

Background

An offshore operator requested a demonstration of how the RheGuard* flat rheology drilling fluid system from M-I SWACO, a Schlumberger company, could optimize operations and ensure successful logging of the reservoir. The operator planned to drill from 9,000- to 31,000-ft [2,743- to 9,449-m] MD with a final inclination of 71° in the reservoir.

Technology

RheGuard flat rheology drilling fluid system

Flat Rheology Fluid System Improves Operational Efficiency in Green Canyon Wells

RheGuard system optimizes ECD, reduces mud loss, and enhances ROP while ensuring zonal isolation with improved stability at TD



The Green Canyon well was drilled to 31,000 ft [9,449 m] in 32 days vs. the planned 62 days; during the first 22-in interval, there was an average ROP of 215 ft/h [65 m/h], making it possible to drill 5,158 ft [1,572 m] in 24 h with excellent hole cleaning. A key was the ability to run casing without losses, achieving full returns during each cement job. The rheological profile enabled accurate fill volumes while pulling pipe. After the logging campaign was complete and the fluid was static at 260 degF [127 degC] for 7 days, the rheology profile and emulsion were completely stable, indicating no sag or change in properties in the 14½-in open hole at a 71° angle.