

September 27, 2018

“Papoose Canyon: A Case Study of Reentry Economics for Mature and Abandoned Fields”

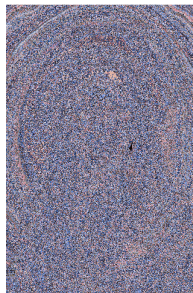
Abstract

Since 1970, oil and natural gas have been commercially produced from the Desert Creek, Ismay, and Honaker Trail formations of Papoose Canyon Field, located in Dolores County, Colorado. Many of the wells drilled during the early life of the field were shut-in when oil commodity prices declined to historic lows during the 1980s with hopes of reactivating them as prices recovered. During that time, though, many of the operators in the region either went bankrupt or merged with larger operators, and many of the shut-in wells were never reactivated. A second round of wells, drilled during the 1990s, had commercial production of both oil and natural gas but were prematurely shut-in during the subsequent downturns in prices at the turn of the century.

A 2005 U.S. Department of Energy study concluded that the Papoose Canyon field was nearly depleted. However, new technologies, such as directional and horizontal drilling paired with hydraulic fracturing, have led to the rejuvenation of numerous mature oil and gas fields. These new technologies are especially suited to stacked reservoirs such as those in Papoose Canyon field. In light of the trend of renewed production in older fields, this study will investigate the economic variables associated with commercially viable reentry and production of the existing and infill wells in the field, and determine the necessary oil and natural gas prices required for selected economic hurdles. A decision tree model will be presented to aid in adapting this case study as a basis for reentering similar mature and abandoned fields.

Our Presenter

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Jessica Davey is a geologist and the office manager for MHA Petroleum Consultants. She earned her B.S. in Applied Geology at Metropolitan State University of Denver in 2016 and her M.S. in Global Energy Management at the University of Colorado Denver Business School in 2018. Jessica is one of the rare remaining Colorado Natives, and she grew up intent on understanding

the history of this beautiful part of the world. Her professional background prior to going back to school is in small business management and administration. Jessica has an almost 6-year-old daughter who has been a fieldwork assistant since birth and wants to be an astronaut geologist when she grows up.