GEOLOGY AND ECONOMIC SIGNIFICANCE OF THE LUCIEN FIELD

by

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Abstract Prepared by the Author

A favorable surface structural feature in Township 20N, Range 2W, has been known probably since 1915.

The Roxana Petroleum Corporation (Shell) explored the area as early as 1917-1919, drilling to 3,508 feet in section 9. Subsequently Shell Petroleum Corporation re-worked the surface geology in 1924 and core-drilled the western half of the township in 1928 checking to the Herington limestone of the Stillwater formation, and was reported to have found a structure with small closure and sharp west dip, substantiating the surface work.

The discovery well was drilled by L. H. Wentz and others in section 17 on the Wolff farm, and was completed on September 28, 1932, for 1,817 barrels of 41.8 gravity crude oil per day initially from the Simpson sand section of Ordovician age at a total depth of 5,197 feet.

The Lucien field is the first important oil pool in Oklahoma to have been successfully unitized and operated. Even though the original unitized block covers less than half of the field, as finally proven, the operators of the acreage outside of the unitized section fully co-operated with the management of the block in conservative development.

Shell Petroleum Corporation controlling 34.27 per cent became the operating company under the name of Lucien Consolidated.

Subsequent development proved for production 920 acres located within the unitized block and 1,200 acres outside of it. The most prolific acreage proved to be outside of the block and is owned by the Carter Oil Company. A total of 53 oil wells were drilled in the Lucien field to the Simpson sand, of which 2 were non-commercial, and some 10 were small producers. One well on the east side of the field, after testing Simpson dry, was plugged back and completed for an Oswego limestone well, Stanolind et al No. 1, J. Bolay, section 16, while 5 failures were drilled, both east and west from the producing area.

Since discovery and to September 30, 1934, the Lucien field produced a total of 3,225,600 barrels, or an average recovery per acre of 1,520 barrels.

The production of 3,225,600 barrels to date has been characterized by a very sharp drop in bottom-hole pressures in Lucien. The original bottom-hole pressure was around 2,200 pounds. By August, 1934, it had dropped to 1,600 pounds, or a decline of 200 pounds per 1,000,000 barrels.


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