

Poster 2      Reinterpreting Nebraska's Structures - New Geometry, New Exploration, New Reservoirs

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Economics, low-risk operations, open acreage, shallow to mid-depth reservoirs and the potential million barrel fields all contribute to increased interest and activity in Nebraska as a continuing petroleum province. In addition, reexamination of both old and new subsurface data in the broad context of rejuvenation of basement architecture suggests the need for redefinition of both the Phanerozoic structures and the history of sedimentation. The structural patterns current in the literature for the Denver Basin, the Chadron-Cambridge Arch, the Salina Basin, the Nemaha Uplift, and the Forest City Basin need to be redefined and delineated in more detail. A better definition of the tectonic history also provides insights into depositional and diagenesis patterns.

To date, twenty counties have proven productive since the initial discovery in 1939. Production depths range from 2500 to 7000 feet. The nearly 20,000 deep tests have been concentrated in the proven producing areas. The major producing areas of the Denver Basin (Dakota, Niobrara), the Alliance Basin (Pennsylvanian, Permian), the Cambridge Arch - Trenton Shelf (Pennsylvanian, Permian), the Salina Basin (Paleozoic), and the Forest City Basin (Devonian, Ordovician) need more detailed interpretation and redefinition. The redefinition of the broad framework (based in large part on the reactivation of basement trends) and the creative interpretation of local trends both demonstrate the opportunity for more innovative exploration and consideration of other potential reservoirs.