

Back to the Future – The Forest City Basin in Kansas and Nebraska

Marvin P. Carlson

Lincoln NE, rockdrmpc@hotmail.com

Some of the earliest production in North America was in the Midcontinent Forest City Basin. This basin lies along the eastern flank of the Humboldt Fault/Nemaha Uplift system extending from southern Kansas northward into Iowa. During most of the Lower and Middle Paleozoic, sedimentation was continuous across the current Forest City and Salina basins. Exploration peaked in the 1940-1950 time frame. Production, primarily oil, within the deeper basin is from Devonian (Hunton) and Ordovician (Viola) carbonates.

Exploration has continued but in the order of a few wells per year. For both the Hunton and Viola, factors to be considered are regional facies, local structures and source of oil. Regionally there is a northward facies change from shale (Chattanooga-Woodford) into the Hunton carbonates. Locally at this boundary limestone to dolomite facies are important reservoir factors. A similar facies pattern both regionally and locally occur in the Maquoketa (Sylvan) shale to Viola carbonate boundary. The majority of the drilling has focused on the Hunton with the deeper Viola and Simpson much less explored even though the Viola has been found productive in northwest Missouri. Most fields in the Forest City Basin are located on small structures, usually faulted, that occur in the deeper portions of the basin. It is suggested that these structures represent flower structures overlying basement wrench faults. A few structural traps are related to the Humboldt Fault complex forming the western boundary of the basin. Additional exploration targets are the Mississippian and Silurian carbonates and the Simpson sandstones