

# History and Development of the Stewart Field, Finney County, Kansas

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The Stewart field produces from a Morrow valley-fill system at depths of 4,700–4,800 feet. The productive valley-fill trend is 5 miles long and 1/4 to 1/2 mile wide. The Morrow Sandstone is 30 to 40 feet thick within the valley and absent in adjacent areas. Productive sandstones are interpreted to be estuarine in origin based on core descriptions. The valley is incised into Mississippian Saint Genevieve and Saint Louis units. Trapping is regarded as stratigraphic with regional structure playing an important role. Average porosity and permeability in the reservoir are 16% and 138 md, respectively. The produced oil has a gravity of 280 and low gas oil ratio of 37 SCF/STB.

The development history of Stewart covers a time span from 1952 to the present with significant time gaps. Much of the development occurred from 1985 to 1989. Reasons for the time gaps involve change of operators, geologic concepts, and technology. Development of the field was aided significantly by 2D and 3D seismic data.

The field was unitized in 1995 and waterflooding began with six injectors in October 1995. Currently, 12 injectors are in operation and monthly production is in excess of 100,000 BO. The production in the field has been increased significantly with the secondary-recovery process. Estimated ultimate primary plus secondary recovery is greater than 7 million BO.

The success story of Stewart field illustrates that significant reserves of oil and gas remain to be discovered in the Morrow sandstones of Kansas and adjacent areas.