

The Martin County Texas Super Stack: Developing the Sweetest Spot in the Midland Basin

The Midland Basin of west Texas is a crown jewel for oil & gas companies operating in the United States. The 2014 downturn and COVID-19 have shown the Midland Basin can continue operating in a lower oil price environment when all other oil producing basins are forced to stack rigs. Even more economically recoverable oil remains in the Midland Basin than critics have previously predicted. This case study reveals the “Martin County Super Stack”, a sweet spot like no other.

Exploration methods used by geoscientists and petroleum engineers to predict sweet spots have traditionally relied on sparse physical evidence. Oil-in-place, net pay, clay volume, maturity, these are not the map properties that matter to predicting play economics. The most ideal combination of these geologic properties will still yield poor well results even with a perfectly engineered and executed plan. A primary reason performance in an unconventional oil play seems difficult to predict is that much of the physical evidence we traditionally use to map a basin remains overlooked, and often because most operators don't look very far outside their own acreage position. Basin-wide we have seen an evolution over the past decade in well spacing, well design, and completion methods, driven mostly by interference and poor predictability. Operators are transitioning from proving landing targets that work economically in “standalone” wells, to co-developing stacked targets, with geometrically spaced well patterns to optimize recovering the most oil without compromising future locations. Closer examination of physical properties and primary

well performance drivers using the scientific method, proper evaluation technology, and consistent petroleum industry practices highlight additional economic benches most E&P companies won't develop, and once this development begins some of those upside benches left behind are gone forever. ■

Biographical Sketch



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He currently advises on subsurface evaluation and development of unconventional resources in the Midland Basin core. Prior to joining Guidon, he was Petrophysicist at Stone Energy Corporation and Apache Corporation working North American shale in the Appalachian Basin, Permian Basin, Alberta Basin, and several frontier exploration projects in lesser known shale basins. He has 12 years operational experience with Schlumberger & Baker Hughes in the Gulf of Mexico and North America land. He has co-authored several SPE and SPWLA publications related to delivering significant cost savings to operators through leveraging technology as a first adopter.