

“Stealth” Exploration and Serendipitous Exploitation for the Texas Woodford

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Abstract

The Woodford Shale is not only an excellent regional source rock and economic resource play in Oklahoma it is one of the true world-class source rocks in Texas and Oklahoma and an emerging resource play in Texas. The Woodford was deposited during one of six world-wide ages that comprise the source for 93% of global hydrocarbon production and reserves. The Woodford is age equivalent to the Bakken, Marcellus-Utica, Antrim and New Albany, all major hydrocarbon source rocks and resource shale plays in the United States.

The Woodford Shale in Texas is actively being pursued in two areas. First, in northern Texas Grayson County, an extension of the Oklahoma Aulacogen, Ardmore Basin. Second and focus of this discussion is the Permian Basin “stealth” exploration and positive early results realized by serendipitous exploitation of the Woodford. Early play-developing, exploitation companies are completing good shows in vertical wells drilled for other, typically shallower, resource plays as their primary target. There is also developing intentional exploration by earlier-entry, pioneering explorationists. Several of the positive economic tests in recent vertical wells including the early superior results from fracture stimulated Woodford and information from past horizontal drilling and results will be discussed. Recent vertical wells targeted and also produce from Wichita Albany and Wolfcamp on the Central Basin Platform, WolfBerry in the Midland Basin and Delaware and WolfBone in the deeper Delaware Basin.

Other exploration and exploitation results, including recently presented and published tests of vertical wells, indicate the Woodford to have sub-economic outcomes. The location and geologic settings (thermal maturities, mineral facies, presence of clay and thickness of the Woodford) are examined in a regional exploration perspective. All are consistent with a decades long, emerging resource shale play perhaps on the verge of economic success in one of the world’s premier hydrocarbon producing basins.