DeepDrill® System Offers Innovative Alternative to Synthetics on Critical GoM Wells

Gulf of Mexico

**Challenge**
Find a water-based drilling fluid capable of achieving the same performance as a traditional synthetic fluid

**Solution**
DeepDrill water-based drilling fluid system

**Results**
Successful wells in three different regions of the Gulf of Mexico – Green Canyon, Ewing Bank, and High Island

Achieved same results as SBM with 43% lower cost in Gulf of Mexico wells

Operational necessity and changing regulatory standards have required operators to search for new options to traditional synthetic-based drilling fluids (SBM) in the Gulf of Mexico. The industry’s mission is to find environmentally appropriate drilling fluids that satisfy performance criteria including drilling rates, lubricity, wellbore inhibition and production zone protection. The DeepDrill water-based drilling fluid system is the answer to meet these specific goals. The company’s continued development of the system is an effort to overcome two primary shortcomings of synthetics: tightening standards for discharge of fluids and cuttings into federal offshore waters and the heightened potential for expensive bouts with lost returns.

The DeepDrill system achieves wellbore stabilization via the incorporation of methyl glucoside with chemically active polyglycerols containing hydroxyl groups that attach to the clay/shale surfaces, thus impeding water movement into the shale under downhole conditions. These complex polyols represent a step beyond traditional glycol drilling fluids chemistry. Additionally, the system also exhibits tolerance to common drilling contaminants such as salt, anhydrite and water flows and its inherent characteristics make it a viable choice for drilling depleted sands as well as sub-salt environments.

Successful wells in Green Canyon, the Ewing Bank, and High Island are giving strength to the growing tide of success for the DeepDrill system. Results achieved at Ewing Bank, where ten wells have employed the system for drilling the 8-in. production interval were equal to SBM in performance metrics, however, at a lower cost burden as the DeepDrill system came in at 43% lower on the final mud bill.