Norway: O₅₅-E-T₉₀₁₂₂₀ LT delivers excellent fluid loss control in challenging deepwater well

The Paratherm®* HTHP system with the O₅₅-E-T₉₀₁₂₂₀ HT* additive demonstrated its technical benefits by helping achieve good drilling performance, including superior fluid loss control and hole stability.

Well Information
Location ......................................................................................................................................................................................................................... Norwegian North Sea
Sections ........................................................................................................................................................................................................................................ 12 ¼ in and 8 ½ in reservoir
Depth ........................................................................................................................................................................................................................................ 12 ¼ in: 2859 – 3470 m (9380-11,385 ft) MD
........................................................................................................................................................................................................................................ 8 ½ in: 3470-3715 m (11,385 – 12,188 ft) MD
Bottomhole temperature ........................................................................................................................................................................................................................................ 125° C (257° F)
Water depth ........................................................................................................................................................................................................................................ 4413 ft (1345m)

The Situation
The operator requested a fluid suitable to deliver maximum performance for its deepwater exploratory well. The challenging well carried potential risks associated with gas influx, narrow operational window, downhole losses, and hole stability issues.

The Solution
Based on the experience of M-I SWACO in the North-Sea, a paraffin-based Paratherm HTHP low-viscosity system was selected to drill the well. The characteristics of the Paratherm HTHP system, including a low-viscosity profile, excellent hole cleaning capability, low equivalent circulating density (ECD) values, and high resistance to contaminants made it an ideal selection for this challenging exploration well. For this system, the standard Versatrol HT additive was substituted with the One-Trol HT fluid-loss control agent to achieve superior HTHP filtration control with minimum viscosity impact. This is especially important at the lower temperatures of deepwater environment. One-Trol HT also improves overall emulsification and thermal stability of the drilling fluid.

The Results
The One-Trol HT fluid loss additive proved to be a successful solution under all drilling conditions. The HTHP fluid loss control, on both paper and ceramic discs, were controlled easily under given company specifications.

The well was successfully drilled, and all client objectives achieved. The rates of penetration (ROP) were as expected and the well was drilled with no fluids-related non-productive time (NPT). The hole condition remained excellent throughout the drilling operation.
The Details

Typical concentrations range from 18 – 30 kg/m³ with occasional daily additions in the range from 1.0 – 3.5 kg/m³.

Questions? We’ll be glad to answer them.

If you’d like to know more about the One-Trol HT additive and how it’s performing for our other clients, please call an M-I SWACO office near you.