

NOGS LOG

NOVEMBER 2019
Volume 60 No. 5

NOVEMBER MEETING

The Exploration and Discovery
History of the Guyana-Ghana
Conjugate Equatorial Corridor
Presented by: John Dribus

MONDAY
NOVEMBER 4th



UPCOMING EVENTS

NOV 4

NOGS Luncheon
John Dribus
Deepwater Discoveries
Offshore Guyana

NOV 8

The 45th Annual
Mineral Show
University of New Orleans
6:00 pm

NOV 10

Children's Museum
of St. Tammany
Celebration Fundraiser
November 10th
6:00 pm - 10:00 pm

NOV 16

Children's Museum
of St. Tammany
StemQuest
November 16th
10:00 am - 1:00 pm

Click Here to Register!

IN THIS ISSUE

On the Cover



The photo on the cover was taken at Spade Lake in Washington State about 1 hour from Seattle. I took this photo in June 2019 with a few friends on a 4-day backpacking trip. It is a geological beauty to see the rock formations in person with the view of the lake. Spade Lake is located on Mount Daniel in the Alpine Lakes Wilderness at approximately 5,400 ft. elevation. We hiked 40 miles round-trip with some high rocky inclines on loose rocky trails, tricky edges next to huge drop-offs and sharp downhill climbs at times, but worth every grueling step for the experience and views along the way. We crossed the Pacific Crest Trail, Waptus Lake, and some beautiful waterfalls.



From the Editor...

Thanks to everyone who contributes content for the monthly LOG. It is a vital part of every organization to engage its members in many ways such as the website, email, the monthly LOG, social media, monthly meetings and more. Providing valuable content to our members in the monthly LOG is an important part of keeping members informed on the activities within NOGS, other associated oil and gas groups and geological or related articles to educate our members as well. Keep up the good work.

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.

Thanks,

Charlie



Charles Miller III
NOGS LOG Editor

NOVEMBER 2019 NOGS MEETING

Monday, November 4, 2019
Holiday Inn Downtown Superdome

The Exploration and Discovery History of the Guyana- Ghana Conjugate Equatorial Corridor

This presentation looks at the exploration history of the Equatorial region of South America and its conjugate basins offshore west Africa. The talk begins with an overview of the exploration history of the Exxon Guyana Liza area (now over 6 billion barrels of oil in 14 discoveries, and growing larger with each new wildcat well), then moves eastward across the Atlantic for a comparison with the offshore Ghana Jubilee and TEN Fields. The talk includes a brief geologic evolution of the Atlantic margin focusing on the plate tectonic events, sequence stratigraphic processes, and resulting depositional processes that created the critical source, reservoir, and seal rocks in this area. The talk concludes by looking at the South American Equatorial area from Trinidad Tobago eastward to Brazil reviewing the key learnings from the discoveries and dry holes recently drilled there on both sides of Guyana.



JOHN R. DRIBUS
GLOBAL GEOLOGIST AND ADVISOR
DRIBUS GEOLOGIC
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John Dribus is an independent Global Geologist and Advisor who retired from Schlumberger in 2018 after 19 years working various deep-water plays around the world. He is a Reservoir Geologist with over 40 years' experience, and specializes in turbidite geology, below salt plays, and deep water geologic hazards. He worked five years as a uranium field geologist for Bendix Corporation, then worked in the Gulf of Mexico for 18 years for Mobil Oil Corporation, and the next 19 years for Schlumberger. He has worked deep water basins along the Atlantic margin from Western Greenland south to the Falkland Islands and across the basin from South Africa and north to Morocco, and has also worked the Black, Red, and Mediterranean Seas. In 2013, he was awarded the Reservoir Description and Dynamics Award by the SPE (Society of Petroleum Engineers). In 2014, he was an invited speaker at the AAPG Discovery Thinking Forum and Playmaker Forum, and received the Meritorious Service Award from the American Petroleum Institute (API) Delta Section. In 2017 he was recognized as an AAPG Heritage Geologist at the 100th Annual Convention in Houston, and received the 2017 Best Technical Paper of the Year Award from the New Orleans Geological Society. In 2018 he received the A.I. Levorsen Award from AAPG for best technical paper at the Gulf Coast Association of Geological Societies Annual Meeting.

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FROM THE NOGS PRESIDENT ROBERT ROONEY



If a person were to ask me what I like about my career as a geologist, I would say that I never had a bad day at work. I would also say every day is different. Over the years, a day at work has taken on a myriad of forms. When I was a student working as an aide for the MMS, I was ever inquisitive about the mundane details of the work products of the trade that I observed, Pinger profiles, bathymetric maps, shallow hazard and archeological maps. I would ask the professionals in the office about their job, and listen to endless war stories by people who just loved what they do. Field camp in Saltillo, Mexico, was a tremendous experience which provided us with confidence inspired by our field professors, Al Weidie, Bill Craig, and Ralph Kugler. The fact that we were able to make geologic maps in the Mexican desert based on our own field-work and geological reasoning was just amazing!

My professional working career has been anything but ordinary. I graduated with a B.S. in the 80's and took on my first job in a warehouse on Tchoupitoulas, slabbing core samples with gusto. Following a brief stint in the environmental field, I received a call from a local mining company on a resume I mailed the previous year. I still have copies of my many (100s) rejection letters in a desk drawer from which I draw inspiration from time to time. It seems most of the companies I have worked for have at one time previously rejected my employment inquiries. My first employer was a great company which offered me on-the-job training as a project geologist working in the field with rigs, as well as prospect mapping in the office. I had the opportunity to work in the North Sinai and in the Delaware Basin of West Texas. I made reconnaissance trips through Canada and the Western US, before landing a position at Caminada Mine, offshore Grand Isle. I worked with the mine staff on a 5 & 2 rotation, flying in the Grumman Mallard to and from work every day. During the morning flight out we had business planning discussions, and in the afternoon on the flight in we had a game of hearts.

At times, due to industry cycles, I have taken the opportunity to work independently by leaning on the geological skills that I had mastered. I worked as a consultant on both domestic and international projects. I am grateful to work in a profession that allows a person to make his or her own living as a small business owner with minimal over-head and their own professional skills and reputation as their calling card. As other opportunities began to come available in the industry, I accepted a job with a local major oil company as an experienced new hire and was given the opportunity, over an eight year period, to interpret regional and field-level seismic and subsurface data across the Gulf of Mexico. I learned how a basin was put together from the bottom-up. It was not a specific geographic area of expertise nor technical skill, but the opportunity to see the big picture, and to learn how to see geomorphology in seismic data. This was one of the most enlightening periods of my career. I thoroughly enjoyed bike riding to work at Shell and frequent meetings with my wife,

who also worked downtown as a geologist, for lunch at the many restaurants during that time. The desire to stay in my hometown steered me toward employment with independent companies. Following Katrina, I experienced the importance of our New Orleans Geological Society firsthand, participating in the Board of Directors through this time when we moved to an online version of the *NOGS LOG*. It was amazing to be able to hear first-hand accounts of how members of our geological community experienced and reacted to the tragedy. Al Duvernay (local paleontologist) instinctively became a one-man rescue team and saved lives in his neighborhood. Steve Nelson of Tulane performed independent forensic geological studies and organized field trips to share his knowledge and findings with the community because "it was something he could do." So many others pulled together in spectacular fashion, and the human story was perpetuated by the NOGS presidencies of Bret Hampton, Scott Wainright, Mike Fein, and Art Johnson during that time. Being president is never easy; but being president during and after Katrina deserves big respect.

After a while, I moved to another independent oil company where I was again afforded the opportunity to make a living by practicing geology and helping my employer locate commercial accumulations of oil and gas. Coming to my more recent career phase, I was pleased to know how I was able to utilize the public information such as geological subsurface and production data available online through SONRIS and other State and Federal databases. This aided me in working as a consultant geologist. I found it critical to purchase licenses of some of the more useful and affordable software which allowed me to perform geological field studies while working with clients who are of the highest caliber of onshore operators that I have had the pleasure of working with in my career. Within the last six months, I was offered the full-time opportunity to work as part of a team with an offshore operator who has invested in the rejuvenation of world-class shelf assets, and who appreciates the value opportunity that comes through employment of geological staff and industry talent at every level of the E&P cycle, creating opportunities and careers in our region.

For me, geology as a career has been a "no-regrets" decision. I had discussions with friends this past month and reflected on life in the oil patch. I think we all agreed that there is a reward in both the search and the discovery, the search for employment as well as for oil and gas are kind of similar. Both require optimism and persistence. Knowing that we have the training as explorers to persevere through challenges that life throws our way and that we would not think of doing anything else forces us to seek out and to make our own opportunities.

In a recent Reuters article, Shell's CEO Ben van Beurden is quoted as saying "Despite what a lot of activists say, it is entirely legitimate to invest in oil and gas, because the world demands it." I don't think that sentiment is rare, and I think it is important that we all do our best to ensure that our local industry remains a viable source of jobs and economic strength for our local community. Our recent Kick-off Party/Membership drive, and our NOGS monthly luncheon were both huge successes! On behalf of the Board of Directors and our staff, we look forward to continuing to see you all at our events where you can network and enjoy the company of your industry peers. Special thanks to John Dribus and Toby Roesler for organizing these events. Also, most special thanks to our sponsors: Seitel, Diversified Well Logging, Paleo-Data, LLOG Exploration, Talos, Cox Operating, Jim Zatkiewicz, and Toby Roesler. We hope that you are enjoying the Fall in New Orleans, and we look forward to seeing you at the November luncheon for a presentation by John Dribus on oil discoveries in Ghana. See the abstract and bio in the NOGS LOG or on the website and register on-line. Please note that we are doing our best to hold a Christmas Party for December, and we welcome any sponsorship or open house offers from our membership in order to help make the event a well-attended success for NOGS members and our friends.

R. H. Roesler



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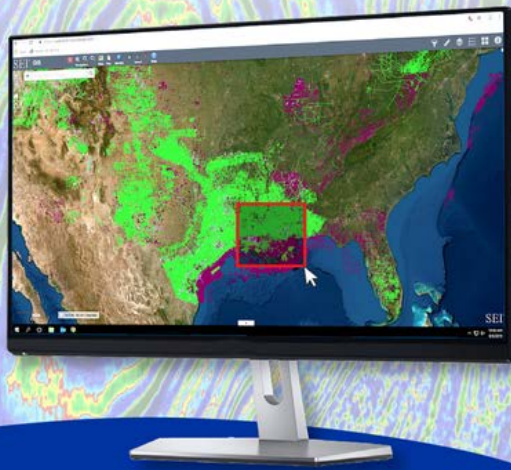
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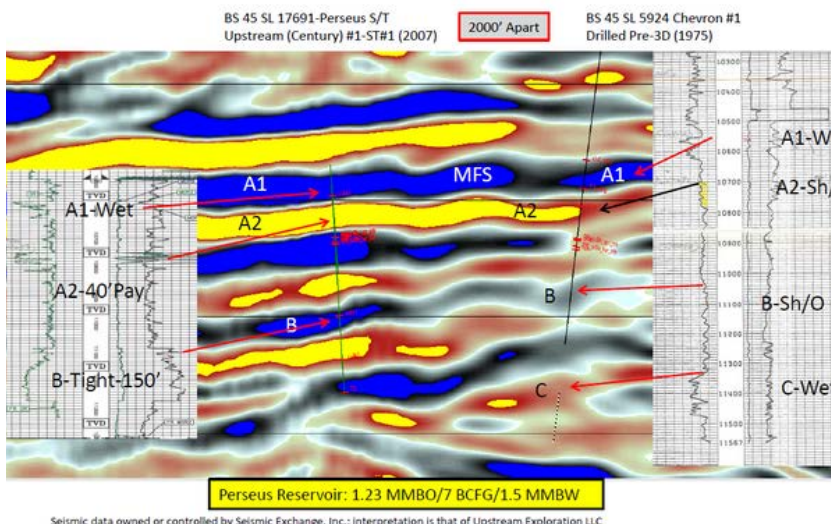


Mark Wonja, Vice President of Exploration of Upstream Exploration gave a fascinating talk on the success that Upstream has had in the Breton Sound area. A regional turbidite framework and subtle seismic and subsurface analysis has led to significant discoveries after other companies had evaluated the area.



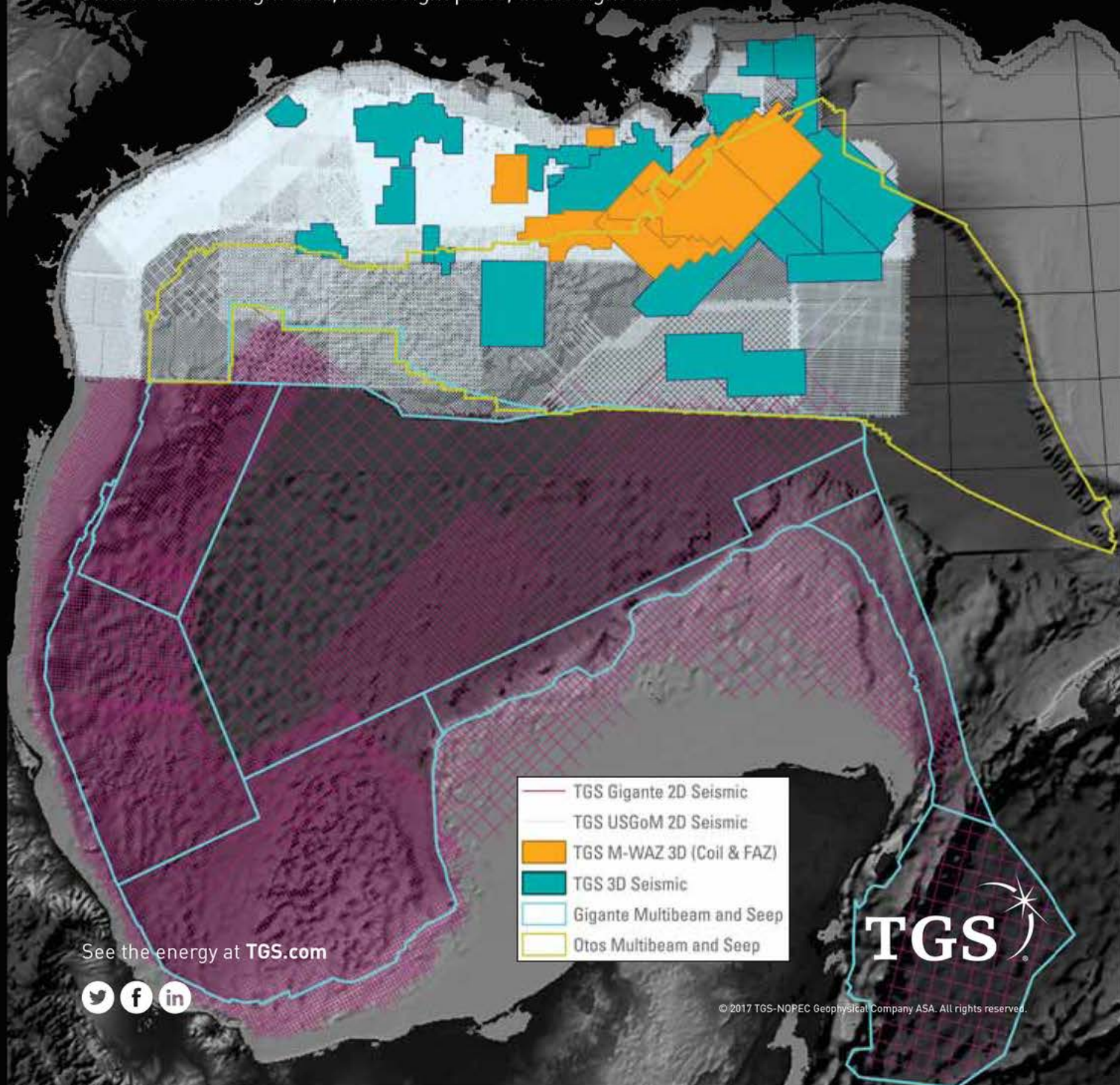
MARK J. WOJNA UPSTREAM EXPLORATION

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PICTURE FROM THE PAST



1992 Past Presidents Luncheon at New Orleans Petroleum Club

Submitted by

Ed Picou, Chairman - Historical Committee

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Advertising rates have not changed since 2008 but the printing process has allowed printing the LOG entirely in color. Please contact Christy Himel admin@nogs.org for placement availability. Full page NOGS LOG advertisers will have their Company LOGO posted on the NOGS Website front page. All advertisers are included on the Society's monthly powerpoint and listed on the website with a link to their home page. Please check out our website www.nogs.org

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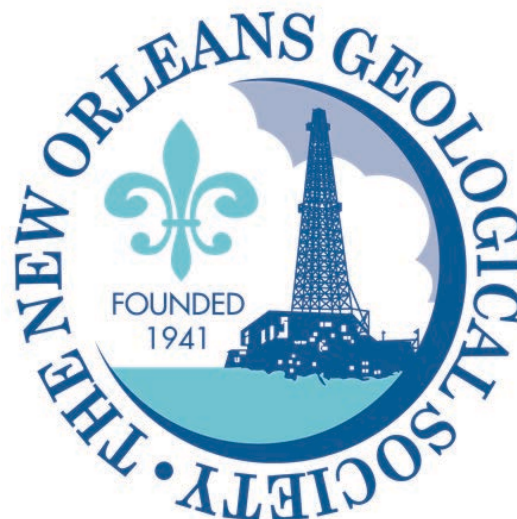
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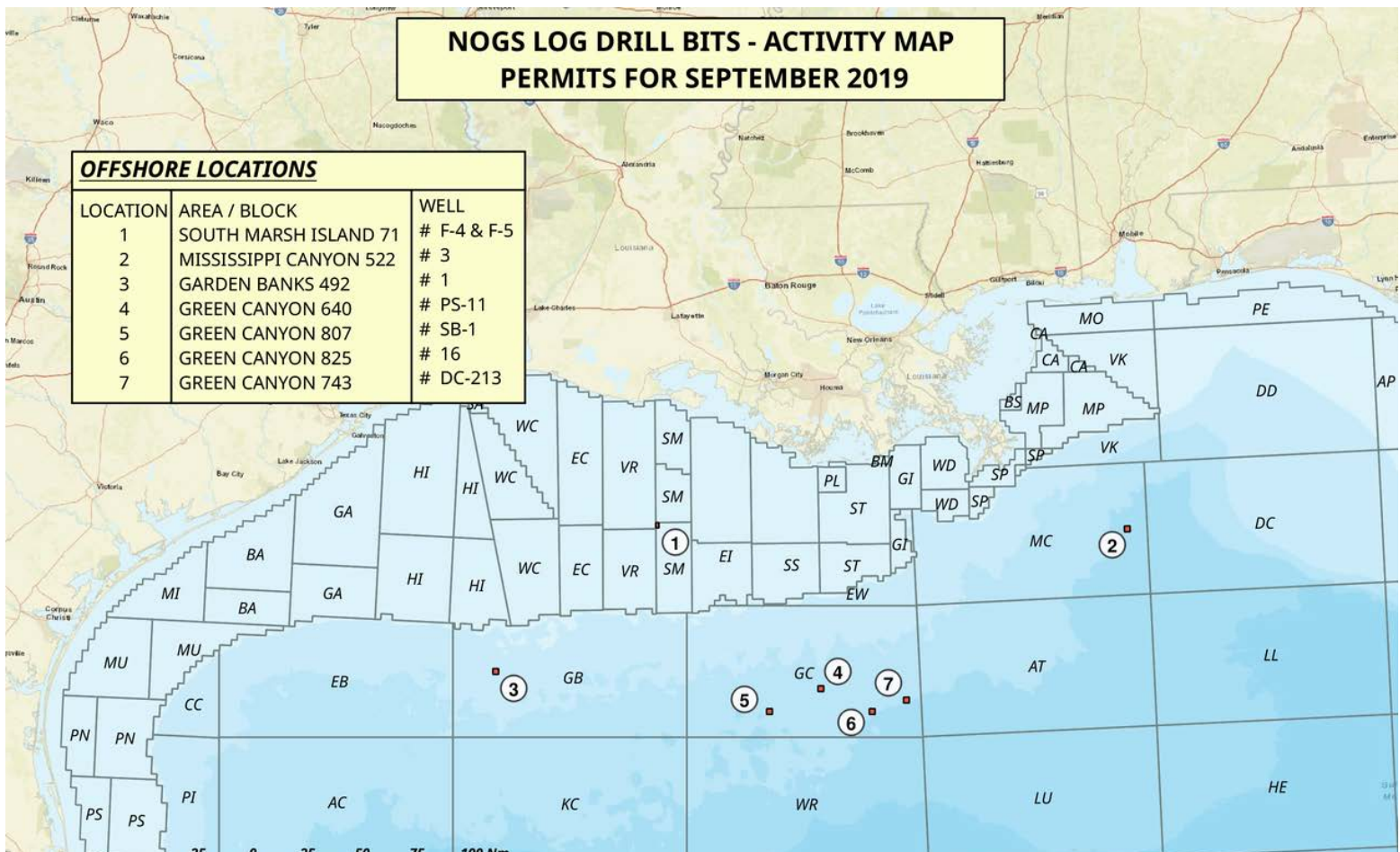
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DRILL BITS

OFFSHORE GULF OF MEXICO SHELF AND DEEPWATER ACTIVITIES

BY AL BAKER



During September 2019, the U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE) approved 80 Gulf of Mexico (GoM) drilling permits. Twenty-two of these were for shelf wells, and 58 were for deepwater wells. Of the total number of permits, there were 8 new well permits; two were issued on the shelf and 6 in deepwater.

The two shelf new well permits were for development wells. Bryon Energy was awarded both new well permits for their South Marsh Island 71 #F-4 and #F-5 wells.

The six deepwater new well permits included four exploration wells and two development wells. Chevron U.S.A. received two exploration new well permits for their Green Canyon 640 #PS-11 and Green Canyon 807 #SB-1 wells. Shell Offshore obtained one exploration new well permit for their Mississippi Canyon 522 #3 well, and Kosmos Energy Gulf of Mexico Operations was awarded an exploration new well permit for their Garden Banks 492 #1 well. The two development new well permits were given to BP Exploration & Production for their Green Canyon 743 #DC-213 and Green Canyon 825 #16 wells.

DRILL BITS

On September 27th, IHS-Petrodata indicated that the GoM mobile offshore rig supply stood at 71, which is 1 less than last month. The marketed rig supply consisted of 42 rigs, of which 35 were under contract. The marketed rig supply and the contracted rig supply number are also each 1 less than last month. The marketed contracted versus total rig supply utilization rate stood at 49.3%, and the marketed contracted versus marketed supply utilization rate stood at 83.3%. By comparison, the September 2018 total fleet utilization rate stood at 46.1% with 35 rigs under contract out of the 76 rigs in the fleet.

As of September 27th, BakerHughes reported that there were 22 active mobile offshore rigs in the GoM, which is 62.9% of the rigs under contract mentioned above. This active rigs number is 4 less than reported last month. Of the 22 rigs, 5 are located on the shelf, and 17 are situated in deepwater. At the same time last year, there were 18 mobile offshore rigs operating in the GoM representing a 22.2% increase in active rigs year over year.

As of September 27th, the BakerHughes total U.S. rig count stood at 860 rigs, which are 44 fewer rigs than reported at the end of August 2019. Of the 860 rigs, 713 (82.9%) are oil rigs and 146 (17.1%) are gas rigs. A year ago, there were 1054 rigs working in the U.S. Thus, the current rig figure represents an 18.4% decrease in rigs year over year. Texas typically has the largest number of rigs currently with 418, which is slightly under half (48.6%) of the total number of rigs in the U. S. Louisiana has a total of 56 rigs, down 4 rigs from last month. The majority (89.3%) of the Louisiana rigs are located in the Haynesville Field, which has 50 rigs.

On September 27th, U.S. Department of the Interior Bureau of Ocean Energy Management (BOEM) announced its initial Phase 2 sale statistics for OCS Sale 253, which was held in New Orleans on August 21, 2019. A total of 17 bids were deemed acceptable of the 151 high bids submitted during the lease sale. The BOEM has 90 days or until November 19, 2019 to either accept or reject the remaining 134 bids.

GIRL SCOUTS DREAM BIG IN BATON ROUGE

The 6th annual Girl Scouts BIG - Believe In Girls event was September 28th in Baton Rouge and oh what a memorable event it was. Over 1,500 scouts from Louisiana East and also their scout leaders attended the event held in the Pete Maravich Assembly Center. Over 100 presenters from 37 STEM related organizations presented Science Technology Engineering and Math career opportunities.

NOGS was well represented with an enthusiastic group of college student volunteers and our core devoted NOGS members demonstrating to the girl scouts and adults our 8 STEP STEM program on how an oil field is formed.



Volunteers included our highly engaging Tulane students Betina Brockamp, Sarah Olivia, Thi Quan Hoang Pham, Ryder Myers and Jose Silvestre. Meghan Duffy and Allison Barbato from LSU also did a great job of teaching the kids. Doug Bradford handled multiple stations and helped with training, Lisa Kennedy of SGS worked the seismograph and Dave Cope demonstrated the seismic workstation. Major thanks to everyone involved!



girl scouts
louisiana east





The hands on oil field stations included:

- 1) fossils showing the source of oil is from carbon bearing plant and animal matter
- 2) oil properties and molecular chemistry plastic model kits for various hydrocarbon chain molecules
- 3) jars demonstrating oil being lighter than water and timing how long it takes for the lighter oil droplets to equilibrate back at the top of the jar when inverted with a fluid filled jar and another jar adding Mardi Gras beads to simulate the sand grains. For those interested - the migration upwards in the fluid filled jar is about 7 seconds. The students were asked to guess the time for the bead model. There was a very wide range of guesses with 30 seconds being the time it took to work its way up through the beads pore spaces
- 4) anticline and syncline structure models were shown demonstrating migration of oil to the anticline high. In contrast, a model with a Mississippi River overburden unconformity was useful to explain why we don't see large structures at the surface in Louisiana
- 5) the students dropped water on sandstones and shales demonstrating the sands pore space and the seal capacity of the shales.
- 6) the girls saw a cross section structural diagram of an oil field explaining migration and trap relationships and then they were able to apply the concepts by finding an oil field on a physical model That is nice but how do we see oil field type structures under the ground?
- 7) Kids created their own seismic waves by pounding on the table and observing a seismograph
- 8) a 3D workstation was used to demonstrate the mapping techniques uses seismic data and isolating bright spots and structural traps.



By the time the Girl Scouts had traveled through all 8 stations they were well grounded in the aspects of what we do and how fun it is to be a petroleum geologist. They also were able to interact with women role models in geology. That exposure and appreciation in geology makes it all worthwhile.

Special thanks go out to our 10 volunteers from Tulane, LSU and NOGS. Also Kevin Shipp the Director of Major Events for Louisiana East does a phenomenal job organizing and running the large scale program. It was a really special day and we were able to reach girls with the knowledge that they can do BIG things in science.

The Children's Museum of St. Tammany
November Special Events

STEMQUEST Nov 16th
Volunteers Needed

A black rectangular poster for the STEM QUEST event. On the left, there is a bright sunburst graphic with blue and green rays. The text 'STEM QUEST' is prominently displayed in large, bold letters, with 'STEM' in red and 'QUEST' in yellow. Below this, in smaller white text, it says 'Bring the whole family and journey through STEM' followed by 'Science • Technology • Engineering • Math'. The Chevron logo is on the left, and the Children's Museum of St. Tammany logo is on the right. The date and time 'Saturday, November 16th 10 am - 1 pm' are centered. Below that, the entrance fee 'Entrance: \$7 per person' and museum membership rates are listed. At the bottom, the museum's address, phone number, and website are provided.

STEM QUEST
Bring the whole family and journey through STEM
Science • Technology • Engineering • Math

Chevron

Saturday, November 16th
10 am - 1 pm

Entrance: \$7 per person
Museum Members - \$5 per named member
Includes Museum Admission

**Children's Museum
of St. Tammany**

Children's Museum of St. Tammany • 21404 Koop Drive • Mandeville • 985.888.1555 • CMSTkids.org

Join us for
Celebration

Sunday November 10

An archeology themed fun fundraiser

<https://cmstkids.org/play/events/celebration-the-great-expedition>





NEW ORLEANS
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MEMORIAL
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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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NEW ORLEANS
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2019 NOGS Memorial Foundation Scholarship Recipients



MEMBER SOCIAL

NOGS ANNUAL KICKOFF EVENT

NOGS INAUGURAL CORNHOLE CHAMPIONSHIP

The NOGS Fall Social – KickOff party took place on Oct. 10 at the Tchoup Yard in the Lower Garden District. The party was well attended with a good mixture of current and new members. The highlight of the evening was the very competitive 1st Annual NOGS Cornhole Championship Presented by Seitel. Newcomers to the sport, Katy Fearn and Jim Zatkiewicz more than held their own in the competition. Fran Wiseman was champion in the XX-chromosome division. In the open division, UNO's Bobby Mohollen "Drive" vied Mike Schneider with event sponsor Talos Energy for the championship. Mohollen was the strongest player in the preliminary matches and was the clear favorite for capturing the Seitel Cup. But Schneider quickly adjusted his playing style to changing pitch conditions as rain began falling with the start of the match. In a closely fought, back and forth match, Mike Schneider garnered the championship trophy. With the rain falling hard as the last bean bag was tossed, most of your NOGS compatriots were inside eating and drinking. Thankfully, Art Christensen was there with camera in hand to document this historic event.



**The Department of Earth and Environmental Sciences
University of New Orleans
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THE 45TH ANNUAL MINERAL AUCTION

**Friday, November 8th
6PM - TILL**



Minerals • Fossils • Jewelry • and More!

**Location: The Cove on UNO's Campus
2000 Lakeshore Drive**

**All proceeds will benefit our student
organizations: AAPG, SGE, & SEES!**

RSVP & Questions: jbulloc2@uno.edu

THE 49TH GEM & MINERAL SHOW



The 49th Annual Gem, Mineral, Fossil and Jewelry Show The 49th Annual Gem, Mineral, Fossil and Jewelry Show was held Oct 11th through 13th at the Alario Center on the Westbank. Dave Cope, Gem and Mineral Society of Louisiana and NOGS member, organizes the event. There were activities for the kids and beautiful exhibits. There were minerals, fossils, and jewelry for sale at various vendors. One booth, Eddie's Rocks and Relics, had a fabulous museum quality slab of Crinoids. It was truly beautiful. NOGS had a presence with a booth with dinosaur specimens and fun items, hosted by our own personable Tom Bergeon. Many thanks to Dave and Tom for exposing geology to the New Orleans area.

LA GEOLOGICAL SURVEY COASTAL SYMPOSIUM

The LA Geological Survey Coastal Symposium was held at the LSU Center for Energy Studies on October 17 & 18.

Speakers included NOGS members Liz McDade, Mike Merritt and Chris McLindon. Senator Sharon Hewitt gave the opening address.



(Left to Right) John Johnston, LGS, Sharon Hewitt, Chris McLindon, Jack Koban, Fugro



AAPG PRESIDENT: GEOLOGY GAVE PERMIAN OIL; TECHNOLOGY HELPS TAKE IT OUT

September 29, 2019 - By Mella McEwen, MRT.com/Midland Reporter-Telegram

<https://www.mysanantonio.com/business/oil/article/AAPG-president-Geology-gave-Permian-oil-14470809.php>

The roots of today's Permian Basin oil and gas industry reach back millions, perhaps billions, of years as the region was taking shape and as it has evolved. "It all starts with geology," said Midlander Mike Party as he addressed the West Texas Geological Society's Fall Symposium.

Party, president and owner of Beryl Oil and Gas LP and current president of the American Association of Petroleum Geologists, told a lunchtime crowd Wednesday at the Horseshoe Pavilion that "technology lets us get the oil out. Geology put the oil in. The Permian Basin has some beautiful geology."

That geology stymied early oilmen, he said, noting that in 1920 there wasn't any oil production within 100 miles of the Permian Basin, which was considered a graveyard. But in 1920, with the W.H. Abrams No. 1 in Mitchell County and the famed Santa Rita No. 1 in Reagan County, enterprising oilmen discovered the first commercial amounts of crude. The industry grew to produce more than 1 million barrels a day until the 1970s. The region then entered a four-decade decline that lasted until April 2011, when production was back up to 1 million barrels a day. "In five years, we'd doubled that to 2 million barrels a day, and three years after that, we're at 4 million barrels a day and still going up," he said.

Party attributes the beginning of that growth to the blowout of British Petroleum's Macondo well in the Gulf of Mexico, which resulted in a virtual halt to offshore drilling in the Gulf for a period of time. "The Macondo pushed companies here that were willing to take chances," he said. Those chances included early horizontal drilling in the Wolfcamp formation in both the Midland and Delaware basins. Horizontal drilling now comprises most of the activity in the Permian Basin. Horizontal drilling has also resulted in production from the Bone Spring and Avalon shales and, in the Midland Basin, the Spraberry, especially the Lower Spraberry Shale, he said. New plays developing around the Permian Basin include the Woodford Devonian, the Mississippian around the Andrews and Ector county lines and the Barnett. Expansion is also being seen into Culberson County, where he said Cimarex and Chevron are seeing positive results. Horizontal drilling has also revived what Party called old established plays, such as the Spraberry and San Andres, that have been producing for decades.

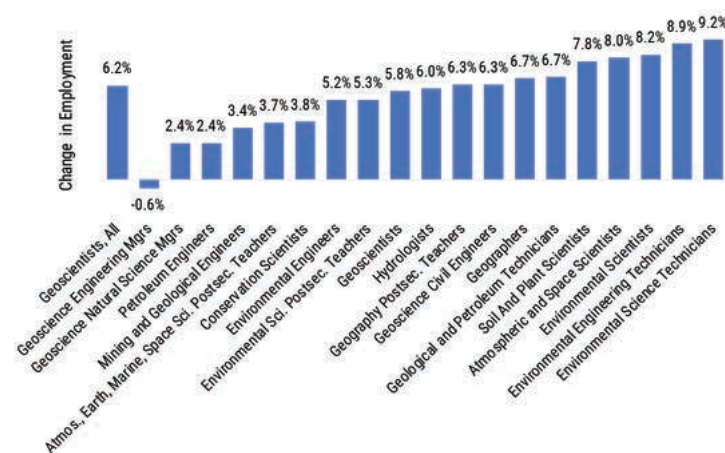
Geoscience Workforce Changes 2018-2028

Geoscience Workforce Projected to Grow by 6.2%

Employment projections from the U.S. Bureau of Labor Statistics indicate an overall 6.2% increase in geoscience jobs between 2018 and 2028, from 404,640 jobs in 2018 to 429,703 jobs in 2028. For comparison, the projected growth of the U.S. workforce over the same timeframe is expected to be 5.2%.

While growth rates for individual geoscience occupations range between 2.4% and 9.2% for all but geoscience engineering managers (-0.6%), those occupations projected to gain the greatest number of jobs are environmental scientists (7,000 jobs), environmental science technicians (3,200 jobs), and environmental engineers (2,900 jobs).

Projected Geoscience Workforce Changes by Occupation
2018-2028

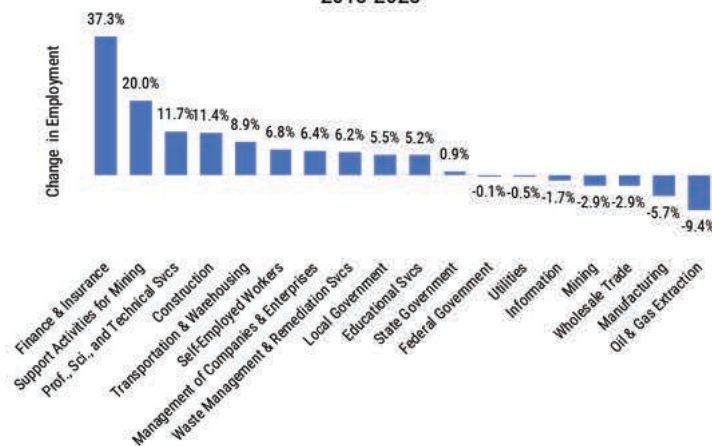


Source: AGI Geoscience Workforce Program; Data derived from the U.S. BLS Employment Projections

The majority of geoscience job growth over the coming decade will be within the professional, scientific and technical services sector where approximately 36% of those in geoscience occupations currently work. This sector is projected to gain just over 17,000 jobs between 2018 and 2028, an 11.7% increase over this period. The finance and insurance sector, which is projected to grow by 37.3%, employs few geoscientists, and is projected to gain just over 100 jobs over

this period, while the support activities for mining sector is expected to grow by 20%, gaining just over 2,300 jobs.

Projected Geoscience Workforce Changes by Industry
2018-2028



Source: AGI Geoscience Workforce Program; Data derived from the U.S. BLS Employment Projections

Of those industries that are projected to see a decline in total geoscience employment between 2018 and 2028, the oil and gas extraction industry is projected to contract the most with a reduction of just over 1,800 jobs, followed by manufacturing which is projected to shed just over 900 jobs. Wholesale trade and mining are projected to contract by approximately 100 jobs, and the information, utilities and federal government sectors are projected to contract by less than 25 jobs.

2019 API Delta Chapter Joint Society Luncheon

"Louisiana's Coast & the Oil and Gas Industry"



KEYNOTE SPEAKERS

Kristi L. Trail, P.E. - Executive Director of the Lake Pontchartrain
Basin Foundation



David E. Dismukes, Ph.D. - Professor, Executive Director, and
Director of Policy Analysis at the Center for
Energy Studies, Louisiana State University

DETAILS

Date: Tuesday, November 12, 2019 | Registration Begins 11:00 | Program Begins 11:30

Location: Marriott Convention Center | 859 Convention Center Blvd. New Orleans, LA 70130 |

"River Bend Ballroom"

Pricing: \$45 Members | \$50 Non-members and Walk-ins | \$10 Discounted Valet Parking

Advanced Registration and Payment Highly Recommended

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For more information, contact Michael Johnson | michael.johnson1@airgas.com | (985) 373-8739

Register online at www.api-delta.org

