Petroleum Potential of Eastern Nebraska and North-Central Kansas*

**PLATE 33, PLATE 34**

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**INTRODUCTION**

Most of the 75 million barrels of oil produced from the Salina Basin has come from the Arbuckle, Viola, Mississippian, and Lansing--Kansas City carbonate rocks along the southern and western margins of the Kansas part of the area.

This area is relatively unexplored and some counties are completely untested. Much of the basin could be evaluated by tests at depths of less than 3,000 feet (914 meters). Although most individual reservoirs would be considered small, multiple "pay" zones are possible.

It is estimated that significant new potential reserves are present in the Salina Basin area. These reserves will be found not only by additional drilling along the basin margins, but also in secondary anticlines deeper within the basin. The Nemaha uplift and the westernmost margin of the basin also are considered to be favorable areas for future exploration.

**GENERAL GEOLOGY**

This area includes the Salina (central Nebraska) Basin and parts of the marginal uplifts (Plate 2). It is bounded on the east and southeast by the Nemaha uplift, on the west by the Cambridge Arch, and on the southwest by the Central Kansas uplift. These uplifts are composite numerous minor structures of varied trend and magnitude. Other secondary structures, generally parallel in trend with the adjacent basin margin, have been outlined on the Precambrian surface (Cole, 1962; Carlson, 1967). The Salina Basin has more than 3,000 feet (914 meters) of gross relief, but dips are gentle throughout the basin.

All of the geologic systems, except the Triassic, are represented, totaling approximately 30,000 cubic miles (125,000 cubic kilometers) of sedimentary rocks. A combined total thickness of nearly 7,500 feet (2,290 meters) is present; maximum drilling depth is approximately 4,600 feet (1,400 meters). Numerous unconformities are present and periods of severe erosion have