

NOGS LOG

NOVEMBER 2020
Volume 61 No. 5

NOGS

Virtual Meeting

Monday, November 9, 2020



NOGS NOVEMBER MEETING

MONDAY, NOVEMBER 9, 2020 11:30 AM
ZOOM MEETING



New Date!

A PRIMER ON UNCONVENTIONAL RESERVOIRS

Taury Smith

Production from organic-rich source rocks and associated facies through long horizontal wells and multi-stage hydraulic fracturing has revolutionized the oil and gas industry. Each unconventional play has different challenges and there is no one size fits all approach to drilling unconventional wells. That said, most unconventional reservoirs are developed in the source rocks themselves where small pores that form when organic matter matures to hydrocarbons are connected by hydraulic fracturing. Long horizontal wells with lateral sections up to 10,000 feet or greater are drilled in the interval of interest and then hydraulically fractured in stages that are typically 250 feet long that help to more completely fracture the reservoir. Fractures are held open by a proppant. Generally, in these small pores, heavier oil composed of larger hydrocarbon molecules will not flow at economic rates but the progressively smaller molecules of light oil, condensate and dry gas can and do flow, sometimes at very high rates. Wells in the sweet spot of the Marcellus Shale regularly produce at rates of 20 MMCF/D and wells in the deeper Utica Shale have tested at rates over 70 MMCF/D. There is probably enough gas remaining in these unconventional plays to last for several decades. Some unconventional plays do not produce from the source rocks themselves but from facies that occur below, within or above the source rocks. Virtually all of the successful unconventional plays produce from overpressured zones that develop due to maturation of hydrocarbons. Most plays are in stable basins with relatively simple burial histories and relatively minor tectonic activity. Much has been made of the environmental impact of "fracking" and there are some impacts to be sure, but much of the fear is rooted in a lack of understanding. Shale gas has helped to reduce CO₂ and other emissions dramatically as the major drop in the price of natural gas has led to a major shift from coal to much cleaner natural gas for power generation.

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IN THIS ISSUE



On the Cover

**Landscape photo from inside Dunluce castle,
Northern Ireland, Coleraine, United Kingdom**

Magheracross is a townland and civil parish in County Fermanagh, Northern Ireland. It extends in area from just north of Enniskillen to the Border with County Tyrone. There is also a small enclave in County Tyrone. Dunluce Castle is a now-ruined medieval castle in Northern Ireland, the seat of Clan McDonnell. The castle is surrounded by extremely steep drops on either side, which may have been an important factor to the early Christians and Vikings who were drawn to this place where an early Irish fort once stood.



From the Editor...

Thanks to all those who continue to contribute to the monthly *LOG*. If you have any suggestions for future issues or have an article/photo(s) to contribute, please email me at cmiller@ocsbbs.com. We would certainly love your input and any additional *LOG* content to be considered that may be of interest to NOGS members.

Charlie



**Charles Miller III
NOGS LOG Editor**





JOHN R. DRIBUS

A MESSAGE FROM NOGS PRESIDENT

To members and friends of the New Orleans Geological Society:

As I write my President's letter today, I see that our Governor has decided it is best to keep Louisiana in Phase Three at least through November 6th. That means that restaurants, churches, gyms and other businesses can open at a maximum of 75 percent of their occupancy, with social distancing practices in place. We are still urged to wear masks, wash our hands, and keep the distance, as everyone works together to help control the spread of this virus. For more details on Phase Three, please visit the Louisiana Department of Health website at <http://ldh.la.gov/Coronavirus/>. As for NOGS, we will still hold our monthly meetings on-line at least through the end of the year, and continue our on-line "Zoom-inar" sessions in place of our luncheons. I hope all of you can logon with us on November 9th when we will hear Taury Smith talk about the unconventional plays in the US. I'm looking forward to his presentation to learn more about the low permeability side of our business. Our local universities, colleges and some schools continue to be open on-line and in the classroom.

Speaking of on-line, we see many geoscience events occurring on the internet during the months of October and November. GeoGulf 2020, which was the 70th session of the Gulf Coast Association of Geologic Societies (GCAGS) Convention, was held on-site in Lafayette with an on-line component at the beginning of October, while the American Association of Petroleum Geologists (AAPG) ran almost concurrently during the same time and completely on-line. The Houston Geologic Society (HGS) and the Petroleum Exploration Society of Great Britain (PESGB) are running their joint African Conference on-line every Thursday in October, and the 24th Annual Gulf of Mexico Deepwater Technical Symposium will run its on-line meeting November 9-13. All of these sessions have and will provide a rich resource of papers on important work being conducted by our industry and schools.

NOGS and PLANO had beautiful weather on October 12th for their golf tournament at Beau Chene in Mandeville. You can read all about that in a separate article in this edition of NOGS LOG. Thank you to everyone who participated. Our photo calendar contest has gone quite well and we will soon be offering NOGS calendars for sale in our on-line store along with other special NOGS memorabilia like T-shirts, coffee mugs and other original items. We want to have that all in place so as the holidays grow near and you're looking for that special gift for the person who has everything, you can find something unique in the NOGS Store.

I close my letter today reminding everyone that we will have the opportunity to exercise our American right to vote on November 3rd. Not only do we have a Presidential race to decide, but there are also some very important amendments on our Louisiana ballot including one on Taxing Oil and Gas Wells (No. 2), another on Freezing Tax Assessment Levels (No. 6), a proposition on Sports Wagering, and five other amendments. So please employ this precious privilege to let your wishes be known at the ballot box.

Stay safe NOGS!

Regards,
John Dribus



NEW ORLEANS GEOLOGICAL SOCIETY MEMORIAL FOUNDATION INC.

The NOGS Memorial Foundation Scholarships are granted each year to those students who have demonstrated exceptional talent in or commitment to their geologic studies and projects. It is the policy of the Memorial Foundation to posthumously name these scholarships after those members whose own extensive contributions to the profession have been particularly praiseworthy.

Lee Hilliard Meltzer for expertise in oil and gas appraisal and exploration, as well as manifold and unstinting support of and service to - from AAPG to NOGS - the regions professional geologic organizations.

James Allen "Al" Gilreath for his work as chief tool developer of down-hole instrumentation and 'pattern' interpretation, earning him, world-wide, the title, 'Mr. Dipmeter'.

Richard W. "Dick" Boebel for his outstanding abilities as an oil and gas finder and in being a unique individual who was most generous of his time and talent to the industry, his peers, and in his support of many professional organizations.

George W. Schneider, Sr. for exceptional leadership in exploration activities and for being a positive force in establishing the New Orleans Geological Society and serving as its first president in 1941-42.

Jules Braunstein gained wide recognition in the oil and gas industry not only for exceptional technical expertise but also as an exacting editor. His long career was conspicuous for selfless devotion and was carried on by his surviving wife, Olga, in her bequeathal of the residue of their estate to NOGS Memorial Foundation Scholarship Fund.

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LSU Scholarship Recipients 2020

From left:

Jeff Duxbury, Rachel Gneiski, Wendy Bogil, and Jonothan Chappell

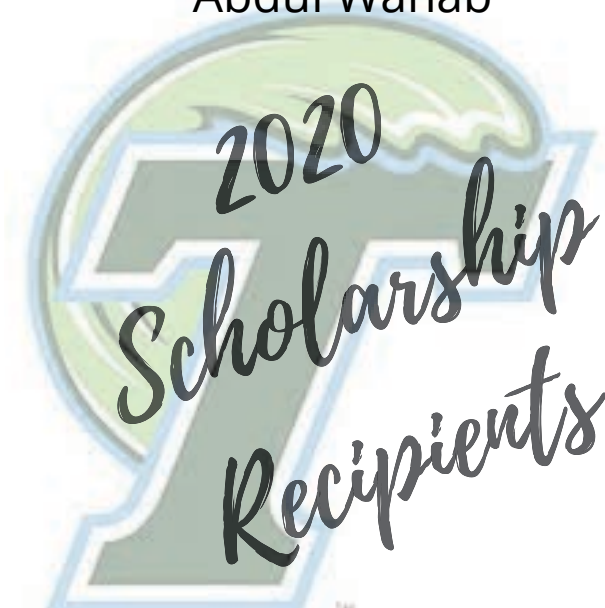




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From left:

McKenna Price-Patak, Samantha Hilburn, Omolola Akintomide and
Abdul Wahab





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UNO Scholarship Recipients 2020

Front row from left: Charley Cameron, Sarah Noel, Donald Burke and Zoe Vittur; Back row: Dr. Mark Kulp and Robert Rooney





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NOGS-PLANO-SPWLA GOLF TOURNAMENT

The Golf Tournament was held October 12th at the Beau Chene Mandeville Country Club and the weather was warm and sunny. Attendance was great with 88 golfers who played. Everyone had a great time. Thanks to all the volunteers who helped to make it work. Special thanks to Christy for all her effort.



PICTURE FROM THE PAST



NOGS Past Presidents Luncheon July 11, 1994, at the New Orleans Petroleum Club

*Submitted by
Ed Picou, Chairman - Historical Committee*

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The New Orleans Geological Society was organized on October 3, 1941, as a non-profit organization for the purpose of facilitating the development of the profession and science of Geology, with specific emphasis to exploration and production of petroleum and natural gas. Secondary related objectives include the dissemination of pertinent geological and environmental technological data, and the maintenance of a high standard of professional conduct of its members. The full history of the Society can be found at nogs.org.

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DRILL BITS

OFFSHORE GULF OF MEXICO SHELF AND
DEEPWATER ACTIVITIES
BY AL BAKER

During September 2020, the U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE) approved 95 Gulf of Mexico (GoM) drilling permits. Four of the permits were for shelf wells, and the remaining 91 permits were for deepwater wells. Of the total number of permits, there were 12 new well permits issued, all in deepwater.

Three of deepwater new well permits were for exploration wells, and 9 were for development wells. Shell Offshore was given a permit for their Alaminos Canyon 815 #2 exploration well. LLOG Exploration Offshore was granted a permit for their Ewing Bank #1 exploration well. Walter Oil & Gas was awarded a permit for their Mississippi Canyon 617 #1 exploration well. BP Exploration & Production received eight new well permits for development wells in their Thunder Horse Field. These included the Mississippi Canyon 822 #17 through #24 wells. The remaining development well permit was awarded to Shell Offshore for the Alaminos Canyon 765 #P-11 well in their Princess Field.

On September 25th, IHS-Petrodata indicated that the GoM mobile offshore rig supply stood at 62, which is 1 less than last month. The marketed rig supply consisted of 35 rigs, of which 23 were under contract. The marketed rig supply was 1 less than month, and the contracted rig supply number was also 1 less than last month. The marketed contracted versus total rig supply utilization rate stood at 56.5%, and the marketed contracted versus marketed supply utilization rate stood at 65.7%. By comparison, the September 2019 total fleet utilization rate stood at 59.2% with 42 rigs under contract out of the 71 rigs in the fleet.

On September 25th, Baker Hughes reported that there are 14 active mobile offshore rigs in the GoM, which is 60.9% of the rigs under contract mentioned above. This active rigs number is 1 more than reported last month. Currently, 1 rig is drilling on the shelf, and 13 rigs are drilling in deepwater. They include 1 rig in South Marsh Island, 6 rigs in the Mississippi Canyon Area, 2 rigs in the Alaminos Canyon Area, 2 rigs in the Walker Ridge Area and 1 rig each in the Green Canyon, Ewing Bank and Green Canyon Areas.

On September 25th, the Baker Hughes total U.S. rig count stood at a total of 261 rigs, which is 7 more rigs than reported at the end of August 2020. Of the 261 rigs, 183 (70.1%) are oil rigs and 75 (28.7%) are gas rigs. The remaining 3 rigs are listed as miscellaneous. A year ago, there were 860 rigs working in the U.S. inferring that the current rig figure represents a 69.7% decline in rigs year over year. Texas continues to have the largest number of rigs presently with 113, which is 43.3% of the total number of rigs in the U. S. Louisiana currently has a total of 39 rigs, up 5 rigs from last month. Nationwide, Louisiana still ranks third in the rotary rig count. New Mexico continues to rank second with 41 rigs.

Recently, there were two reported Gulf of Mexico deepwater discoveries. Beacon Offshore Energy made a Miocene oil discovery in Mississippi Canyon 794 (Claiborne Field). The OCS-G 34909 #SS-3 well was drilled to 23,275 feet and was perforated over the interval 22,765 feet to 22,886 feet. The well flowed at a rate of 6,152 BOPD (30.6 degree API), 11.905 MMCFPD and 18 BWPD on a 49/64" choke with 7,886 psi FTP. LLOG discovered the Claiborne Field and initially developed it in 2017.

Shell Oil Co. also made an Upper Miocene oil discovery in Mississippi Canyon 934 (Europa Field). Their OCS-G 7976 #A-6 well was drilled to 18,620 feet MD, 17,826 feet TVD; it was perforated from 18,423 feet to 18,465 feet. The well flowed at an initial rate of 11,995 BOPD (27 degree API), 10 MCFPD, and 0 BWPD on an 88/64" choke with 4,963 psi FTP.

OFFSHORE GULF OF MEXICO SHELF AND DEEPWATER ACTIVITIES BY AL BAKER



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Founded March 14, 1978, the mission of the New Orleans Geological Society Memorial Foundation is to promote earth science related or scientific purpose by granting of scholarships to outstanding Geology students at the universities in Southeast Louisiana having a comprehensive curriculum and offering a degree in Geology. The

Bill Craig Memorial Fund provides for any earth science related educational or scientific purpose that is a direct benefit to grades K-12 teacher or teachers within the Greater New Orleans Area. This area is defined as the area encompassing New Orleans, Jefferson, Plaquemines, St. Bernard and St. Tammany Parishes.

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Oil Industry HeadlinesIn The News (October2020)

10/17/2020 - Oil Holds Its Breath as Presidential Election Approaches - Oil prices appear to be waiting for the presidential election before making any major moves, with prices falling due to rising Libyan oil production before climbing on positive news out of China. Oil production outages have increased in 2020, cutting into global supply. In 2020, oil disruptions have averaged 4.6 mb/d, reaching 5.2 mb/d at its deepest point in June. Outages averaged 3.1 mb/d in 2019.

10/15/2020 - CGG Starts Gulf of Mexico Seismic Data Reimaging - CGG has started a new seismic data reimaging program in the prospective Walker Ridge area in the U.S. Gulf of Mexico. "The Walker Ridge program covers approximately 300 OCS blocks including two priority areas of significant industry interest. Advanced proprietary imaging technologies will be applied to this program to unlock the full potential of existing seismic data and provide significant uplift in subsurface imaging," CGG said.

10/15/2020 - Comment Period Opens for Proposed Offshore Financial Assurance Rule - The Bureau of Ocean Energy Management (BOEM) and Bureau of Safety and Environmental Enforcement (BSEE) will begin taking public comment Friday on a proposed rule to clarify, streamline and provide greater transparency to financial assurance requirements (e.g. bonding) for the offshore oil and gas industry, while protecting American taxpayers against high-risk decommissioning liabilities. The public will have 60 days to provide comments. The comment period will close on December 15, 2020. Click here to comment on the federal rulemaking portal: <https://www.regulations.gov> and in the entry entitled, "Enter Keyword or ID," enter BOEM-2018-0033 then click search.

10/14/2020 - Weatherford Achieves Industry First in Gulf of Mexico - Milestone Recorded as One Trip Sidetrack Sets Record for 12 ¼ Inch Casing. Its Shallow Angle QuickCut™ System successfully achieved the industry's first 12 ¼-in. casing sidetrack, delivering a 22-ft. window in a single trip for an ultra-deepwater well in the Gulf of Mexico.

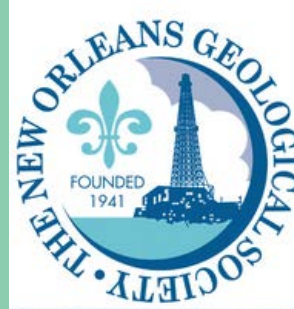
10/9/2020 - ExxonMobil's Lena platform jacket reefed in the Gulf of Mexico - Lena is now the tallest oil and gas platform in the Gulf of Mexico to become a deepwater reef, according to Bureau of Safety and Environmental Enforcement. On July 3, 2020, the Lena platform jacket was toppled-in-place to create a new reef site in the Gulf of Mexico outer continental shelf. BSEE approved the jacket reefing procedure after reviewing ExxonMobil's platform removal application.

10/5/2020 - Fitch Solutions Maintains Oil Price Forecast - Fitch Solutions has maintained its Brent oil price forecast to 2024, the company's latest oil price outlook report has revealed. Analysts at the company expect Brent to average \$44 per barrel in 2020, \$51 per barrel in 2021, \$53 per barrel in 2022, \$55 per barrel in 2023 and \$58 per barrel in 2024.

10/2/2020 - Mexico Approves Slew of Upstream Oil, Natural Gas Work Programs - Mexico's state oil company Pemex and a private consortium led by U.S.-based Talos Energy Inc have been instructed to come to an agreement detailing how they will jointly develop a large offshore oil find, the energy ministry said on Wednesday. The Zama discovery made in the Talos-operated block in the Gulf of Mexico extends into Pemex's neighboring block. The so-called unification of Zama, in which the parties must determine which company will run operations of a joint development and come up with a preliminary split of the shared reservoir, marks the first time in Mexico such a high-stakes deal is being negotiated.

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For more details go to:

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