OVERVIEW

An operator in Norway had been successfully using a Baroid conventional invert emulsion fluid system for deviated drilling operations in the 17-1/2-inch and 12-1/4-inch sections for a field development in the Haltenbanken area. To ensure wellbore integrity while drilling the challenging claystone Tare and Tang formations, DURATONE® E filtration control agent, a modified lignitic product, had been successfully used as the primary filtration control additive to maintain the fluid loss level within the desired specification range. An operational drawback was that large quantities of the filtration control additive had to be mixed at the hopper, demanding significant manual handling and lengthy man hours.

The customer challenged Baroid to advance a solution to reduce the amount of filtration control additive needed to maintain wellbore integrity in addition to reducing manual handling operations and dust generation.

BDF™-610 FILTRATION CONTROL ADDITIVE BRINGS SUCCESS

Baroid proposed using its new BDF™-610 liquid filtration control additive to minimize high-pressure/high-temperature (HPHT) filtrate of the invert emulsion fluid, thus helping maintain wellbore integrity in the claystone formations. A significant advantage to the BDF-610 additive is its high solubility and low impact on fluid viscosity while meeting North Sea environmental requirements. Additionally, the BDF-610 additive’s liquid form and supply in Industry Classification Benchmarks (ICB) removes dust hazards, reduces manual handling, and improves the working environment for the rig crew.

The BDF-610 additive was added directly to the pit, allowing for more efficient use of the mix hopper. HPHT fluid loss values were easily and effectively maintained below target while drilling. Stable wellbore and quick tripping operations were evidenced. No losses were incurred while drilling, running casing, or cementing.

COST-EFFICIENT ADDITIVE IMPROVES HSE AND WELL PERFORMANCE

Using the BDF-610 additive kept the HPHT properties within the customer’s specified target range and allowed a reduction in the amount of the filtration control additive needed.

The BDF-610 additive saved 45 minutes of mixing time (liquid vs. dry powder product), and allowed for a successful delivery of a liquid filtration control additive that helps improve the customer’s health, safety, and environmental (HSE) performance, along with the overall well performance.

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