



Dr Charles N. Gould, director of the Oklahoma geological survey, is one of America's best known geologists. He is also a veteran faculty member, having been professor of geology in 1900. As a result of his work in the survey, millions of dollars of hidden wealth has been opened to development in Oklahoma

A finder of hidden wealth

"Mineral exploiters in Oklahoma remind me of the calf that had to be forced to drink milk out of the bucket,—and then had to be pulled away from it when he had enough," says Dr Charles N. Gould, director of the Oklahoma geological survey, referring to work in oil development carried on by the survey. "At first we had to beg individuals to enter the oil industry. Now, the oil industry has been over-developed and attention should be turned to other minerals that enrich our state."

The geological survey is not an oil survey. To illustrate, out of seventy-five publications issued by the survey since its establishment in 1908, only ten have concerned gas and oil. Other minerals have been stressed. During the past six years practically no money has been spent for field work on oil investigations. The survey avoids duplication of work by oil company geologists. It bears the same relation to the mineral industry of Oklahoma as the department of agriculture to the farming industry. Its chief purpose is to increase the taxable wealth of the state, but at the same time it stresses development of minerals that should be developed.

Efforts have been directed to such mineral resources as clay, asphalt, coal, zinc, lead, limestone, granite, glass sand and others not fully developed, toward investigations on the minerals now dormant or resources that have had little development. Dormant resources do not pay taxes, do not add to the effective and taxable wealth of the state. Oil and gas have never been stressed at the expense of other minerals, and the survey does not attempt to locate oil fields. Valuable information on minerals has been con-

tributed and this material has been distributed.

Back to the words of Doctor Gould: "Someday, not in the immediate future, petroleum production will drop to the place where the state will have to look for other sources of revenue, and then the resources now little developed will supply the need. This new development is not a matter of weeks or months, but is built up slowly through a period of many years. As development of mineral resources is a slow process, it must be begun now, before the need is immediate."

Locked up in her hills, Oklahoma has seventy nine billion tons of coal, according to government estimates. At the present rate of mining, this is enough to last for 26,000 years. In addition to oil, gas, and the vast supply of coal, Oklahoma has large commercial deposits of zinc. One county produces more zinc each year than all the other states combined.

Oklahoma holds: Enough gypsum to keep one hundred mills busy for 34,000 years—123 billion tons. Enough glass sand to supply the whole world. Large amounts of lead, much of which is associated with zinc in ore bodies. Enough salt water to make one hundred carloads of salt a day, besides vast bodies of rock salt. Enough limestone to furnish all of America with lime and crushed rock. Enough portland cement rock to supply a dozen states. Enough clay and shale to supply brick, sewer tile and other clay products for the world. Enough granite to supply the building and monument needs of America. Enough sandstone, gravel and building sand to supply the west. Enough novaculite to supply all

of the jewelers of the world. Besides these, large amounts of tripoli, marble, volcanic ash, and smaller amounts of iron and manganese.

The work of the geological survey is centered on the development of these minerals.

Another important work of the survey is its correspondence with hundreds of citizens of Oklahoma who write to obtain information on varied problems connected with state mineral resources. The survey is the only state bureau doing this type of work, and many people have been saved needless expense, or helped in their work by information obtained from the survey regarding various types of rocks or minerals, or by geological information regarding development projects. Director Gould's files are full of this type of correspondence. All information gathered by the survey and contributed to it by researches is available to the public through this service.

Collections of one hundred Oklahoma rocks, minerals, and fossils, properly catalogued, are furnished to high schools and colleges in Oklahoma on request and agreement to preserve the collection. Every year about a hundred of these sets are sent out. No other state department or institution is doing nor is equipped to do the work the geological survey is now doing.

In the past six years the survey has issued more printed pages than any other state survey except one.

Oklahoma is the only state in the union that contains a constitutional provision for the establishment of a geological sur-

(TURN TO PAGE 245, PLEASE)

Railroading has been the forte of Lloyd James Hibbard, '14 eng., who has held various responsible positions with the Westinghouse Electric and Manufacturing Co., with which company he is now special engineer for the new railway engineering department. Mr Hibbard is co-patentee of several improvements in railroad devices and has written papers for electrical and railway publications

Noted engineers-- Lloyd James Hibbard



Working for twenty cents an hour after finishing your university course.

Then ending up with one of the best jobs in your company.

That sounds like the stories in the *American Magazine*. It could very readily be written for that journal about Lloyd James Hibbard, '14 eng., now special engineer for the Westinghouse Electric and Manufacturing Co.

Willingness and stick-to-itiveness are two of the ingredients that went into the making of Mr Hibbard's success. He is completing his seventeenth year with one company. And, though he had a college degree, he was willing to learn something new. Now, his college training and his training in Westinghouse is paying him dividends.

•

Mr Hibbard was born December 5, 1892 at Eskridge, Kansas, the son of Charles Landon and Amy Lawler Hibbard. He took his preliminary work at Oklahoma Preparatory school and then was graduated from the university in 1914 with the degree of bachelor of science in electrical engineering.

Immediately on graduating, he went with the Westinghouse organization, taking that firm's apprentice course. After completing that, he began work for the company at twenty cents an hour. Later, he was assigned to work in railway engineering, and he has filled several positions in that department during his connection with Westinghouse.

His experience has given him contacts with many of the great railroad systems throughout the country and he has written a number of papers for electrical and railway publications.

Result of observation is shown in several joint patents Mr Hibbard holds with the late B. G. Lamme. Mr Hibbard is listed in *Who's Who in Railroading* for 1930.

Several engineering departments, divisions and sections engaged in railway work in the Westinghouse organization, were merged into the new railway engineering department February 15, 1931, and Mr Hibbard was made special engineer associated with the new department.

He is married and has three children. He lives in Wilkinsburg, Pennsylvania.

▲ ▲ ▲

SOONERS IN THE BIG CITIES

(CONTINUED FROM PAGE 229)

one of the curators of the American Museum of Natural History.

But what has probably been the most exciting experience of all occurred this past fall, when I was awakened about 3 a. m. one morning by someone "home-ward wending his weary way" and bawling lustily "Hi-rickety-ooop-te-do." The next day I happened to meet the gentleman in question, and, sure enough, he turned out to be an ex-schoolmate.

Anyway, I'm signing off by saying that I'm still proud to be a Sooner.

FINDER OF HIDDEN WEALTH

(CONTINUED FROM PAGE 232)

vey. Forty-three other states have similar surveys, and the states that do not are lagging in mineral development. The survey was established by the first legislature of Oklahoma by a bill approved May 29, 1908, and, according to the bill, the survey was located at the University of Oklahoma and the university was authorized to provide rooms, offices, and other facilities.

The survey was originally under the control of a geological survey commission and remained so until 1923, when it was placed under the control of the board of regents of the University of Oklahoma, which in turn placed the survey, by resolution, under the direct control of the president of the university. The director of the survey bears the same relation to the president of the university as the deans of the various schools and colleges.

Three men have served the survey as directors. Mr Gould directed from 1908 to 1911; D. W. Ohern from 1911 to 1914; C. W. Shannon from 1914 to 1923; and Mr Gould from 1924 to the present. In April, 1923, Governor J. C. Walton vetoed the appropriation for the survey, and for a year it was inactive. Dr Charles E. Decker, now professor of geology, acted as custodian.