

Background

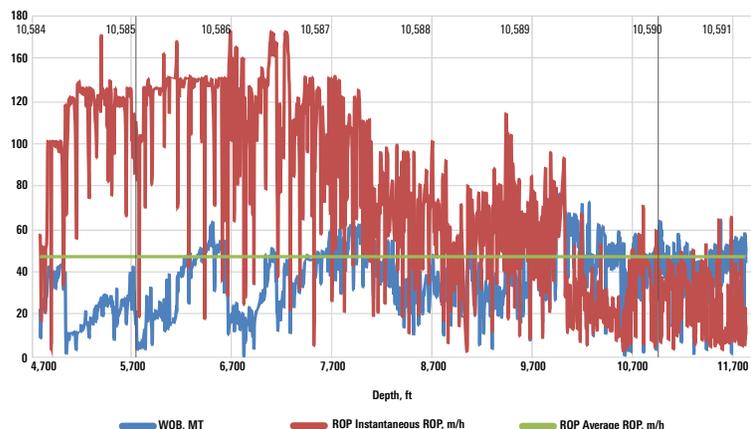
An operator was looking at the possibility of drilling a vertical 17½-in section to TD without using oil-based mud (OBM), which would save the operator approximately USD 1 million in waste costs. The proposed solution was a high-performance water-based (WBM) system, and the main KPI was to drill the section and cement the casing without any NPT due to fluid-related issues. The section included a thick shale formation, increasing the risk of not drilling with an OBM. As the operator accepted the use of a high-performance WBM, M-I SWACO recommended the HydraGlyde Optima* flexible high-performance water-based drilling fluid system. The main criteria for choosing the system over a standard WBM was based on accretion test results on the well-specific shale showing a reduction from 33% to 18%.

Technology

HydraGlyde Optima flexible high-performance water-based drilling fluid system

Flexible Water-Based Drilling Fluid Keeps Shale Inhibition Properties Stable

Fluid system maintains hole stability for 19 days



The 7,000-ft [2,134-m] section was successfully drilled with two bit runs during 13 days to section TD. The fluid's inhibition properties held stable throughout the operation and ensured the planned ROP and success of the section. No bit balling or other downhole problems were encountered during drilling or tripping. The fluid system provided hole stability during the 6-day casing run, making the following cement job a success. The length of the casing run was due to casing tong restrictions, and led to a longer openhole exposure than planned. The HydraGlyde Optima system secured the hole integrity, enabling the casing to be run and cemented properly.