

## **Quantifying The Impact Of Flow Back Methods On Horizontal Wells, DJ Basin, Colorado**

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### **ABSTRACT**

Eight years into the horizontal development of the Niobrara oil play in the DJ Basin operators still struggle to understand and explain well performance. Small operators with limited acreage positions do not have the luxury of the trial and error approach operators with large contiguous positions can take. Determining best practices now commonly includes some form of multivariate statistical analysis. Completion parameters, geologic variables, well spacing/orientation, seismic derivatives, and reservoir parameters are common inputs to these models. However, even the most robust model can still fail to explain well performance. A geoscientist's role in the development of unconventional reservoirs is evolving. In addition to needing to be geosteers, understanding geomechanics, seismic data, completions and reservoir engineering, geoscientists now need to understand how a well was produced to explain its performance. In the DJ Basin, it is demonstrable that operators with acreage positions in established fringe areas can outperform offset operators with better quality acreage positions. A key driver to a well's performance is how the well was flowed back, this is especially important in low GOR areas. This paper will focus on quantifying the impact of flow back methods on well performance which can only be done after the aforementioned variables are understood and modeled with a multivariate approach.