

StackFRAC HD leads to improved fracture complexity and higher production in the Montney formation

[Canada, Montney](#)
[StackFRAC HD System](#)

After completing a similar number of plug-and-perf and StackFRAC® HD wells in the Northern Montney, an operator determined that StackFRAC wells achieved higher production and lower stimulation costs.

The results of microseismic analysis show that improved production is correlated to better fracture complexity.



Challenge

Operators are continually looking for the most cost-effective completion method that results in the highest producing wells. In the Montney, as in most formations, the challenge is to balance the cost of optimizing each completion with the expected revenue from production.

Solution

An operator analyzed 30 wells (19 plug-and-perf and 11 StackFRAC HD) across 11 well pads in the Northern Montney. These wells had similar lateral lengths, proppant and fluid volumes, and were treated at similar pumping rates. Microseismic was used on two of the wells in an effort to determine if there were differences in the stimulated reservoir volumes between the two completion methods.

Results

The microseismic analysis suggests that the total energy delivered using the StackFRAC HD completion system was greater than the plug-and-perf stimulation. Stimulation using StackFRAC HD was characterized by a significantly higher number of microseismic events, particularly at a greater distance from the wellbore. A distinctive event cluster and failure pattern was identified in the microseismic analysis, especially in the near-wellbore area, indicating increased fracture complexity. These event clusters were not seen in the plug-and-perf stimulation at all.

Supporting the theory that improved fracture complexity leads to higher production, the StackFRAC HD wells outperformed the plug-and-perf wells. After 6 months of initial production, the average gas rate was 46% higher, and the estimated ultimate recovery (EUR) was 43% higher.

Finally, StackFRAC HD's ball-activated, continuous pumping operation resulted in direct cost

savings, requiring fewer hours. On average, the operator gained a 38% time reduction compared to plug-and-perf completions, as well as a 13% stimulation cost reduction.



6 months of initial production: OHMS versus CLPP

The StackFRAC HD system has delivered similar successes in cost reduction and production improvements to other operators in formations in Canada, the U.S., and internationally.

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