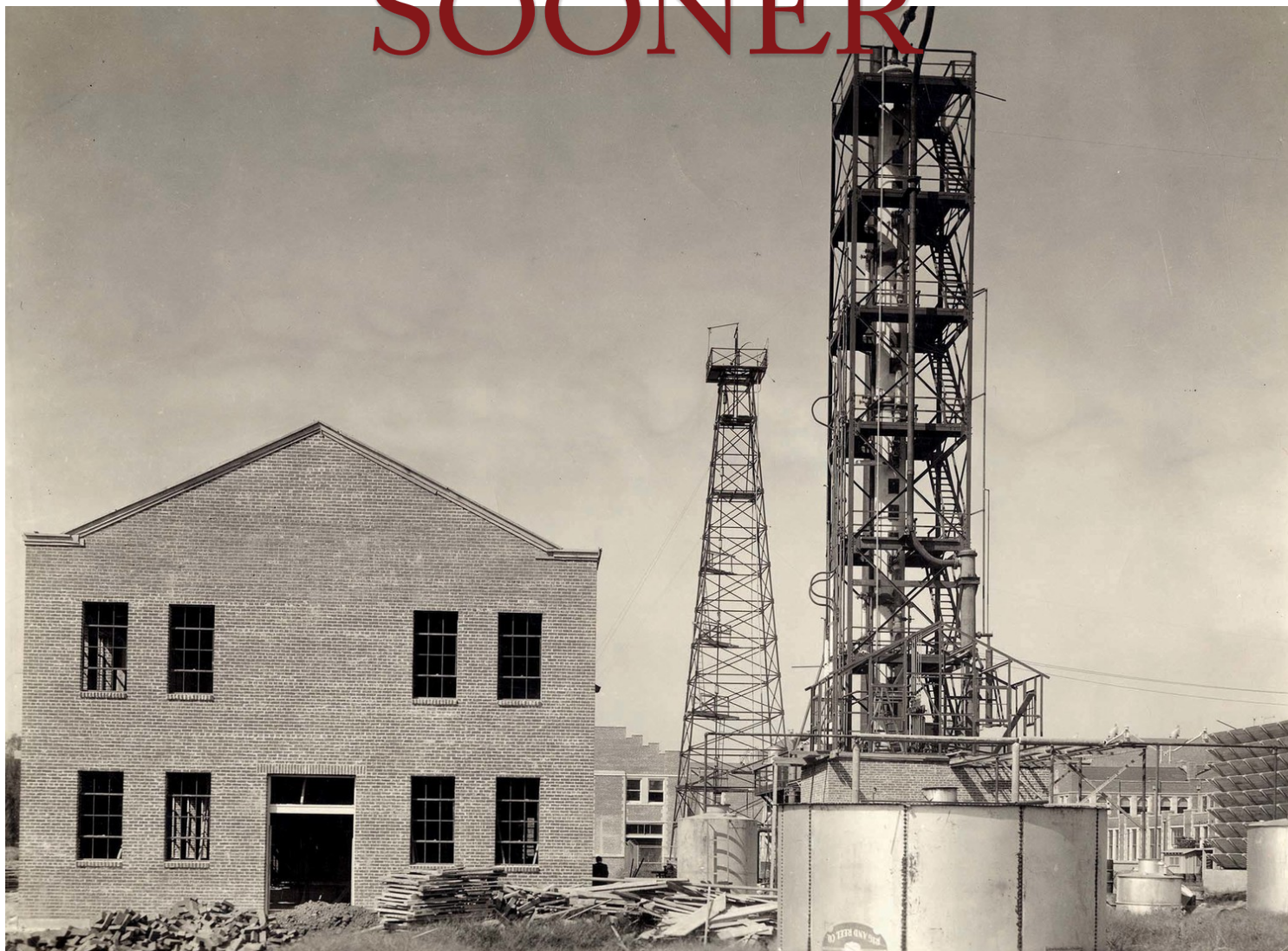


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SOONER




ARCHIVE PHOTO OF OU'S FORMER WORKING OIL RIG AND DISTILLATION TOWER

A Century of Energy

On its 100th anniversary, the Mewbourne
School of Petroleum and Geological

Engineering reflects on its early days and looks ahead to an exciting future.

 SARAH WARREN

“T

he sun never sets on OU petroleum engineers.”

The phrase was of a favorite of the late petroleum and geological engineering professor Don Menzie.

Thousands of University of Oklahoma petroleum and geological engineering alumni are spread across the globe, Menzie liked to explain. Wherever there is daylight, no matter the continent, regardless of the time zone, an OU petroleum engineer is there. And where there is an OU petroleum or geological engineer, there is energy.

This year marks the centennial anniversary of petroleum engineering education at the university. It is a celebration of a legacy that touches every facet of OU and the state of Oklahoma itself.



Leon Everette English, OU's first petroleum engineer, went on to have an exceptional career. Among many other achievements, he was a member of the team that drilled the first well in Scurry County, Texas. The J.J. Moore No. 1 well yielded more than 500,000 barrels and is designated a Texas Historical Marker.

THE BEGINNING

In 1919, Oklahoma had been a state for 12 short years and the university was nearing its third decade. Oklahoma's petroleum industry was booming, led in large part by OU geologists. Word spread about "black gold," and camps of mostly uneducated prospectors and wildcatters popped up in oil patches throughout the state.

Abroad, World War I had come to a close and at home Oklahomans were reeling from the merciless Spanish influenza pandemic of 1918. Both claimed so many Sooner lives that the first section of the 1919 OU yearbook memorializes faculty, staff and students who lost their lives to war or disease.

Amid these trials Leon Everette English stepped onto the spring 1919 convocation stage to receive OU's first petroleum-focused engineering degree. With that seemingly small act, the university and the state were changed forever.

English was OU's first petroleum engineer. Some time would pass before that term even existed – his degree was called engineering geology, nomenclature adapted from the centuries-old mining industry.

English took part in the first petroleum-focused engineering curriculum, introduced by the College of Engineering in 1916. By the time he received his diploma, the college was offering petroleum technology courses and preparing to play an important role in the industry's next big shift.

SEND IN THE ENGINEERS

“There was a time, true, when ... a man could go far in the petroleum industry on little more than confidence in himself, a bit of luck, and a dash of mechanical ingenuity,” wrote alumnus C.E. Reistle in the July 1954 edition of Sooner Magazine. “Thousands of wells were drilled and millions of barrels of oil were produced in this country before the name ‘petroleum engineer’ ever entered our vocabulary. But those days are far behind us.”

By the mid-1920s, the days of believing oil ran in great rivers below the surface or pooled in underground caverns were gone. Still the notion remained that drilling for oil was an art, not a science. Soon that would change.

The School of Petroleum Engineering was founded in 1924, but according to alumnus Wayne E. Swearingen, in the May 1948 issue of

Sooner Shamrock, it was a risky endeavor. Petroleum engineering was a new degree program, untested outside of academia. Even so, the rapidly formalizing industry identified a particular skillset its engineers needed, one that melded mechanical, electrical and chemical engineering with soil chemistry and geology.

“The industry had fully realized that an engineer in any of the above fields is found lacking unless he is familiar with all of the others,” wrote Swearingin.

Still, no one knew if the oil industry would need or want petroleum engineers.

Confident in the university’s geology and engineering programs, professors H.C. George and Fred W. Padgett did not see this new endeavor as a risk, but an opportunity to take the lead and give “the oil industry the combination of knowledge it obviously needed.”

Whether gamble or confident analysis, the school’s first professors were correct. It was indeed those early OU petroleum and geological engineering graduates who would be credited with enhancing technology, like increasing drilling from a limit of 3,000 to 15,000 feet — a depth that now exceeds 40,000 feet — and turning Oklahoma’s prospector-led boom into a sustainable industry that continues to shape the world.

“The significant changes experienced by the Mewbourne College’s petroleum engineering program were no accident,” said J. Mike Stice, dean of the college. “Graduates of our program have been amazing leaders in the industry, from developing and applying new technology to taking enormous risks to test new concepts. Our alumni have blazed new trails anticipating the much-needed changes required to adapt to volatile commodity prices and ever-changing development challenges.”



A 1940s-era Engineering Queen candidate discusses a piece of equipment called a “flyball governor,” or centrifugal governor, with a classmate during OU Engineering Week.

BOOMING PROGRAM

As the program grew, so did its footprint on campus. Engineering building Felgar Hall was completed in 1925, and campus became home to functional oil rigs and other equipment that defined OU’s skyline for years. In 1933, the School of Petroleum Engineering was the largest discipline within the College of Engineering and had representation from all 48 states. That year, nearly half of the university’s 18 international students were studying petroleum engineering.

There were 625 graduates with petroleum or geological engineering degrees by 1940. The program grew again as a result of World War II. In a time that many petroleum engineering schools closed their doors, OU’s program was sustained by the university’s participation in the U.S. Navy’s V-12 College Training Program.

“Each V-12 student became a publicity man for the school upon graduation and the results of their work may be seen in the increased enrollment of the following years,” said alumnus Bob Laidlaw in the March 1952 issue of Sooner Shamrock.

The post-war years brought veterans taking advantage of the GI Bill and increased demand for oil in the nation’s booming economy. With that came another new building, Gould Hall in 1951, for the expanding program and a new era of research and industry collaborations. In 1963, the Schools of Petroleum and Geological Engineering merged into one school.

NEW COLLEGE AND NEW ERA

In 2000, the school was renamed in honor of industry leader and alumnus Curtis W. Mewbourne. In 2007, the Mewbourne School of Petroleum and Geological Engineering and the ConocoPhillips School of Geology and Geophysics became an energy education powerhouse within the Mewbourne College of Earth and Energy, an innovative new college that united the intertwining disciplines of petroleum engineering, geology and geophysics.

In the past 20 years, petroleum and geological engineering faculty have played extensive roles in the development of new technology, methods and best practices in the petroleum industry. Four of the school’s faculty members are in the top 25 of all OU researchers in annual research expenditures. According to Mewbourne School of Petroleum and Geological Engineering Director Chandra Rai, the school’s current research areas primarily focus on petrophysics of unconventional reservoirs, rock mechanics, rheological properties of drilling fluids and chemical flooding.



In 2007, the College of Earth and Energy was renamed in honor of OU alumnus and energy industry leader Curtis Mewbourne of Tyler, Texas. Says Mewbourne, "I did not study petroleum engineering or become an independent producer in order to make a lot of money. I was looking for adventure and excitement. I ended up finding all three."

"Students come from around the world to study petroleum engineering at OU," says Rai. "Very few academic institutions have the kind of undergraduate teaching labs we do. We were the first of any university to have a digital drilling simulator and now we have a well-control simulator. Those labs, which provide experiential learning opportunities, combined with our outstanding faculty and close industry relationships, make the Mewbourne School of Petroleum and Geological Engineering a unique learning environment."

"Coming from Bolivia," says petroleum engineering freshman Sebastián Andrade, "I get asked 'why Oklahoma' a lot. It's because of the quality of the petroleum engineering program." Andrade dreams of

following in his grandfather's footsteps by becoming a petroleum engineer who lives and works around the world.

Kate Oransky from Plano, Texas, is enrolled in the petroleum engineering bachelor's and MBA dual-degree program. She chose petroleum engineering because it merged her interests in geology and engineering. After an industry internship, she was hooked on the problem-solving aspect of petroleum engineering.

"At OU we have one of the best petroleum engineering programs in the country. As opposed to other high-ranking programs, OU's atmosphere was far more inviting," she says.

Today's students benefit from the long legacy of supportive alumni. Last year students received an average of \$4,400 each in scholarship support. In the past six years, the school granted more than \$4 million in undergraduate scholarships. This funding comes from alumni and friends, the Mewbourne Leaders Scholars program, corporations and foundations, and the support of the Oklahoma Energy Resources Board.

THE STATE AND CAMPUS ARE CHANGED FOREVER

Since the very beginning, OU petroleum engineers have been drivers of Oklahoma's legacy. Before the industry understood it even needed petroleum engineers, OU faculty were preparing for a future they knew would come.



Cirilo Mauricio, a senior in petroleum engineering, places a sample in a high-pressure chamber, where it will undergo incremental pressures up to 61,000 psi to force mercury into pore throats and spaces.

“The University of Oklahoma’s petroleum engineering department was instrumental in fostering some of the early leaders in the state’s oil and natural gas industry,” says Oklahoma Energy Resources Board Executive Director Mindy Stitt. “The strength of our industry today is a testament to their leadership.”

According to Roy Knapp, emeritus professor and former director of the Mewbourne School of Petroleum and Geological Engineering, of the school's many contributions to the industry, one is paramount: "Our graduates," he says. "Our graduates have had marvelous careers in making affordable energy available for more and more people, and that means a better life for all of us."

To date, 166 alumni have founded, led or have held executive positions in energy companies. This includes industry titans like Archie Dunham, former CEO of ConocoPhillips, and Tom McCasland, founder of Mack Energy Co.

Oklahomans are beneficiaries of the generosity of OU petroleum and geological engineering alumni. What started as a dream for there to never be another Dust Bowl is now the Noble Research Institute, a world-renowned, Oklahoma-based agricultural research non-profit founded by former OU petroleum engineering student Lloyd Noble. A vision that Oklahomans with cancer would not leave the state for world-class treatment became the Stephenson Cancer Center, founded by Peggy and Charlie Stephenson, another graduate of the program. Late alumnus Charles Schusterman attributed his extensive philanthropy in Oklahoma and beyond to *tikkun olam*, a Hebrew phrase meaning to "repair the world." Petroleum alumni continue to do just that throughout the state in areas like health resources, city parks, museums and education.

"The footprints of our graduates are all over this campus," says petroleum engineering alumnus Curtis W. Mewbourne. "No other single group of OU graduates has been more accomplished in life, or more generous in sharing that success with this university. Our graduates are the largest donors to the University of Oklahoma in its history."

A BRIGHT FUTURE

Chandra Rai, like the school directors who came before him, must be part professor, part administrator and part soothsayer, anticipating

the direction the industry will go and preparing his students and school accordingly.

There will be changes, he predicts. Rai foresees a further reliance upon data analytics, increased emphasis on environmental stewardship, and a host of new technical proficiencies, soft skills and disciplines students will be required to master.



Petroleum engineering sophomore Polina Churilova identifies mineralogy with Fourier Transformed Infrared Spectroscopy.

And so it is with deep roots in the past and eyes fixed on the horizon that the OU Mewbourne School of Petroleum and Geological Engineering confidently steps into its next century. The legacy of Leon Everette English and his fellow pioneering students and faculty echo through the hallways of Sarkeys Energy Center. Their voices call to students, reminding them that good and lasting things can start from

the most trying of times, urging them to take a risk — ride the booms, weather the busts — and to improve the lives of people everywhere.

The words of the beloved late Professor Menzie still ring true today. Wherever the sun rises, no matter the time zone or continent, there will be an OU petroleum or geological engineer.

And wherever they go, they bring energy.

Sarah Warren is director of communications and events for the Mewbourne College of Earth and Energy.

Visit link.ou.edu/mewbourne100 for information on the September 2019 Centennial Celebration and the Mewbourne School of Petroleum and Geological Engineering.

Next Story

FEATURE

Welcome Home, Dean Surratt

After 15 years in higher education, first-generation college student and proud OU alumnus David Surratt returns to his alma mater to serve as vice president of student affairs and dean of students.

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