

Mississippian Stratigraphy of Southwestern Kansas— Some Correlations Resolved, Many Mysteries

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Joe Clair noted in a 1948 Kansas Geological Society report, that the Mississippian was “for many years, to the majority of Kansas Geologists ... a top and base with varying thickness of very hard rock between.” Ed Goebel’s study of cores, samples, and microfossils in 1966 was a major contribution to Mississippian stratigraphy in western Kansas. The Kansas Sample Log Service (primarily J. D. Davies) lithologic strip logs also provide a wealth of rock descriptions and subdivisions of the Mississippian. Many geologists and companies, following the 50-year-old remark of Clair, may drill only the top portion of the Mississippian and report “Miss.” (literally period, with no reference to subdivisions).

Continued petroleum exploration in the Hugoton Embayment has provided a wealth of new geophysical logs. Regretfully, Mississippian rotary drilling samples may be of poor quality from severe caving of overlying units. Up to date, preliminary research of all wells penetrating the complete Mississippian section has been made. Log sections and maps prepared from this study give a scattered sample of Mississippian subdivisions and correlations.

The distinct massive, “clean” oolitic limestone of the Gilmore City Formation is one of the best correlation markers. Reservoir development related to Salem (Spergen) anhydrite dissolution is illustrated. Various unresolved stratigraphic problems, such as the distribution of Chesterian rocks, Ste. Genevieve–St. Louis boundary, and St. Louis oolite reservoir zones also are illustrated. As the exploration history of this area has proven, resolution of difficult Mississippian geology correlations will result in new hydrocarbon discoveries for many more years.