

# Integrated Characterization of Clastic Reservoirs: A Case Study from Novillero Field, Veracruz, Mexico

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Tertiary clastic sequences within the Veracruz Basin of Mexico have been prolific hydrocarbon producers for many decades. However, during the last few years, production has declined. Several fields have recently been restudied to evaluate behind-pipe and deepening possibilities and new exploration opportunities in the area. This paper focuses on a multi-disciplinary integrated reservoir characterization study of Novillero Field in the Veracruz Basin.

Novillero Field, discovered in 1966, has produced about 59 BCF of gas from calcareous turbidites and mudstone-rich debris flows. Reprocessing of 2D seismic in 1996-97 and the generation of synthetic seismograms permitted the integration of seismic and sequence

stratigraphy, AVO analysis, biostratigraphy, well and core data, petrophysical analysis, and production data that resulted in a complete reservoir model based on all available data. This study led to the identification of several opportunities in the field area.

Working on a common integrated Landmark™ platform, geological, geophysical, petrophysical, and engineering data were integrated. This integration significantly reduced turn-around time and risk. Single-well recompletion of behind-pipe potential in previously untested horizons doubled total field production and led to renewed interest and development of older fields in the Veracruz Basin.