

FUTURE OF THE LOUISIANA OFFSHORE OIL PROVINCE AS PREDICTED BY ANALYSIS OF ITS ONSHORE COUNTERPART¹

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ABSTRACT

The continental shelf of the Gulf of Mexico constitutes a new oil province by virtue of its geographic position and the special operating conditions that prevail in the area. Louisiana's offshore water bottoms are already established as the most important portion of this new oil province. This area is unique in that it is, geologically, an extension of the prolific Miocene producing trend located to the north in the marshlands of Louisiana.

Because of the fortuitous similarity in geological conditions between the offshore water bottoms and the adjacent marshland areas, it is possible to make, on the basis of the frequency and extent of the known commercial oil and gas fields in the already developed land areas, reasonable predictions of the success probability on undeveloped structures offshore. However, the companies in their exploration of the virgin marine areas have so far searched for and leased only the larger structural features, commonly referred to as grade "A" prospects, and the initial exploration and development program will essentially be restricted to this type of structure.

A detailed analysis of all of the major structural features found in the Miocene trend of South Louisiana has been made in order to form a basis for predicting the future of similar prospects and fields that have been found and will be found in the offshore area. While selection of the major features eliminates less prominent structures, many of which account for major reserves in South Louisiana, it is believed that exploration and development of these less prominent features will constitute a later phase of development of the Louisiana Continental Shelf.

Onshore structures have been classified as piercement salt domes and as deep seated structures, and a detailed analysis of success ratios, reserves and reserves per well is given for these types of structures. The effects of the various geological, engineering and economic factors that are peculiar to offshore exploration and development are integrated with the results of the onshore study, and the future potentiality of the water bottoms is discussed.

The application of this type of analysis to other new or future oil provinces is suggested.

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