

NOGS LOC

SEPTEMBER 2020
Volume 61 No. 3

NOGS

Virtual Meeting

Monday, September 14, 2020



NOGS SEPTEMBER MEETING

MONDAY, SEPTEMBER 14, 2020 11:30 AM
ZOOM MEETING



REDEPOSITION OF MICROFOSSILS
RELATED TO
MEGA-TSUNAMI EVENTS AS ANALOGS
FOR DEEPWATER DEPOSITION

Ryan Weber

The large amplitude of megatsunami waves creates a devastating erosional effect on the continental shelf and shorelines resulting in a large amount of fine-grained material swept offshore and deposited via gravitational settling. The resulting sea-floor deposit is a fining-upwards silt to clay size unit with an interesting microfossil distribution. Large deposits resulting from Santorini caldera collapse in the Holocene Mediterranean Sea, a bolide impact in Campanian western Interior Seaway, and the famous bolide impact near Chicxulub Gulf of Mexico ending the Cretaceous; can be studied and compared to normal deposition in the deepwater. The distribution of sediment and microfossils from these deposits resulting from disastrous and chaotic megatsunami events are oddly similar to mass-transport turbidites observed in seemingly ordinary well-bores in the Miocene deepwater Gulf of Mexico. Understanding the spatial and chronological distribution of these large events may be insightful to oil and gas exploration and production as inputs to seal presence, seal capacity, and borehole design.

BIO: Ryan Weber

Ryan is currently the President of Paleo-Data, Inc.; a biostratigraphic consulting firm serving the Oil & Gas sector for over 50 years. Ryan previously worked for BP as a Gulf of Mexico biostratigrapher. Ryan holds a BS and Education certificate from Minnesota State - Mankato, and an MS from the University of Nebraska - Lincoln. Ryan also served as the Earth Science Section Chair for the Nebraska Academy of Sciences. Ryan's career has applied biostratigraphy from onshore to deepwater Gulf of Mexico, the interior USA, Egypt Nile Delta, Northwest Australian shelf, offshore Mozambique, Colombia, Alaska, and the Spanish Pyrenees. Ryan's passions include Miocene and Wilcox stratigraphy, Mesozoic paleoceanography, the Minnesota Twins, nostalgic comedies, and fermentation.

IN THIS ISSUE



On the Cover

Hercules Offshore Jackup Rig

This is one of the Hercules Offshore fleet of Jackup rigs in the Gulf of Mexico. Hercules Offshore owns and operates one of the largest jackup fleets worldwide. Their rigs are capable of drilling to a maximum well depth of 35,000 feet while operating in water depths ranging from 9 to 400 feet.

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

Hello members and friends of the New Orleans Geological Society!

At mid-summer I hope that you have been able to remain healthy during the pandemic. At present, Louisiana remains under Phase Two restrictions with a 50-person limit on social gatherings, and a requirement for masks to be worn in public. For specific details please visit the Louisiana Department of Health website at <http://ldh.la.gov/Coronavirus/>. As a result of these restrictions, NOGS will continue to meet monthly on-line utilizing ZOOM. On September 14, Ryan Weber of Paleo Data will present a talk titled: *Redeposition of Microfossils related to Mega-Tsunami Events as analogs for deepwater deposition*. He will discuss three impact analogs including the Chicxulub offshore Mexico, the Holocene Santorini caldera collapse, and a bolide impact in Iowa; and show some examples of mass transport deposits in deep water wells. I hope you can join us for this exciting talk.

In my previous NOGS LOG letter, I shared that our membership dues and participation in activities like the NOGS/PLANO Golf Tournament, planned at Beau Chene in Mandeville for October 12th, contribute funds we utilize to support our two major community programs: the local Louisiana Children's Museums, and the NOGS Memorial Foundation Academic Scholarships. As I write this letter, about half of our members have renewed their dues, and I urge you to respond positively this month when you receive an email and letter enabling you to send in your dues. We need full support to fund these important programs.

As I close my letter this month, I want to make you aware that geology is emerging from the "Covid-19 cave," and is coming to life once again in our area. On the academic side, Tulane University will open its on-ground campus classes from Wednesday, August 19, through November 24th. Mandatory health strategies continue to include staying home if you're sick, wearing appropriate face masks on campus, proper social distancing, and washing hands frequently. The University of New Orleans will also open this month with the week of August 19-28 being entirely on-line. On the Professional side, three major events will be held in September through October. The Gulf Coast Association of Geologic Societies (GCAGS) plans to hold its GeoGulf 2020 annual convention on-ground in Lafayette, Louisiana from September 30-October 2. The AAPG will be running roughly concurrently with the GCAGS event offering an extensive on-line program from September 29 through October 1 with 15 technical sessions all available on-line. In October, the Houston Geological Society and PESGB will host its joint African Conference as an online event every Thursday during the month offering sessions on Conjugate Margins, New Technology, North Africa, and African Investments. Hopefully, there will be something in those offerings that will interest you.

With that, I express my thanks to all of you who have participated in our monthly technical ZOOM sessions, renewed your membership, and remain committed to our various NOGS programs. Stay safe NOGS!

Regards,
John Dribus



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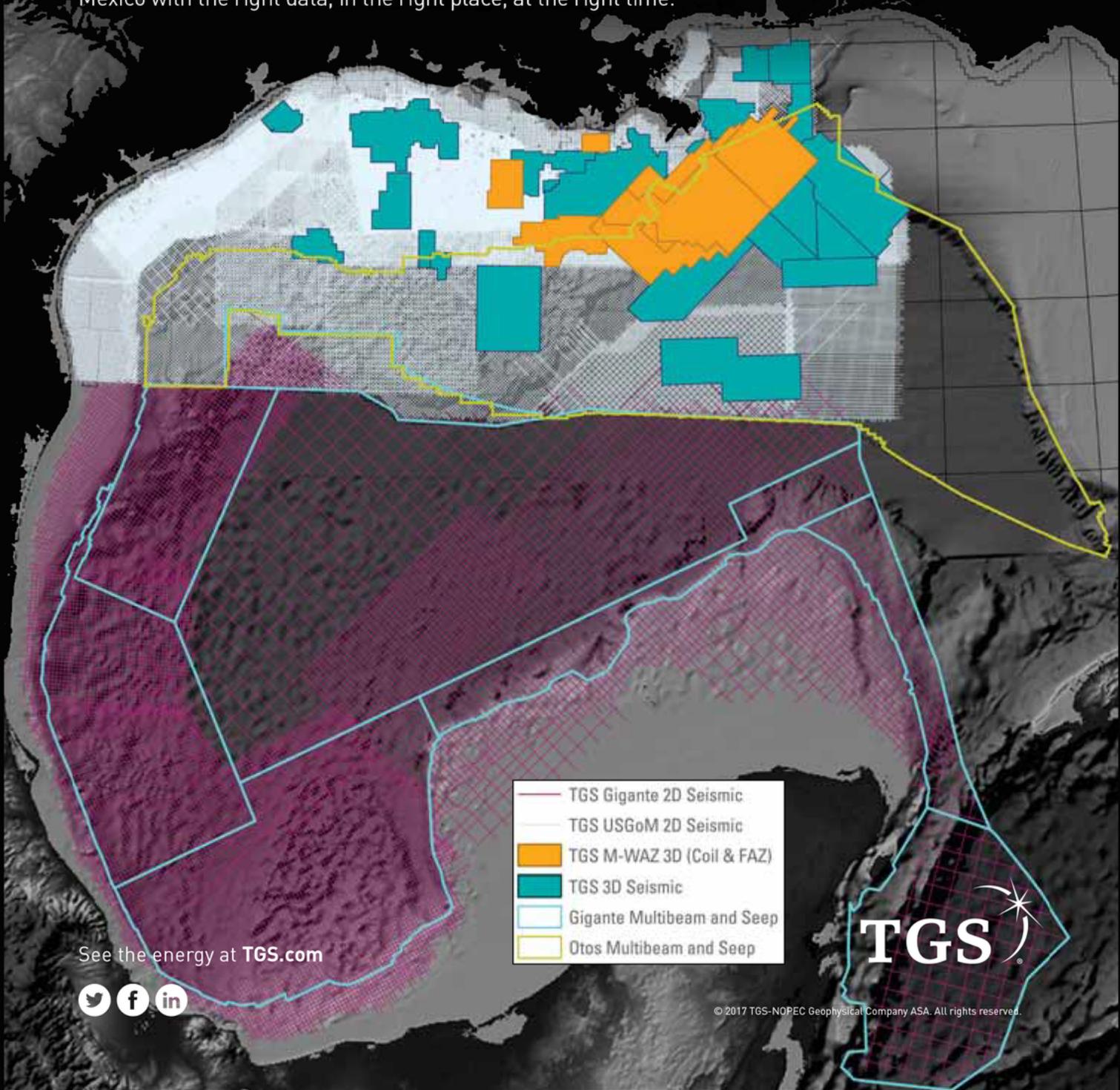


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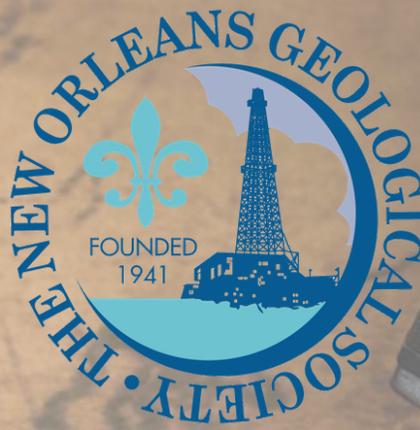
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PICTURE FROM THE PAST



“Manning” the St. Tammany Children’s Museum Booth at the 2018 Golf Tournament are: (L to R) Cathy Haggar, Ben Waring, Ann Barre’ of the CMST and Al Melillo

*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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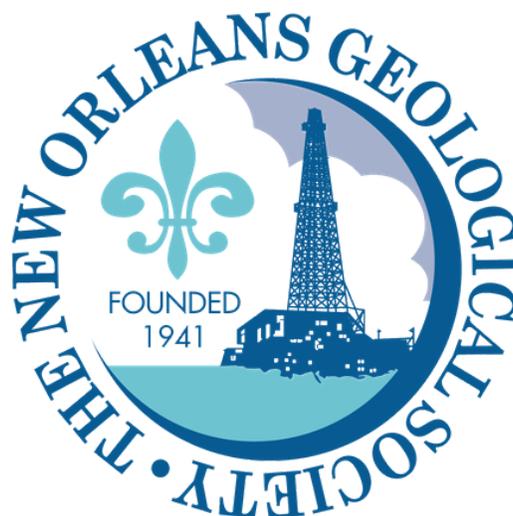
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Come join us and pass a good time at GeoGulf 2020 (70th GCAGS/AAPG GCS/GCSSEPM) in Lafayette, Louisiana, Sept. 30-Oct. 2, for our full-service restaurant *Chez Gulf Geo* at the Petroleum Club of Lafayette, where we are going to feed you well, with attendees receiving two complimentary lunches and food at our Icebreaker, Happy Hour, and Breaks. *As lagniappe*, you also get a robust technical program, exposition, prospect alley, golf tournament, field trips and short courses, luncheons, special events, and more!

We recognize that personal risk assessment and institutional restrictions may impact your ability to attend in person. We are therefore pleased to announce that GeoGulf 2020 is offering a reduced-fee virtual option, with all technical sessions streamed live over the internet with additional recordings available on-demand.

GeoGulf 2020 Registration is Open

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***** GeoGulf 2020 is proud to host the 1st AAPG Gulf Coast Section Student Expo *****

As an integral part of GeoGulf 2020, we are pleased to announce the 1st AAPG Gulf Coast Section Student Exposition, which will include a dedicated student poster session, short courses and workshops, networking opportunities, and other activities. **CALL FOR STUDENT POSTERS:** We are still accepting poster abstracts (visit our website for more details).



DRILL BITS

OFFSHORE GULF OF MEXICO SHELF AND DEEPWATER ACTIVITIES BY AL BAKER

During July 2020, the U.S. Department of the Interior Bureau of Safety and Environmental Enforcement (BSEE) approved 66 Gulf of Mexico (GoM) drilling permits. One of the permits was for a shelf well, and the remaining 65 permits were for deepwater wells. Of the total number of permits, there were 2 new well permits issued, one each on the shelf and in deepwater.

The single shelf new well permit was obtained by Bryon Energy for their development well, the South Marsh Island 58 #G-2.

The one deepwater new well permit was for an exploration well. It was issued to LLOG Exploration Offshore for their Mississippi Canyon 634 #1 well.

On July 30th, IHS-Petrodata indicated that the GoM mobile offshore rig supply stood at 65, which is 3 less than last month. The marketed rig supply consisted of 38 rigs, of which 25 were under contract. The marketed rig supply was 3 less than last month, and the contracted rig supply number was 2 less than last month. The marketed contracted versus total rig supply utilization rate stood at 58.5%, and the marketed contracted versus marketed supply utilization rate stood at 65.8%. By comparison, the July 2019 total fleet utilization rate stood at 58.3% with 42 rigs under contract out of the 72 rigs in the fleet.

As of July 31st, BakerHughes reported that there are 12 active mobile offshore rigs in the GoM, which is 48% of the rigs under contract mentioned above. This active rigs number is 1 more than reported last month. Currently, there are no rigs drilling on the shelf. The deepwater rigs included 5 in the Mississippi Canyon Area, 3 in the Alaminos Canyon Area and 1 each in the Green Canyon, Ewing Bank, Garden Banks, and Walker Ridge Areas.

As of July 31st, the BakerHughes total U.S. rig count stood at 251 rigs, which is 14 fewer rigs than reported at the end of June 2020. Of the 251 rigs, 180 (71.7%) are oil rigs and 69 (27.5%) are gas rigs. A year ago, there were 942 rigs working in the U.S. inferring that the current rig figure represents a 73.4% decline in rigs year over year. Texas continues to have the largest number of rigs presently with 104, which is 41.4% of the total number of rigs in the U. S. Louisiana currently has a total of 29 rigs, down 3 rigs from last month. Nationwide, Louisiana ranks third in the rotary rig count. New Mexico continues to rank second with 49 rigs.

On July 15th, the U.S. Department of the Interior Bureau of Ocean Energy Management (BOEM) announced the final results of the Phase 2 acceptances of bids received at OCS Sale 254, which was held in New Orleans on March 18, 2020. A total of 63 out of the 71 bids were deemed acceptable. The 8 rejected bids included 1 in Viosca Knoll, 2 in Mississippi Canyon, 1 in Garden Banks, 2 in Green Canyon, 1 in Atwater Valley and 1 in Walker Ridge.

On July 20th, the BOEM announce that the next offshore GoM lease sale, OCS Sale 256, will be held in November rather than during its originally scheduled time in August. The BOEM said “it moved the sale to the fall due to the need to conduct additional analysis to consider recent changes in the oil and gas markets.”



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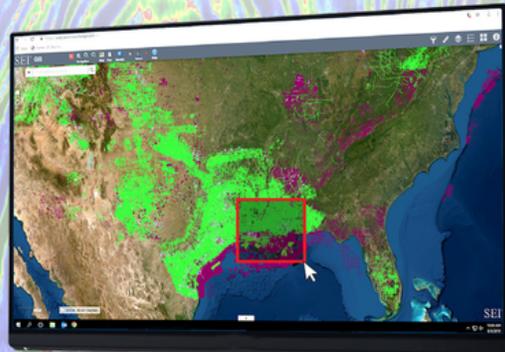
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Oil Industry HeadlinesIn The News (August 2020)

8/4/2020 - Supreme Court restores streamlined permit for oil and gas pipelines - **The Supreme Court has temporarily restored the use of a streamlined nationwide permit for new oil and natural gas pipelines. A district court issued an** order Apr. 15, amended May 11, that blocked the use of Nationwide Permit 12 (NWP 12) for all new oil and gas pipeline construction anywhere in the country. The order, from the US District Court for the District of Montana, grew out of a lawsuit by environmental activists opposed to the proposed Keystone XL Pipeline.

8/17/2020 - Advanced preservation technology is helping the oil and gas industry weather the storm - In these days of plummeting oil prices and uncertainty on every side, it is important for rig owners and operators to have a good layup strategy in place. This will help them retain the value of their assets until the market warrants bringing them back online. Corrosion protection is a key part of keeping those assets in good condition and is especially critical for drilling operations located offshore in harsh marine conditions, exposed to high temperatures and chloride-ridden sea spray. In addition to corrosion protection, MilCorr VpCI shrink film is UV-resistant and has an excellent track record for withstanding severe weather like hurricanes. When used on an offshore platform that took an almost direct hit from Hurricane Harvey in 2017 in the Gulf of Mexico, none of the MilCorr VpCI shrink film came off.

8/24/2020 - Gulf Coast LNG Projects in Spotlight - a small-scale liquefied natural gas (LNG) facility in McIntosh, Alabama, won a five-year contract. The 100,000-gallon-per-day liquefaction facility that Okra Energy Alabama is building will supply containerized LNG to a natural gas distributor serving Mexico's mining, transport, power generation and other markets. Last year the customer built a pioneering dual LNG and ethane port terminal on Mexico's Gulf Coast. By 2024 a new facility in Greater Houston could reflect that trend. Pilot LNG LLC is seeking to develop a floating liquefaction plant off Galveston, Texas, that would service LNG-fueled vessels calling on the ports of Galveston, Houston and Texas City. Pilot anticipates a final investment decision on its Galveston LNG Bunker Port project next year.

8/25/2020 - Operators returning to the GoM after Hurricane Laura - Offshore oil and gas operators are starting to re-board platforms and rigs in the Gulf of Mexico after Hurricane Laura. According to the Bureau of Environmental Enforcement (BSEE), personnel have returned to two production platforms and one non-dynamically positioned rig. Personnel remain evacuated from 297 platforms and 10 non-DP rigs. From 45 operator reports, BSEE estimates that about 84.3% of the current oil production, or 1,559,314 b/d, in the Gulf has been shut-in. The shut-in production increased by 431 bbl. The bureau estimates that about 60.1% of the natural gas production, or 1,628 MMcf/d, has been shut-in.

8/27/2020 - What does the rig count uptick mean for the Gulf? - The rig count rose by 10 rigs. The increase broke a 24-week downtrend that began last March. IHS Petrodata's has count of 24 contracted rigs. For the oil and gas industry, the increase in working rigs means producers either discovered extra money in their E&P budgets, or at an oil price of \$42 a barrel, there are profitable drilling prospects. Although we are moving into a period in which oil demand will exceed current production, it doesn't mean oil prices are heading up. More onshore drilling reflects the quick returns these wells produce, and the ability to quickly stop if oil prices fall. Since offshore wells usually need higher oil prices than onshore drilling, the important variable is stable oil prices.

Charlie Steen: The life and times of the Uranium King

One can only marvel at geologist Charlie Steen. When his efforts to build an oil company dried up, his tenacity led him to finding the world's biggest uranium mine in Moab, Utah. Charlie was the world's first "Uraniumaire."

Charlie Steen was born in 1919 in Caddo, Texas, and attended high school in Houston. Steen was raised in humble means and during World War II worked as a geologist for Standard Oil in the headwaters of the Amazon Basin of Bolivia and Peru. Several years later in 1949, after losing his job, Charlie failed to raise \$100,000 in order to drill a wildcat well. He read in the Engineering and Mining Journal that the United States Federal Government had issued incentives for domestic uranium prospectors. That was all it took for Charlie to heed the call westward.

During World War II, the Manhattan Project had received most of its uranium from foreign sources in Canada and the Belgian Congo. However, it had also received some from vanadium miners in the American Southwest, where uranium was often a by-product of mining (uranium was not, before the atomic bomb, a valuable metal). There was a concern that the United States would not have enough domestic supply of uranium for its nuclear weapons program. In 1946, the Atomic Energy Act transferred the Manhattan Project's uranium procurement powers to the civilian-led Atomic Energy Commission, whose primary task was to encourage Americans to supply the government with enough uranium to fuel a nuclear-arms race. The A.E.C. was willing to pay very high prices, thereby creating a subsequent uranium boom. Most early discoveries were small deposits found by scouring the canyon land cliff faces.

Charlie was among the many fortune-hunters who descended on red rock country in a frenzied search for uranium. In 1949, Steen took his wife and three young boys to Utah to live out his dreams to strike it rich. Living in a \$15 a month tar-paper shack with no heat or running water, they were getting destitute.

Unlike his fellow prospectors, Steen used oil exploration techniques to locate uranium in a formation that had previously yielded no ore. Steen couldn't afford a Geiger counter and had the foresight not to waste his time combing the hills at random as thousands of others did. Rather, Charlie deduced that vertical breccia chimney pipes containing concentrated uranium, and other heavy metals, would occur in the subsurface under more resistive anticlines. Steen used a small drill rig mounted to the back of his jeep. On June 6th, 1952, his drill bit broke off at 197 feet, nearly double the limits of his drilling capabilities. In disgust at his poor fortune, he collected his samples from that day and drove home. On the way, he stopped at a service station where a friend had a Geiger counter. When he put the counter on his samples, the needle pegged all the way over. Steen had found a huge vein of uranium ore.



The uranium rich layer was in the Upper Triassic Chile formation. Scientists of the Atomic Energy Commission refused to believe his findings because the rock was so concentrated with 2% uranium oxide. After several months of trying to get local and state investors to help develop his claims, Steen went to Denver where they ran his story in the Denver Post and he quickly had the financial team in place. The resulting mine he named Mi Vida ("My Life") was up and running in 4 months for a \$1 million dollar investment.

Mi Vida would eventually surrender more than \$120 million in riches and put the sleepy little town of Moab on the world map. Four short years later, Moab was dubbed "The Richest Town in the USA" by McCall's magazine. The town grew 40-fold with 8,000 new arrivals. A sign erected in Moab proclaimed the town as "The Uranium Capital of the World."

Now a multi-millionaire, Steen became a generous donor and helped the Moab community building schools, churches and a hospital. Charlie held a party once a year for the entire city of Moab. Of the Moab millionaires, the Uranium King was certainly the most wealthy and colorful. He constructed a lavish saucer shaped home on a hill overlooking the town, complete with swimming pool, greenhouse and servants' quarters. Steen and his wife, Minnie Lee hosted numerous parties during the glory years,

Charlie Steen: The life and times of the Uranium King

attracting corporate CEOs, politicians including President Nixon and celebrities. Charlie, and the eccentric ways he spent his fortune, became the focus of local legends. He had his original worn-out prospecting boots bronzed, and flew in his private plane to Salt Lake City each week for rumba lessons.

The mine was sold to Atlas Minerals in a \$23 million transaction in 1962. By 1964, the U.S. government had enough uranium for its needs and had stopped supporting high prices of the ore, killing the market. By the early 1970s, uranium mining in Utah had come to a halt, although there are still substantial reserves in the subsurface in this region.

Elected to the State Senate, Steen was admired by his colleagues until he proposed legalizing the sale of alcohol by the glass and gambling, and lowering the legal age to purchase tobacco. Steen found out he didn't like politics, quit the Senate, sold everything, and left Moab to pursue other ventures.

Steen's rise and lavish lifestyle was met with financial losses and misfortune. In 1968, he declared bankruptcy after the Internal Revenue Service seized his assets to pay back taxes. In 1971, he suffered a severe head injury working on a copper prospect. Long-suffering from Alzheimer's, Steen died on January 1, 2006, in Loveland, Colorado.

Uranium exploration came with many downsides. Digging uranium was hazardous, and neither the mining companies or the government took responsibility for health safety. Miners were generally ignorant of the dangers. Many came home to their families each night covered with radioactive dust. Navajo children played in the mines, and in the Navajo town of Halchita, homes were built on mine tailings.

Uranium is a forgotten legacy of the American West. It shaped the region's economy in the middle of the 20th century, transforming frontier outposts like Moab into thriving atomic-age boomtowns.

In the last 30 years Moab has transformed into an adventure paradise. This slickrock country has become the mountain bike capital of the world. Hikers are drawn to the spectacular red rock canyons of Arches National Park and rafters to the nearby rapids of the Colorado River.

What remains of the Uranium Capitol of the World? A neglected dirt road south of town leads to the Mi Vida mine. As you leave town to the north, Charlie's old home on the hill is a restaurant with a spectacular sunset view, the mill is long gone and there are still a few remnants of the tailings piles along the Colorado River.

Tom Bergeon



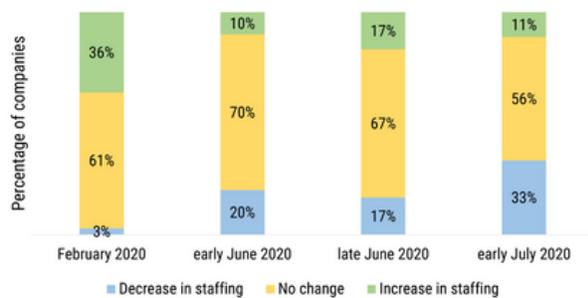
COVID-19 Impacts to Geoscience Business Staffing and Workplace Policies

Although over half of geoscience businesses expect to see no change in permanent staffing during the 2020 calendar year, since June 2020, one-third of businesses reported that they expect a decrease in permanent staffing this year. Expectations for 2020 staffing levels for temporary and contract workers have been more varied, with the latest data indicating that nearly one-fifth of businesses expect a decrease in temporary and contract staffing, while 81% indicate no change from last year's staffing levels.

It remains to be seen if this expectation for a decrease in temporary and contract staffing is tied to disruptions in supply chains and contractor availability, which 39% of businesses have reported as an impact from COVID-19.

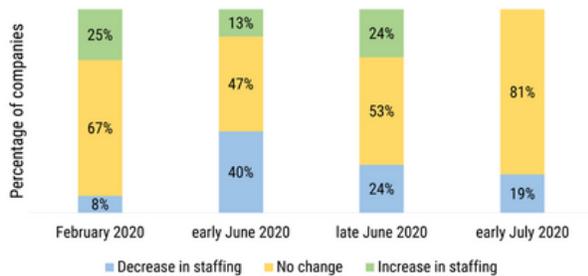
Throughout June and July, half of businesses reported that they had employees that were either on travel or working in the field, with most employees travelling to or doing fieldwork in limited locations. Ten percent of businesses reported that while some employees were on travel or doing fieldwork in limited locations, other employees were not travelling due to either institutional or departmental policies or due to their own personal decision.

Expectation for 2020 permanent staffing levels



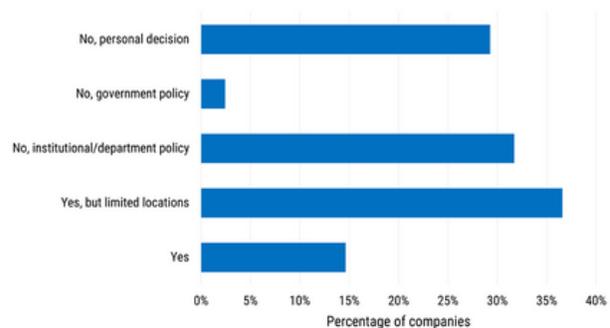
Credit: AGI; data from AGI's Geoscience COVID-19 Survey

Expectation for 2020 temporary and contract staffing levels



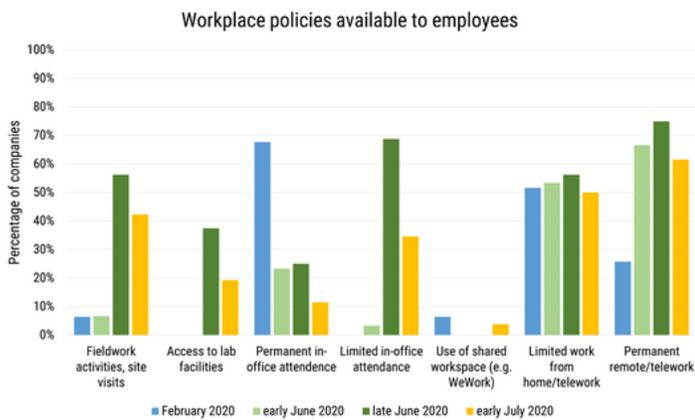
Credit: AGI; data from AGI's Geoscience COVID-19 Survey

Employees on travel or in the field (June-July 2020)



Credit: AGI; data from AGI's Geoscience COVID-19 Survey

Workplace policies available to employees have shifted over the past six months, with over half of businesses providing their employees with the option to work permanently from home. At the end of June, a higher percentage of businesses allowed their employees to work from the office and to access field site and lab facilities than in early July. We will continue to monitor this data to see how these workplace policies change relative to state and local regulations related to COVID-19 and workplace environments.



Credit: AGI; data from AGI's Geoscience COVID-19 Survey

Note: Limited in-office attendance, fieldwork, and lab access were not survey answer options in February. However, some businesses noted in comments that fieldwork activities were available to their employees.

We will continue to provide current snapshots on the impacts of COVID-19 on the geoscience enterprise throughout the year. For more information, and to participate in the study, please visit: <https://www.americangeosciences.org/workforce/covid19>

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