

# **Influence of Stratigraphic Modeling Scales on Shale Oil Resources Assessment of the Midland Basin**

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## **Abstract**

Modern resource assessment approaches can be greatly aided by integrating all available data and interpretations in a 3D geological model. The model includes stratigraphic, petrophysical, core description, and production data for the Spraberry and Wolfcamp intervals. In this work we highlight the benefits of the development of a high-resolution geomodel for reserves assessment in an unconventional play when compared to more common 2D mapping-based resource play oil-in-place estimation studies. We generated a 3D, faulted Midland Basin geomodel, containing nearly 1.5 billion cells. The model is based on over 2000 correlated wells, 700 wells with petrophysical and facies interpretations, and approximately 10,000 horizontal production wells with decline curve and completion data analyses. This work demonstrates the influence of various vertical stratigraphic resolution scales to the practice of 3D reserves assessment in the Midland Basin.

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