

Drilling and Completion Fluids Design for Horizontal Well Drilling – Case History from Raudhatein Field

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ABSTRACT

This paper describes the performance of customized drilling fluids in a horizontal well as compared to standard drilling fluids used in offset wells. A comprehensive engineered approach to the challenges of drilling horizontal wells using a novel bridging technology to deliver improved wellbore stability and reduced non-productive time (NPT) related to losses, stuck pipe, etc. This paper also describes how the completions fluids minimized reservoir damage and utilized Mesophase technology to remediate near-wellbore damage and improve reservoir producibility. The lessons learned on well RA-492 were incorporated in drilling future wells.

The customized drilling and completions fluids system was designed for different intervals, taking the following objectives in consideration: Improved hole stability, adequate inhibition, enhanced hole-cleaning efficiency, minimized risk of stuck pipe, minimized induced losses to formation, minimal damage to reservoir section as well as near-wellbore damage remediation.