

BY INVESTIGATING,
MAPPING, ANALYZING
ITS WEALTH OF
NATURAL RESOURCES,
THEN DISSEMINATING
THAT INFORMATION,
OGS PLAYS A VITAL
ROLE IN MAXIMIZING
THE ECONOMIC AND
ENVIRONMENTAL
HEALTH OF THE STATE
IT SERVES.

100 Years Surveying Oklahoma

BY DEBRA LEVY MARTINELLI



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Charles Newton Gould, who became OU's first geology faculty member in 1900 and also the territorial geologist, served as the first director of the Oklahoma Geological Survey from 1908 to 1911 and again from 1924 to 1931.

The sound of the cavalry bugle that signaled the beginning of the Oklahoma Land Run at high noon on April 22, 1889, also signaled the start of a new life for more than 50,000 people. Here, in the emerging American West, they gathered from all over the country and beyond to claim a piece of land on which to build a house, plant some crops, and raise a small herd of livestock.

Eight years later, the black gold that bubbled to the surface at Nellie Johnstone No. 1, Oklahoma's first commercial oil well, signaled the beginning of the oil boom and an industry that would transform the state's economy.

Thoughtful, comprehensive analysis of the land and its bounty probably was not the top consideration at either of these watershed moments. But with statehood – a decade after Nellie Johnstone and nearly two after the Land Run – came the establishment of an entity that would do just that.

For the past 100 years, through good times and not-so-good – the 1930s Dust Bowl, the 1980s oil bust and everything in between – the Oklahoma Geological Survey has quietly but effectively provided valuable information and training to ensure that Oklahoma gets the most out of its natural resources while at the same time giving back to the environment.

Chartered by the Oklahoma Constitution, OGS was created in 1908 and charged specifically with “investigating the state's land, water, mineral and energy resources and disseminating the results of those investigations to promote the wise use of Oklahoma's natural resources consistent with sound environmental practices.”

A century later, OGS continues this mission through an impressive array of projects and programs that includes: studying the state's hydrocarbon and mineral resources and sharing the findings through publications and workshops; examining non-fuel minerals, coal and coal-bed methane resources, earthquakes and other



Charles Gould, right, and Sardis Roy Hadsell, center, had gone fossil hunting in Kansas before both came to Norman, Gould in geology and Hadsell as a student and later on the English faculty. Paul J. White, left, a student and tutor in English and botany joined them in July 1900 to explore the fascinating geology of their adopted state, an enthusiasm that led Gould to pursue the establishment of OGS as a state agency.

natural hazards and geological issues; conducting mapping programs; presenting programs for educational and civic organizations; and operating OPIC – the Oklahoma Petroleum Information Center, which maintains an extensive collection of cores, samples, well logs, scout tickets, completion reports and related data on petroleum activity in the state.

Based at Sarkeys Energy Center on the University of Oklahoma's Norman campus, OGS is affiliated with OU's Mewbourne College of Earth and Energy and supervised by the OU Board of Regents. Today it may be what was envisioned by Charles Newton Gould, the Survey's first director and the University's first geology faculty member; but OGS has come a very long way from the humble beginnings Gould found in Oklahoma at the turn of the 20th century.

In *The University of Oklahoma: A History, Vol. I, 1890 – 1917* (2005), David W. Levy, OU David Ross Boyd Professor of History, recounts Gould's story.



An Ohio native, Gould was 18 when he and his family moved to Kansas in 1887. During his training to become an educator, he heard a lecture, "The Geological Story of Kansas," that transformed him. Levy writes, "Until then, he later said, he'd not heard the word 'geology' spoken. He resolved, even though he didn't know what a geologist did, whatever it was, 'those things I must do.'"

By teaching in small country schools, Gould earned enough money to complete his undergraduate and graduate stud-

ies in 1900. By then, Oklahoma's natural resources exploration industry was robust, and OU created its first geology faculty position. The post went to Gould, who also served as a territorial geologist.

When Oklahoma became a state in 1907, the framers of the Constitution included a provision establishing the Oklahoma Geological Survey. Charles Mankin, who retired this fall after 40 years as OGS director, says were it not for Gould, there would be no Survey.

"When he came to Oklahoma, Gould became very interested in the geology of this area and asked the Territorial Legislature to create a geological survey. Several years later, he convinced some friends at the Constitutional Convention to include OGS in the Constitution. He was quite a politician," Mankin says with a laugh.

Gould was named its first director, serving from 1908 to 1911. He was again named director in 1924, serving for another seven years. *continued*



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In his first semester at OU, only 10 students enrolled in Charles Gould's two geology classes. Six years later, Gould, front far right, had engendered enough interest to form a Geology Club, and by 1907 he had support to include the Oklahoma Geological Survey in the Constitution.

In those early days of the oil boom, people in the fields knew little about oil production other than it came out of the ground.

"When they drilled, they drilled randomly. If they hit something, they'd drill as many holes around it as they could. If they didn't, they moved on to something else," Mankin explains. "And because there were no pumps, oil had to flow to the surface. There were an awful lot of discoveries that weren't economically feasible then that would be today. OGS played a very important role in educating people about the oil business and bringing order to the process."

Despite its growing reputation and importance, OGS was not without its share of organizational and fiscal traumas. Former OU history professor Roy Girtinger, in *The University of Oklahoma: A History of 50 Years, 1892-1942* (1942), notes that OGS was abolished in June 1923 and reestablished in March 1924 under the control of the OU Board of Regents. In 1931, the Oklahoma Legislature failed to make an appropriation for OGS, which forced it to close its doors for four years. However, a plan was devised to continue to handle general correspondence

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and distribution of the basic materials until OGS was able to reopen in 1935.

When Mankin joined the OU faculty as assistant professor of geology in 1959, he also held a part-time appointment with OGS. Four years later, then-President George Lynn Cross named him director of the School of Geology and Geophysics. Another four years after that, Cross appointed Mankin director of OGS. By the time he retired from OU and OGS in November, the Regents Professor and 2007 inductee into the Oklahoma Higher Education Hall of Fame had earned the distinction of being the longest-serving director of any state geological survey in the nation.

Of the many OGS functions Mankin has overseen during his four-decade tenure, he believes one of its core directives also is the most crucial. "Detailed geological mapping is the starting point for everything else necessary for a good geologic foundation, whether that's oil and gas, industrial minerals or nature preservations," he says. "Oklahoma has always been a major producer of oil and gas, and today we're focused on natural gas, which we will be for some time."

The Survey provides technical assistance to oil and gas operators, compiles studies of surface and subsurface data and con-

ducts workshops to disseminate that information with any interested parties.

Shale gas is a current hot topic. "The Barnett Shale in the Fort Worth Basin has been quite productive, and the Woodford Shale in southeastern Oklahoma is very promising," Mankin says. "We put on a workshop on the Woodford in Oklahoma City in a room that could hold 400 people. People came from as far away as California. We had to turn away about 200."

Another OGS focus is industrial minerals. "Oklahoma is a

major producer of many minerals. We're the largest producer of gypsum in the United States and the only producer of iodine, which is recovered from brines in the western part of the state. We also produce high-grade silica sand for glass manufacturing and aggregate for highway construction. The newest activity is dimension stones. Those decorative boulders you see at shopping centers? Those are dimension stones. It's basically a mom-and-pop type of operation, but it's big business," Mankin explains. "The Survey performs the same type of work for those industries as it does for oil and gas."

The Survey may be best known for the Oklahoma Petroleum Information Center in north Norman, where anyone can drop in and examine core samples or peruse old production records. OPIC was established in 1999 when British Petroleum purchased Amoco, which had a considerable collection of geological

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ABOVE: Charles Mankin, at right with colleague Bruce Archinal, joined the geology faculty in 1959, the start of a long tenure with the school and OGS.

BELOW: The chance to accompany biologist A. H. Van Vleet, left, into the field lured Charles Gould and students Paul White and S. R. Hadsell to OU.

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Robert Taylor

Charles Mankin, shown here among the core samples housed at the Oklahoma Petroleum Information Center, has spent four decades with the 100-year-old Oklahoma Geological Survey, overseeing a wide array of programs and projects that supply the information and training to allow the state to maximize the value of its natural resources while exercising sound environmental practices.

cores, samples and other materials at its Tulsa research center. BP was not interested in maintaining the collection and donated it to OGS, adding a \$3 million cash gift to develop it. About that time a 200,000-square-foot warehouse and office building became available. OGS purchased the facility, which has since been home to OPIC's warehouse, office space and training center.

Since the BP Amoco acquisition, OPIC has expanded its artifact holdings to include thousands of petroleum logs, reports and scout tickets. "Back in early days, companies hired scouts to see what other companies were doing. There were no regulations to speak of," Mankin explains.

Documentation of many early discoveries that were not economically feasible at that time has been preserved, cataloged and maintained by OGS. "A lot of the old

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records are valuable. People from oil companies spend their days at OPIC looking for those kinds of opportunities and find enough to make it worth their while," Mankin reports.

Those opportunities may be worthwhile, but there is no question they are dwindling. "Oil may not be the big-ticket item it once was for Oklahoma," says Mankin, "but we can rest assured that there's still a lot of natural gas to be developed here, as well as other alternative energy sources."

That means the future of OGS remains secure. "OGS still has much to accomplish," declares Mankin.

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