

Bakken Formation - Living the Boom

Kathleen G. Neset¹

¹NESET Consulting Service

Abstract

Early buildout of the Bakken and Three Forks formation with the development of horizontal drilling and fracture stimulation was exciting and crazy during the late 2000's to about 2016. This explosion of activity came following the earlier attempt in the late 1990's to drill the Bakken Formation horizontally in the shale - drilling of the "Bakken Fairway". Although the approach and integration of horizontal techniques did not prove to be technically or economically successful it was this first effort that led to the successful development of the Middle Bakken/Three Forks drilling that we know today. Just how this progression of technologies and work progressed was interesting and chaotic during the boom of the Early Bakken Success. Technologically, a firestorm of advances was being made. These advances were downhole, at the surface, and in the office. Downhole technologies changed with the advent of newer and incredibly technical equipment including updates to bottom hole directional tools, survey tools, drill bits, mud systems and all aspects of the drilling process. Although the geology of these formations would always stay intact, our understanding of the complexity of the rock lead to better placement of laterals and newer techniques to exploit this resource. On the surface, our drilling rigs underwent substantial changes - changes that had never been seen to this degree in the past. The onset of walking and skid rigs added a capability that brought us to the eco-pad concept and the ability to truly build into and process the efficiencies of the horizontal drilling technology and the fracture stimulation. We had finally gained the magic method to make the shale revolution successful - and to keep the American Oil and Gas Industry a global leader in oil and gas production. Let's take a look at what it was like to live through this revolution from vertical drilling to the world class Bakken of 2023!