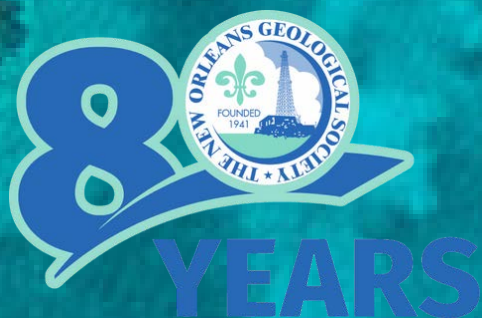


NIGS LOG

FEBRUARY 2022
Volume 62 No. 8



HAPPY
MARDI GRAS!

IN THIS ISSUE



On the Cover



The Great Blue Hole is a marine sink hole near the center of the Lighthouse Reef near Belize City. The sink hole is ~ 1,040 feet in diameter and 407 feet deep. The Lighthouse Reef is part of the Belize Barrier Reef Reserve System and is a UNESCO World Heritage Site.



From the Editor...

Integrating geology into conversations has helped me develop a broader perspective on all topics that I discuss. Learning more about ongoing research in matters of interest to me has made it plainly clear that to better understand any issue one must go beyond boundaries that we or perhaps others have erected. Understanding the extent of our climate change problem and finding appropriate solutions is one of many examples.

Most of the attention from the public and policy makers has been focused on the sources of Greenhouse Gas (GHG) emissions from human activity. Researchers are making significant advancements in the search for sources of carbon dioxide released. Recent research has found that storms over the southern oceans near Antarctica release significant amounts of carbon dioxide.

Read more detailed information on the research into climate modeling using outgassing carbon dioxide data in the Antarctic.



Emmitt Lockard
2021/2022 NOGS LOG Editor



A MESSAGE FROM 2021/2022 NOGS PRESIDENT

HILLARY SLETTEN

To members and friends of the New Orleans Geological Society:

Thank you to all of our membership and guests who joined us for last month's speaker, Dr. Bobola Akintomide. We apologize that we were unable to hold this event in-person and for any confusion this may have caused. We did not meet the minimum number of attendees of 25 people for The Cannery luncheon and so we had to shift to a fully virtual presentation, for which we had close to 40 participants. We will transfer or reimburse paid luncheon fees accordingly. We will again try to hold in-person monthly speaker meetings in the future, but as we all know by now, this is a very challenging time to plan events and predict participation as COVID-19 surges ebb and flow causing ripple effects into all of our personal and professional lives. For now, we will continue keep safety a top priority and we respect the membership's desire to keep things virtual until further notice.

So, with that in mind, our February speaker, Dr. Eleanor Killiam, will also be virtual. Dr. Killiam is a Climate Change & Sustainability Project Manager at Mott MacDonald in New York City. Her background in water resource engineering and expertise in climate resilience is sure to prove insightful as she discusses climate change impacts, engineering techniques to mitigate flooding, and how these understandings can help others apply for funding for resilience projects. I love the diverse line-up of speakers and topics we have this year for NOGS! We hope you are able to attend, so please keep an eye out for Christy's email invitations and register to attend.

The NOGS Board is also in the process of kicking off events such as running science days at the Children's museums, assisting with local school science fair judging, and preparing for a spring golf tournament. Please look for more information on these activities in the coming months, and if you wish to participate, feel free to reach out to me or another board member to learn more about getting involved.

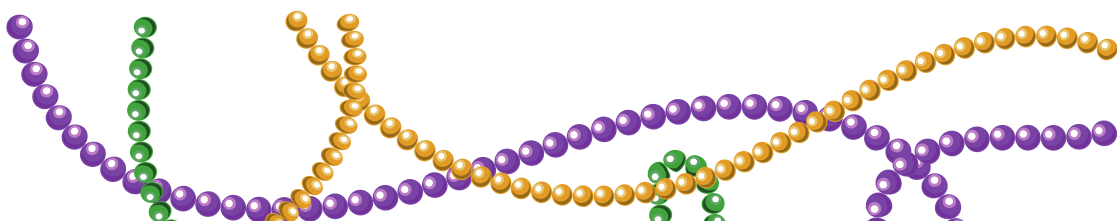
Lastly, if any member is interested in serving on our Board – we currently have two openings. We are seeking a Treasurer and Secretary. If you are willing and able to serve in one of these positions, please reach out to me. We are only asking for assistance through the end of this year's term (~May – June), but would also greatly appreciate it if you could continue to serve into the next term. Commitments mainly pertain to attending monthly board meetings and preparing some materials for those meetings. We also encourage our Board to attend the monthly speaker events and other activities, but it is not required. It is a great way to give back to this wonderful organization and help keep geoscience awareness present in our communities.

Be safe and be well out there!

Cheers,

Hillary Sletten

2021-2022 NOGS President



N O G S F E B R U A R Y 2 0 2 2 M E E T I N G

MONDAY, FEBRUARY 7, 2022

11:30 AM ZOOM MEETING

ENGINEERING CONCEPTS FOR FLOOD MITIGATION

Presented by:

Eleanor Killiam



ABSTRACT

This presentation will discuss climate change impacts, engineering techniques to mitigate flooding, and funding opportunities for resilient projects. Key topics will include stormwater management techniques and grant application tips. Attendees will gain an understanding of climate change risks and the urgency of action, and become more prepared to apply for funding for resilience projects.

BIOGRAPHY

Eleanor Killiam is a water resources engineer and climate resilience specialist in New York City working at Mott MacDonald. For over 5 years, she has been helping clients evaluate and understand their vulnerability to climate hazards and prepare for future climate impacts. She also has extensive experience supporting clients in applying for and managing Federal and state grants, including FEMA Public Assistance, BRIC, NYS WQIP, and more.

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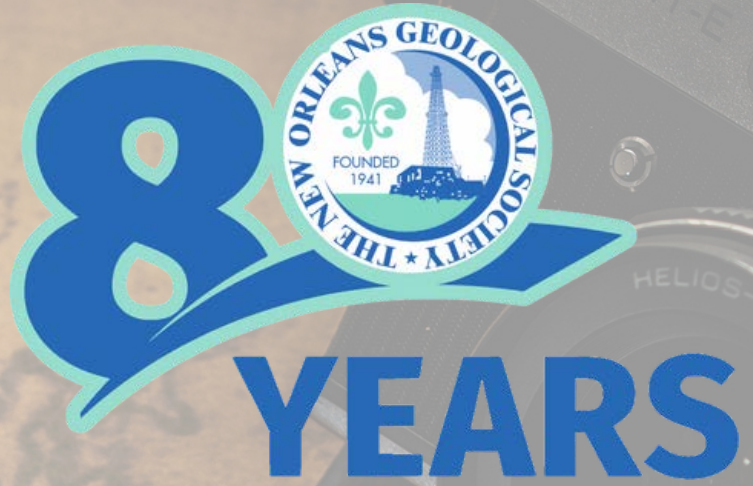


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PICTURES FROM THE PAST



Tracey P. Edwards presents her MS thesis research in a poster paper at the April 3, 1995 NOGS Luncheon at the Petroleum Club.

***Submitted by
Ed Picou, Chairman - Historical Committee***

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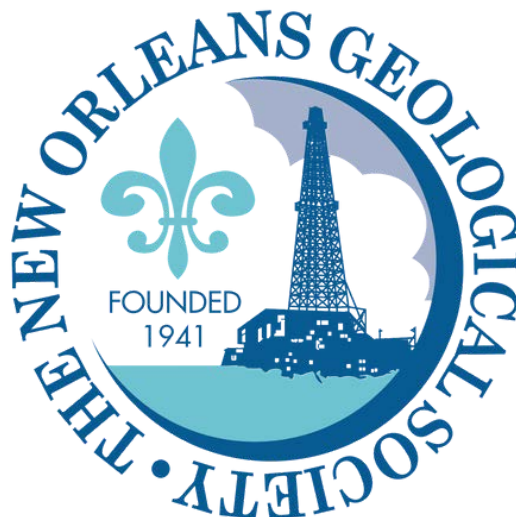
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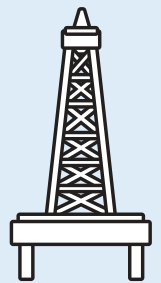
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DRILL BITS

OFFSHORE GULF OF MEXICO SHELF AND
DEEPWATER ACTIVITIES
BY AL BAKER



During December 2021, the Bureau of Safety and Environmental Enforcement (BSEE) approved 71 Gulf of Mexico (GoM) drilling permits. Twelve of the permits were for shelf wells, and the remaining 59 permits were for deepwater wells. Of the total number of permits, there were no new well permits issued. Therefore, there's no Activity Map in this issue.

On December 30th, IHS-Petrodata indicated that the GoM mobile offshore rig supply stood at 48, which is 2 more than last month. The marketed rig supply consisted of 34 rigs, of which 28 were under contract. The marketed rig supply and the contracted rig supply numbers are each 2 more rigs than last month. The marketed contracted versus total rig supply utilization rate was 70.8%, and the marketed contracted versus marketed supply utilization rate was 82.4%. By comparison, the December 2020 total fleet utilization rate stood at 63.9% with 36 rigs under contract out of the 59 rigs in the fleet.

On December 31st, Baker Hughes reported that there are 15 active mobile offshore rigs in the GoM, which is the same as last month and 53.6% of the rigs under contract mentioned above. Currently, 1 rig is drilling on the shelf, and 14 rigs are drilling in deepwater. They include 5 rigs in the Mississippi Canyon Area, 3 rigs in the Green Canyon Area, 2 rigs in the Alaminos Canyon, and 1 rig each in Keathley Canyon, Walker Ridge, Viosca Knoll, Ewing Bank and Eugene Island Areas.

On December 31st, the Baker Hughes total U.S. rig count stood at 586 rigs, which is 17 more rigs than reported at the end of November 2021. Of the 586 rigs, 480 (81.9%) are oil rigs and 106 (18.1%) are gas rigs. A year ago, there were 351 rigs working in the U.S. inferring that the current rig figure represents an 67% increase in rigs year over year. Presently, Texas continues to have the largest number of rigs with 277, which is 47.3% of the total number of rigs in the U. S. Louisiana currently has a total of 49 rigs, which is the same as last month. Louisiana is now tied with Oklahoma in ranking third in the rotary rig count. New Mexico continues to rank second with 94 rigs.

On December 8th, Shell Offshore announced an oil discovery in the Perdido Corridor at its Blacktip North Prospect on Alaminos Canyon Block 336. The discovery well is situated approximately 220 miles south-southeast of Houston, Texas. The well was drilled to a total measured depth of 27,770 feet and found approximately 300 feet of oil pay at multiple levels. Evaluation is currently underway to determine future development options.



50th Anniversary of the Completion of One Shell Square: Including a Brief History of Early Exploration successes

Jeff Spencer, GCAGS Historian
Ed Picou, NOGS Historical Committee Chair

Shell Oil Company's New Orleans office tower, One Shell Square, was completed in 1972 as the tallest building in Louisiana, a record that still stands. Located at the corner of St. Charles Ave. and Poydras Street the 51-story building is 697 feet tall. On October 18, 2018, One Shell Square was listed on the National Registry of Historic Places. The building was renamed the Hancock Whitney Center in 2018. The photograph above, dated 1/29/1971 is of One Shell Square during construction. Construction began with a wooden construction wall built completely around the block, which was bounded by Poydras, Carondelet and Perdido Streets, and St. Charles Avenue. Two draglines excavated the entire block to a depth in excess of 100 feet. The piledriving began using both machines driving piggy-back piling some 270 feet until they encountered a sticky blue Pleistocene clay. The top 20 feet or so of each piling remained exposed. The next process was to pour a cement slurry, laced with crushed ice to offset the heat exchange as the cement hardened. This activity continued for about 30 days. A solid block of cement approximately 50 feet thick is what the 697-foot building is resting upon. It has been said that the block of cement is about equal to the weight of the office tower.

Shell in South Louisiana

Before completion of One Shell Square in 1972, the company had offices scattered all across the metropolitan area. However, in 1954, Shell's New Orleans Regional Office was opened in a new building commissioned by Shell at 927 Baronne Street. In addition to regional staff, the building also accommodated the fledgling offshore exploration group, originally called the "Marine Division." For many years, Bouwe Dykstra was regional vice president who was a truly visionary explorationist. He was instrumental in establishing Shell's dominance in the Gulf of Mexico (Priest 2007, p. 58-62). Incidentally, for many years, the New Orleans Petroleum Club was located on the fourth level.

As the 1960s moved forward, the era of consolidation in the oil and gas industry took hold. In 1959, Shell's South Louisiana Exploration Division located in Baton Rouge and its Donaldsonville Production District office moved in into the new building at 2900 Veterans Boulevard. This building underwent many successive additions when the expanding Offshore Exploration Division moved there in about Circa 1968, the Jackson, Mississippi, Exploration Division relocated to the city. It was officed in the 234 Loyola Avenue Building and remained there until the move to One Shell Square. Until 1972, Shell had an office at 4100 Touro Avenue in Gentilly that housed the Delta Production unit and also the re-constituted South Louisiana Exploration Division. For years, the company had a Production Laboratory that tested sidewall cores, and performed other activities, located on the west bank in Harvey.

Shell's early exploration success in South Louisiana was predominantly associated with salt domes. Figures 2 and 3 are doubloons issued by Shell in 1972 to commemorate the completion of One Shell Square. The reverse of the doubloons shows an oil derrick with a caption of a 1916 Hunter No. 1 well, Vinton, Louisiana. In researching the Vinton oil field, discovered in 1910, neither an early Shell well, nor a Hunter lease were found (Spencer 2010), though there were early wells drilled on Hunter leases in the nearby Edgerly oil field, less than ten miles from Vinton. Oil production was established at Edgerly in 1912.

Shell's first major oil discovery in South Louisiana was the White Castle salt dome in Iberville Parish. The discovery well was the Shell #3 Wilbert completed in 1926. This discovery was followed by successes at the Black Bayou salt dome in Cameron Parish (Shell/Roxana # 9 Watkins in 1929) and the Roanoke salt dome in Jefferson Davis Parish (Shell #1 Kratzer in 1934). Though not discovered by Shell, the company had a major lease position on the Iowa salt dome in Jefferson Davis Parish, discovered in 1936, and Shell drilled and completed many oil wells there. With the completion of the Shell #B-1 Realty in 1937, the company discovered the Gibson oil field (non-salt dome related) in Terrebonne Parish. Another significant oil discovery for Shell was the Weeks Island salt dome in Iberia Parish in 1945 (NOGS LOG, July 2020).

Shell in the offshore

With the growing interest in offshore exploration, in 1947 Shell moved 125 Houston employees to New Orleans. Housed in several New Orleans' office buildings, including the Richards Building, this was the beginning of the growth of Shell Oil in New Orleans (Priest, 2007 p. 49). Early offshore Louisiana Shell discoveries were made at Main Pass 69 (1949) and South Pass 24 (1950). Figure 4 is a postcard showing a drilling rig on Shell's Eugene Island block 116. This block is one of several that Shell won in the first Federal OCS lease round in 1954.

References:

- Beaton, Kendall, 1957, *Enterprise in Oil: A History of Shell in the United States*, Appleton-Century-Crofts, Inc., New York, 815 pp.
Priest, Tyler, 2007, *The Offshore Imperative: Shell Oil's Search for Petroleum in Postwar America*, Texas A&M Press, 336 pp.
Spencer, Jeff A., 2010, The Vinton (Ged) oil field, Calcasieu Parish, Louisiana, *Oil-Industry History*, v. 11, p. 15-27.



Figure 2-Silver Plated Doubloons
Figure 3 - Bronze Doubloons

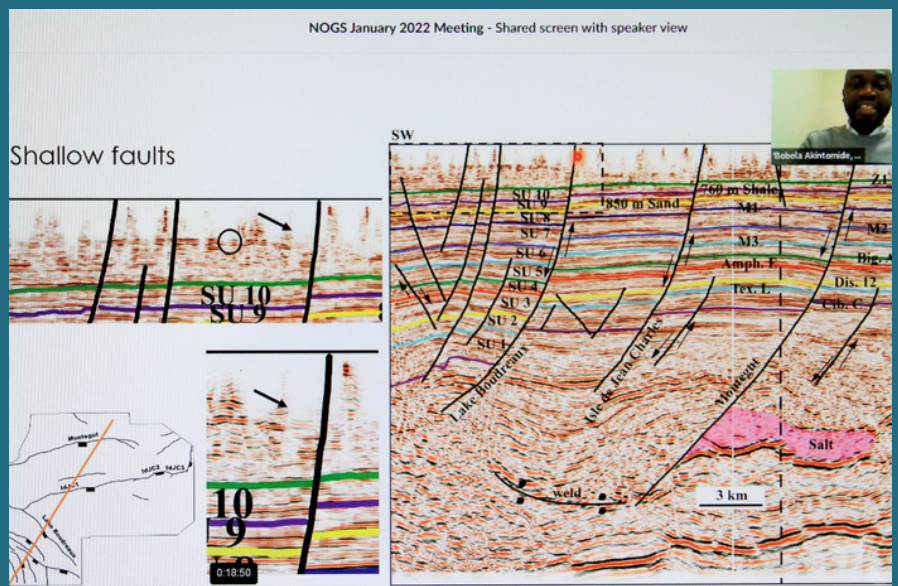
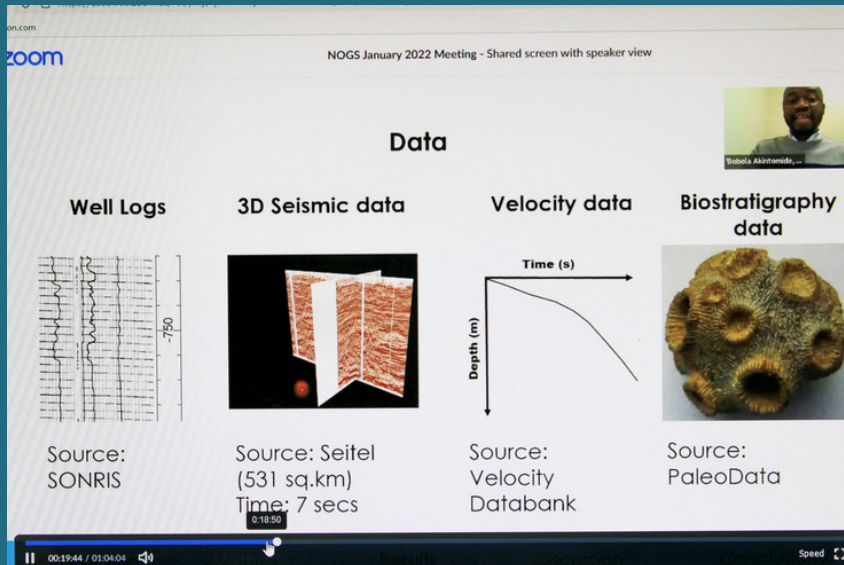
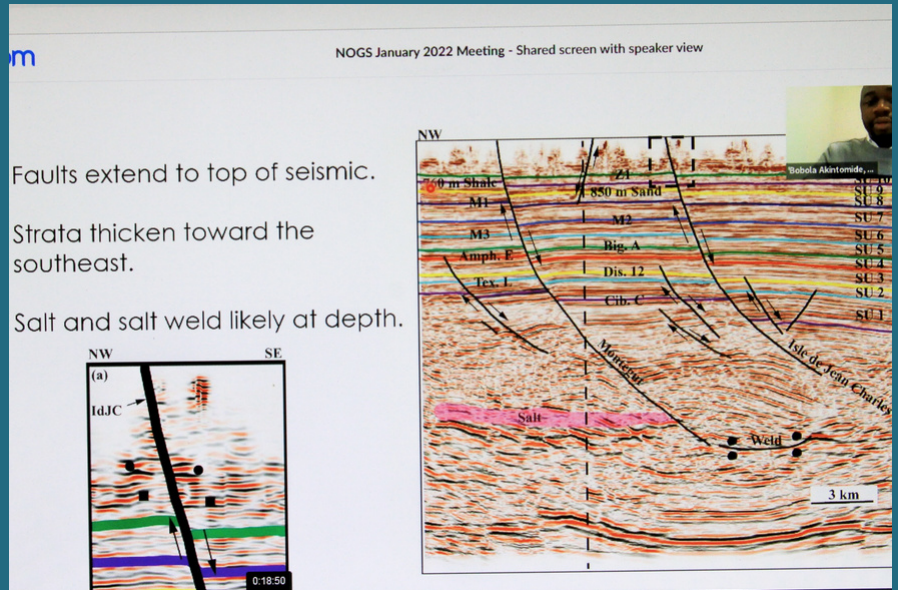


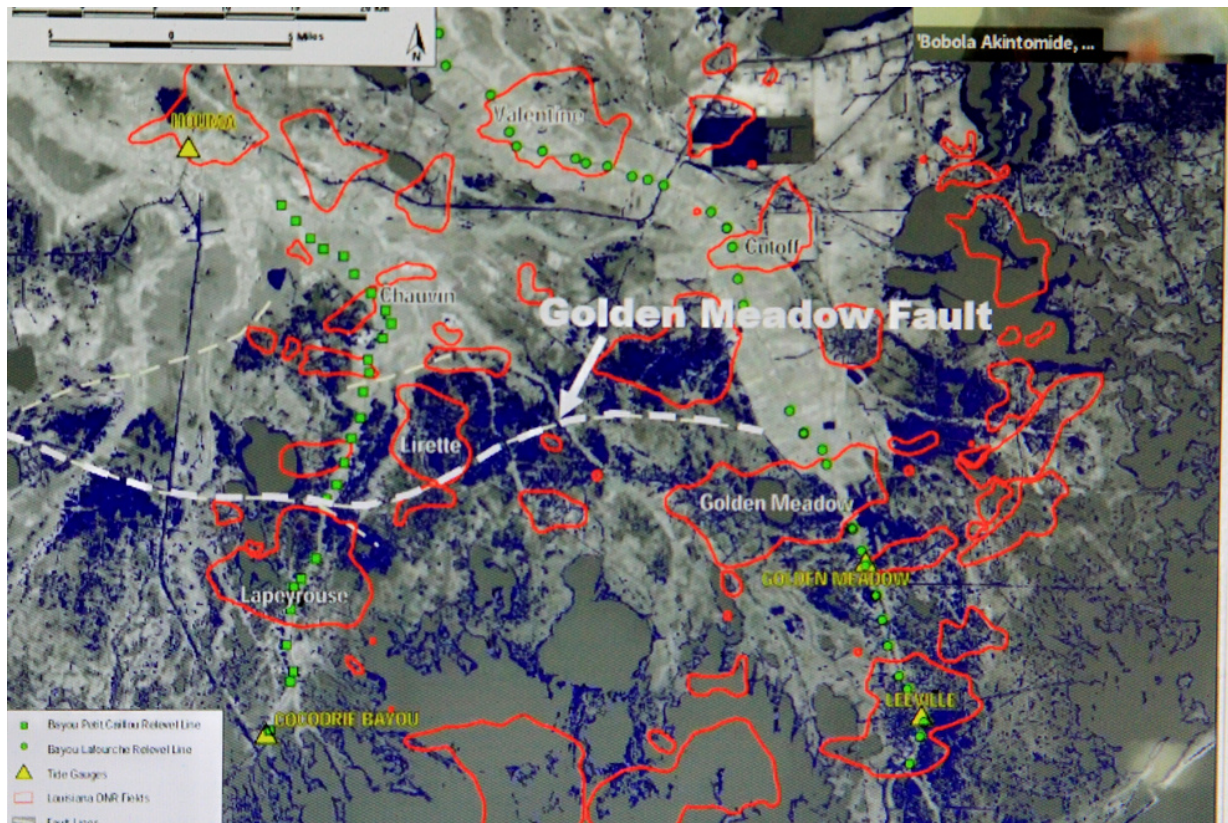
Figure 4 - Shell's Eugene Island
Block 116 Drilling Platform

January 2022 Meeting



Dr. Bobola Akintomide





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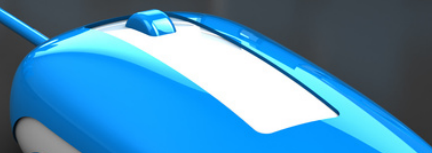
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Recent Oil Industry Headlines... January 2022

1/6/2022 - Exxon Makes 2 New Discoveries Offshore Guyana - ExxonMobil (NYSE: XOM) announced that it has made two oil discoveries at Fangtooth-1 and Lau Lau-1 in the Stabroek block offshore Guyana. The Fangtooth-1 well, which was drilled in 6,030 feet of water, is said to have encountered approximately 164 feet of high-quality oil-bearing sandstone reservoirs. Lau Lau-1, which was drilled in 4,793 feet of water, found approximately 315 feet of high-quality hydrocarbon-bearing sandstone reservoirs, according to ExxonMobil.

[Read Full Article](#)

1/7/2022 - Oil companies last year made fewest discoveries since 1946 after slashing exploration budgets during pandemic - The amount of oil and natural gas discovered globally last year fell to the lowest level in 75 years after oil companies slashed their exploration budgets during the pandemic-driven downturn. Oil companies discovered 4.9 billion barrels of oil and natural gas in 2021, the lowest level since 1946, according to a report from Rystad. The Norwegian energy research firm said that's a "considerable drop" from the 12.5 billion barrels discovered in 2020. [Read Full Article](#)

1/12/2022 - Ramp up Gulf of Mexico lease sales, national oil and gas group leader says - A trade organization representing U.S. oil and gas companies is pressuring the Biden administration to ratchet up lease sales on federal lands and waters, including the Gulf of Mexico, the group's leader said Wednesday. Mike Sommers, president and CEO of the American Petroleum Institute, said he is hopeful for at least one sale in 2022 but that API is negotiating with the White House and the Department of the Interior to hold more. Sommers pointed out that federal law requires four sales each year if land is available. [Read Full Article](#)

1/18/2022 - Kosmos Energy Announces Gulf of Mexico Appraisal Success at Winterfell - Kosmos announced today completion of the drilling of the Winterfell-2 appraisal well on Block 943 in the Green Canyon area of the U.S. Gulf of Mexico. The Winterfell-2 well (Kosmos working interest ~16.4%), was drilled to evaluate the adjacent fault block to the northwest of the original Winterfell discovery and was designed to test two horizons that were oil bearing in the Winterfell-1 well, with an exploration tail into a deeper horizon.

[Read Full Article](#)

1/19/2022 - IEA forecasts tighter-than-expected 2022 oil market - Upward revisions to demand estimates and a slightly lower outlook for global oil supply have tightened expected balances for 2022, but still show a first-quarter 2022 surplus, the International Energy Agency (IEA) noted in its January Oil Market Report. [Read Full Article](#)

1/20/2022 - Unit Corp looks to sell Anadarko, Gulf Coast gas assets for \$1 bln - Unit Corp UNTC.PK, one of the top U.S. natural gas producers, has hired an investment bank for a sale of its oil & gas producing assets in the Anadarko and Gulf Coast basins that could fetch around \$1 billion, sources told Reuters on Thursday.

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4

Further your cause

NOGS was organized for the purpose of facilitating the development of the profession and science of Geology, at the time with a focus on production of oil and gas. Since Hurricane Katrina our objectives expanded to include the dissemination of the geological facts of flood control, engineering and environmental geoscience.

5

Network with others who do what you do

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6

Advocate for your profession

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7

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