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Montney Versus North America Completions Comparison

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Introduction

The development of unconventional, low-permeability reservoirs changed the energy landscape across North America and around the world. Plays including the Haynesville, Utica and Montney continue to evolve and improve on well design, efficiencies and productivity. The Montney is Canada's most productive and most active play. Spreading over 10,000 square miles and containing multiple producing intervals up to 1,000-feet thick, the play produces almost 7 Bcfe per day. This presentation examines the evolution of the Montney completion design, specifically lateral length and proppant intensity, in comparison to the top unconventional plays in North America. We conclude the optimal completion design has yet to be achieved in the Montney and valuable resource is being left untapped.

Theory and/or Method

This statistical analysis was completed with completions data for wells that came on production since 2012 in the Montney, Deep Basin, Eagle Ford, Delaware, Midland, Haynesville and Marcellus. RSEG found that proppant intensity, or pounds of proppant per lateral foot, has the most statistical significance to well productivity, the main reason we track this metric.^[1] Looking at the 200-well moving average starting in 2013, proppant intensity across North America increased, with some plays exhibiting sharper rates of change. Interestingly, while the geology across these plays differs greatly, the trend is consistent throughout. From an investor's viewpoint, finding plays and operators that hold the most upside potential in completion design improvement is key.

Examples

Proppant intensity in the Montney until 2014 stayed relatively flat at around 500 lbs/ft. It wasn't until 2015 that Montney operators started increasing proppant, lagging operators in L48 plays already testing proppant intensities exceeding 1,000 lbs/ft. While proppant intensity steadily increased in the Montney, the rate of change trailed those of plays like the Haynesville and Marcellus.

Conclusions

Despite differing geology, longer laterals and larger fracs are favored across the board. Considering larger fracs have been implemented in L48 plays for several years, Canadian operators can apply learnings from them to utilize the optimal completions design and technologies in the Montney. Finding the optimal design is essential for realizing the maximum potential of this play.