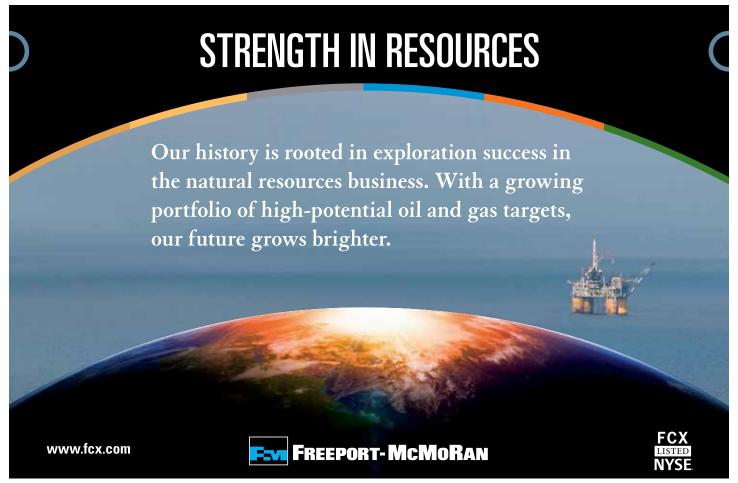
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Trending Now: Geology

For all that social media now connects billions of people across the globe, we still face questions in how we approach and harness such a tool. Should I tag my extended family in strongly partisan political posts on Facebook? (No. No, you should not.) How many hashtags is too many? (If you ever ask yourself this question, then you've already passed the threshold.) When does emoji usage cross over from cute and slightly ironic to being just way too much? (This remains a case-by-case basis.)

But rather than delving too far into the arbitrary nuances of social media etiquette, let me direct your attention to a simple way to enhance and enrich your Internet experience. Among the many diverse communities that populate social media, geology-related accounts are some of the most popular science profiles that engage with millions of users to share huge amounts of geological content that is both interesting and stimulating. These are just a few of the geologic users across several of the most popular social media platforms, but they constitute a good starting point for incorporating some interesting science and culture into your daily experience.



Facebook

 Your alma mater's geology department
 this represents a great opportunity to stay abreast of current

research as well as an easy way to support your school and network with other students and alumni.

• Geological Society of America – "Our Vision: To be the premier geological society supporting the global community in scientific

discovery, communication, and application of geoscience knowledge."

- AAPG "A professional science organization with a focus on petroleum geosciences and alternative energy resources."
- LSU Coastal Studies Institute "We are an interdisciplinary team of >100 scientists, engineers, technicians, and students from five colleges and schools at Louisiana State University. We are engaged in research and educational study of coastal environments and shelf seas, including physical processes that control evolution of coasts and river deltas."
- TED Talks Science & Tech "Welcome to the official page for TED fans who love math, science & technology. Here you'll find daily TED Talks, conversations with speakers, and more."



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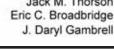
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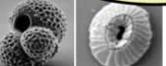
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THE BOOKSHELF

Take Me Home, Country Roads: A Look at Mississippi Geology

By Laura Sorey

Published by Mountain Press Publishing of Montana, the Roadside Geology books have evolved into a popular and accessible series geared towards helping travelers better understand the geology of the landscapes seen from their car window. It stands to reason that some of the first and best known of

the series focus on places like Montana, Colorado, California, and other states renowned for their geologic splendor. However, the most recent addition to this well-known series takes on an unlikely subject: Mississippi. I first heard that a Roadside Geology of Mississippi was in the works during my sophomore year at Millsaps College in Jackson. This proclamation from our geology professor was met with several students inquiring if the seemingly lackluster geology of our home state was better suited for a book or for a pamphlet. I can't remember if our professor found us to be as funny as we clearly thought we were, but I can confidently state that he got the last laugh.

Authored by Stan Galicki of Millsaps College (the professor in question) and Darrell Schmitz of Mississippi State University, the newly published *Roadside Geology of Mississippi* is an engaging look at the complexities of Mississippi's geologic history and the relationships between geology, climate, and occasionally ecology that influence the landscape and human history of the state. After an overview of regional tectonic history and Mississippi stratigraphy and rock types, Galicki and Schmitz set the stage for smaller-scale look at geologic features with a discussion of the state's nine physiographic provinces and what a roadways

traveler can expect to see in terms of landscape and outcrops in each region. This chapter is also notable for its introduction to one of the book's most readily apparent strengths. The excellence of the printed maps, figures, and photos in color is unparalleled by previous editions of Roadside Geology books and any book on Gulf Coast/Deep South geology I've personally encountered. I refer to more than just their technical strength but also their adherence to professional standards, stylistic consistency, and easy to read annotations. Formatting is rarely a sexy thing to praise, but it, along with the outstanding technical writing, enables Roadside Geology of *Mississippi* to effectively communicate sophisticated geologic concepts to an audience that ranges from professional geologists to amateurs who just want

> to know why the steep bluffs at Yazoo City abruptly give way to flat rice paddies.

> book geographically The parcels up the state's primary highways along with some backcountry roads as each mini-chapter provides detailed geologic assessment of the sites along the roadway. These summaries effectively features enumerate interest while explaining their relationship to the larger geologic story and detailing precise their location. particularly useful feature in regions noted for subtle geologic expression. Galicki and Schmitz also maintain and communicate how the geoscience relates to social history by including

relevant discussions of natural resources, historical sites, natural disasters, and engineering feats that helped direct the course of Mississippi history. Indeed, their inclusion of the social perspective elevates the entire volume from a mere inventory of geologic road stops into a compelling assessment of the complexity of Mississippi's geologic history and a must-have any geologist or geology enthusiast who finds themselves traveling to our eastern neighbor.

Stan Galicki
Darrel Schmitz

Millsaps College relevant discu sites, natural helped direct lindeed, their elevates the ergeologic between geology, that influence the complexity

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Roadside Geology of Mississippi — \$24 By Stan Galicki and Darrel Schmitz 288 pages. Mountain Press Publishing Company.

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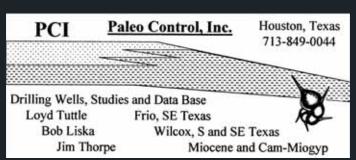












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