XXXIV. GEOLOGY AND OIL FIELDS OF THE MID-CONTINENT AREA

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The science of Geology is not old. The foundations were laid down by Smith and Hutton little more than 100 years ago. Oil geology is still younger. This science may be said to date from 1892 when Dr. I. C. White of West Virginia read a paper before the Geological Society of America describing the Washington gas field.

It is only within the past ten or fifteen years, however, that the science has been developed to a point where it is of recognized practical value to the oil man.

The first oil found in Oklahoma was in 1887, when Edward Bird, a Cherokee citizen drilled near Chelsea. In Kansas gas was found at Paola a few years earlier and in 1889 500 barrels were marketed from that state.

It was about twenty years ago in the years 1904-5, however, that extensive exploitation begun in three states, Kansas, Oklahoma and northern Texas. During these years Erie, Independence, Neodesha, Coffeyville, Cherryvale, Peru, Sedan, Chanute, Humboldt, Iola, Caney and Wayside were developed in Kansas; as well as Coodys Bluff, Alluwe, Chelsea, Dewey, Bartlesville, Copan, Delaware, Red Fork, Gotebo, and Cleveland in Oklahoma; and the Petrolia and Electra fields in northern Texas.

All these fields were rank wildcat. Oil geolgy was not then being practiced. A man moved by the spirit of oil discovery simply got a lease and drilled. If he struck oil he was lucky, and if not (usually not) he went broke.

So far as I now remember the first attempt to locate oil by geology in Oklahoma was in 1907. During the summer of that year I was employed by R. O. Denning of Oswego, Kansas, to work in several counties in eastern Oklahoma. Dr. I. C. White, the father of the anticlinal theory, came from West Virginia and checked up two anticlines which I had located, one south of Muskogee, the other west of McAlester, and on the advice of the two of us wells were drilled on each structure. Both were dry holes. The first producing well, to my knowledge, to be actually located by a geologist in Oklahoma was a gas well at Potean drilled in 1910.

The first man whom I now remember to devote his entire time to oil geology in Oklahoma was Dr. Hans Hirschi, a Swiss

geologist, who came to this country in 1909, in the employ of the Dutch Shell interests.

Among the first consulting geologists in Oklahoma were Pierce Larkin and L. L. Hutchison, both graduates of the Department of Geology, University of Oklahoma. These gentlemen opened offices about 1911.

At that time geologists were "rare birds." The entire number in the state could have been counted on the fingers of both hands. Geology had not yet come into its own. Predatory promoters were not then luring reluctant sophomores from their studies, with promises of vast wealth. Freshmen classes at our universities were not then over run with would-be oilionaires.

But times have changed. Today the geologist has in a measure come into his own. I have watched the thing from its beginning, and have never seen such a complete reversal of popular opinion on any one subject as there has been on the matter of geology by the oil fraternity during the past ten years.

These questions arise: Just how successful is the geologist? What per cent of his predictions come true? Can he really locate oil? Is the oil man justified in spending money in employing a geologist, and in maintaining a geological department? These are pertinent questions and certainely worthy of consideration.

For my own information and satisfaction I have sometimes attempted to answer these questions. I have prepared a tentative list of some two hundred oil and gas fields located in Kansas, Oklahoma and northern Texas, the so called Mid-Continent field.

These various fields were placed, according to my best information and recollection, in three groups, as follows: First, those fields brought in early before oil geology was practiced; second, those located by geologists in advance of drilling; and third, those discovered by accident during the past few years.

In order, however, that I might not be mistaken in the matter, questionaires in the form of tentative lists, were sent to about seventy-five representatives geologists in Kansas, Oklahoma and northern Texas, asking for suggestions and criticisms on the points covered in the following category.

For obvious reasons no attempt has been made to connect any field with the name of any paticular geologist. The list given herewith is believed to represent the best judgment of the more prominent working geologists in the Mid-Continent oil field. It

is simply a progress report representing the best information available in the early part of 1925.

Oil and Gas Fields Discovered Before Geology Was Practiced

Kansas: Altoona, Bolton, Bufialo, Coffeyville, Chautauqua, Cherryvale, Chanute, Fredonia, Humboldt, Independence, Iola, Mound Valley, Moran, Laharpe, New Albany, Neodesha, Osawatomie, Paola, Peru, Rantoul, Sedan, Wayside.

Oklahoma: Al uwe, Adair, Bartlesville, Bird Creek, Boston, Copan, Catoosa, Canary, Caney, Clagget, Cleveland, Childers, Chelsea, Coodys Bluff, Delaware, Delaware Extension, Dewey, Drumright, Flatrock, Gotebo, Granite, Glenn, Healdton, Lawton, Lenepah, Morris, Muskogee, Wewoka, Wann.

Northern Texas: Corsicana, Electra, Iowa Park, Petrolia, Strawn.

Fields Drilled on Geological Advice

Kansas: Augusta, Bush-Denton, Bu fa o, Beaumont, Coleman, Coffeyville, Dexter, Eldorado, Eastman, Elbing, Elk City, Florence, Fox-Bush, Graham, West Independence, Longton, Maple City, Madison, Padgett, Porter, Parsons, Peabody, Reese, Rock, Russel, Salyards, Thrall, Teter, Thompson, Urshel, Winfield.

Oklahoma: Bramen, Brock, Burbank, Blackwell, Billings, Boynton, Barnes, Be land, Billingslea, E. Bristow, Cameron, Cruce, Comanche, Cement, Cromwell, Coalgate, Cedars, Chandler-Kelley, Country Club, Casey, Centrahoma, Deaner, Davenport, Denver, Deer Creek, Duncan, Dilworth, Depew, Dropright, Eaton, Fox, Francis, Garber, Hewitt, S. E. Healdton, Hominy Hubbard, Ingalls, Josey, Jennings, Kilgore, Keystone, Kinta, Lyons, Leonard, Loco, March, W. Muskogee, Morrison, Mervine, Mounds, Maramec, Maize, Masham, Mannford, Newkirk, Norfolk, Osage-Hominy, Oscar, Ponca, Porter, Poteau, Perry, Phillipsville, Quinton, Red Oak, Robberson, Roxana, Ripley, Richard Hill, Red Bank, Schlagel, Shamrock, Spiro, Stroud, Stigler, Shaffer, Sholom Alecham, Stone Bluf, Tonkawa, Talala, Tuskegee, Turkey Mountain, Thomas, Terlton, Virgil, Vian, Velma, Wetumka, Westbrook, Vern Station, W. Wewoka, Walter, Wheeler, Wimer, Yale, Yeager.

Northern Texas: Amarillo, Bunger, Big Creek, Desdemona, Dalton, Gambrell, Hall-Hockaday, Perron City, Harned, Harmel-Griffin, Ibex, Ivan, Litchfield, Luling, Mexia, Mitchell Co., Moran, Parks, Powell, Panhandle, Peter-Kemp, Parrish, Olney,

Throckmorton, Sinclair-Moran, South Bend, Swastika, Wortham, Ragle, Ray-Stubblefield, S. Vernon.

Fields Brought in "Without Benefit Of Clergy" in Recent Years

Kansas: Carson, Oxford, Rainbow Bend.

Oklahoma: Chickasha, Papoose, Prairie, Sayre, Slick, Youngstown.

Northern Texas: Burkburnett, Benson, Herron-Hughes, Ranger.

Making a total in the three states of 226 oil and gas fields of which, according to the best judgment of the contributing geologists 56 were drilled before geology was practiced, 157 were located by geologists in advance of drilling, and 13 have been brought in wild cat since geology has been in common use.

The approximate percentages run as follows:

Before geology was practiced_____24 per cent
Drilled on geological advice_____70 per cent
Drilled without geology_____ 6 per cent

It goes without saying that in compiling these lists many fields have been omitted, some doubtless through ignorance, many with intention because of doubt. In the case of a few fields, such as for instance Blackwell, Chickasha, Burkburnett and Rainbow Bend, there is some slight difference of opinion. The writer will greatly appreciate any suggestions and criticisms.