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Oklahoma's Petroleum Industry

Excerpts from address at Oklahoma Press Association Convention

By CLAREL B. MAPES,'22,'23,'26

THIS is the age when industries are appraised according to the service they respectively render to the general public welfare and the contributions they make to the onward march of economic progress.

"Service" is the keyword of modern advertising because service is the keystone of successful enterprise in the present complicated industrial world. For a long time, it has been recognized that the so-called "public service" companies, such as the railroads, the telephone and gas and electric companies render a great and direct service to the public.

It is similarly true that other forms of productive industries also render a public service. For instance, it cannot be questioned that agriculture performs an indispensable service in feeding the public, nor that manufacturing industries perform a public service in converting raw materials into finished and useful articles.

The petroleum industry likewise renders a public service. In the past thirty-five years the trend of events throughout the world, both economic and political, has been singularly influenced by the petroleum industry. During this period, petroleum has attained the status of a primary necessity in the national life of every country of the civilized world.

The petroleum industry has probably performed the most essential and far-reaching service of this century in that it has made possible for the benefit of all the present era of modern transportation.

The industry itself has, during this time, been confronted by many troubles from within and many attacks from without. It has been taxed mercilessly until it has been almost completely crippled. International policies and politics have hindered the development of its world-wide markets. Economic and financial troubles by the score have beset it. Yet, despite these many vicious influences, the industry has prospered and progressed. It is the one natural asset on which each country bases its national security.

The economic and commercial structure in Kansas, Oklahoma and Texas is dependent almost exclusively on petroleum, and, to a large extent, this is also true in the states of Arkansas, Louisiana and New Mexico. Petroleum and the wealth which it brings is of paramount importance to the people living in these southwestern states, their industries, and their local governments.

The state of Oklahoma has been the most prominent of all oil states; and its past, present and future are probably more concerned with the prosperity of the oil industry than any other state in the Union. The development of petroleum in the state of Oklahoma has been of direct and personal benefit to every person within the borders of the state. The areas of known and probable petroleum producing territory completely cover large sections of the state. While only the minor part of these areas have actually produced oil, yet continual scientific exploration has indicated that vast areas will probably be petroleum producing. In looking to the future it can be estimated that the bald hills and plains of the pioneer, agricultural Oklahoma will still provide untold wealth for the people who have settled and developed this state. We can gauge the future by what has happened in the past.

Up to January 1, 1935, Oklahoma had produced 3,719,360,000 barrels of oil for which the producers and royalty owners received the average price of $1.37 per barrel, making a total value of $5,110,273,000. Since the greater part of this sum represents the cost of producing, transporting, and storing this valuable mineral resources, the citizenry of this state have been the beneficiary of the greater portion of this sum. The finding and releasing to useful purposes of the energy units contained in this great volume of crude petroleum has been in itself a distinctive service to the state of Oklahoma.

But the most important service which oil development renders to any commonwealth is inherent in the nature of the industry and has to do with the capital involved and expended in the actual day-by-day operation of the petroleum industry in that state.

To bring to the surface more than three and one-half billion barrels of petroleum that have been produced in Oklahoma, there have been drilled in the state of Oklahoma to January 1, 1935, 144,650 wells. Of this number 101,300 produced oil; 11,600 were gas wells; and 31,750 were dry holes. It is estimated that the drilling and equipping of these wells has required an expenditure of $2,550,000,000, or approximately one-half of the amount received for the oil.

An average of one-eighth of the oil and gas produced from these wells, or roundly, $640,000,000 has been paid as royalty to the land owners on whose property these wells were situated. In addition, large amounts of money have been paid to land owners in bonuses and rentals on leases, many of which have never produced oil. There are at present, about six and one-half million acres of land in Oklahoma under lease for oil and gas in some 65 of the state's 77 counties. There is not a county in the state which has not at some time or the other, had some of its land under lease for the purpose of oil and gas prospecting. The farmers of the state are then receiving about $6,500,000 annually as rental on this land.

During the five-year period from 1927 to 1931, there were in force in the state 73,424 leases, covering 7,568,287 acres.

This amount of acreage represented 27 per cent of the thirty-three million acres in the state. During this period there was paid to the land owners in the state each year on bonuses, $44,685,000; rentals, $6,765,000; and royalties, $37,897,000; a total of bonuses, rentals, and royalties annually of $89,147,000. It is estimated that even under present conditions the total of bonuses, rentals and royalties in the year 1934 paid to the land owner was not less than $50,000,000, which was approximately equal to one-fourth of the total value of the crude oil produced in Oklahoma during 1934. This money which was paid to the land owners was free from any production costs or expenses to them.

To the oil producer, however, the above payment to the land owners was a cost or an expense and, in addition to these costs incident to discovery and development, the oil producer must, after oil has been discovered, pay production costs and other miscellaneous expenses. Those producers who have been fortunate enough to make a profit from their operations in the earlier fields have reinvested their profits and capital in the searching for and development of the later fields of the state. The proceeds from the sale of oil produced from the oil fields of today will be invested along with new millions attracted to the state of Oklahoma in the finding and development of the fields of tomorrow. Thus, we have a cycle which is certainly a very happy one, and which has as its principal by-product the advancement of other lines of business in the state and the continual progress of Oklahoma commercially, agriculturally and industrially.

Geological Engineering

By V. E. MONNETT, Director

THE school of geological engineering at the University of Oklahoma was originally called the school of engineering geology, and had its beginning in 1917. In the earliest part of the petroleum development of Oklahoma it was recognized that knowledge of the geological features of each area was essential to the proper development of an oil pool. So many of the earth's materials besides oil have been found in abundance in Oklahoma that it seemed advisable to train students in that branch of engineering which emphasized the occurrence of all of these natural mineral resources. The first engineering geologists were accordingly trained in the broader aspects of geology with special emphasis upon the various types of minerals and rocks of economic importance. At the same time they were given the same fundamental training in engineering subjects as is required of students enrolled in other branches of the college of engineering.

Some of the graduates have gone into mining engineering; others have gone into petroleum engineering; while a large percentage have, of course, become petroleum geologists. The geological engineering course was originally designed and has been purposely kept as a broad fundamental course. Before the establishment of petroleum engineering and mining engineering curricula in the University, students interested in these associated lines of work were receiving most of the essential training in the geological engineering course.

The University of Oklahoma was one of the first schools in the United States to introduce a complete and separate curriculum of geological engineering. Now more than two dozen colleges and universities offer such a course.

The number of graduates from the school of geological engineering has always been very small, but there has been a marked tendency in recent years for students to elect the geological engineering course because of the recognition of the value of men with engineering training in nearly all phases of geological work. The training in mathematics and physics which the engineering student receives has made it possible for him to play a prominent part in the geophysical work which has attracted so much attention in the past ten years. A larger number of the graduates of geological engineering have entered this line of work in the past three years than into any other phase of the petroleum industry. The geological engineer is peculiarly fitted for carrying on work of this type which requires careful geological interpretation of physical and mathematical data.

Graduates of the University of Oklahoma school of geological engineering have not only helped locate many new oil pools of the Mid-continent field but have seen service in Venezuela, Java, Sumatra, Colombia, Ecuador and many other foreign areas. They have been prominent in solving many of the perplexing problems of petroleum production in older pools of Oklahoma, Texas, and Kansas and have helped make the name of the University known in far corners of the earth.