

Extreme-Pressure Lubricant Saves Operator 7–10 Days of Rig Time and £75,000–100,000 in Drilling Fluids

BARO-LUBE NS™ LUBRICANT LOWERS TORQUE BY 27 PERCENT TO STOP HIGH TORQUE, DRILLING RESUMES IN RESERVOIR

NORTH SEA, UNITED KINGDOM

CHALLENGE

- » A solution was needed to reduce excessive torque in a reservoir, so that the operator could avoid a costly sidetrack operation and resume drilling to total depth

SOLUTION

- » A 5 percent by-volume concentration of BARO-LUBE NS™ lubricant was recommended to be added to the active drilling fluid system in order to reduce the drilling operation's high torque rate

RESULT

- » BARO-LUBE NS lubricant lowered the high torque rate by 27 percent, enabling the operator to resume drilling and to reach total depth with no further issues

OVERVIEW

While drilling the reservoir section of a UK North Sea well at a true vertical depth (TVD) of 12,607 ft [a measured depth (MD) of 22,910 ft], the operator encountered excessive torque (22,000 ft-lb), which halted drilling completely. High torque values had also been observed on offset wells, specifically in the reservoir.

CHALLENGE

Changing the bottomhole assembly (BHA) was not an option, and failure to reduce torque would mean conducting a costly sidetrack instead of reaching total depth in the existing wellbore.

SOLUTION

After testing various lubricants in the lab, the Baroid team determined that BARO-LUBE NS™ lubricant was the best option to reduce torque under these conditions. It is an extreme-pressure lubricant that lowers the steel/steel friction coefficient, and it carries the Gold environmental rating for UK operations.

RESULT

After a 5% by-volume concentration of BARO-LUBE NS lubricant was added to the system, the high torque rate decreased 27 percent to 16,000 ft-lb, allowing the rig to drill ahead to total depth.

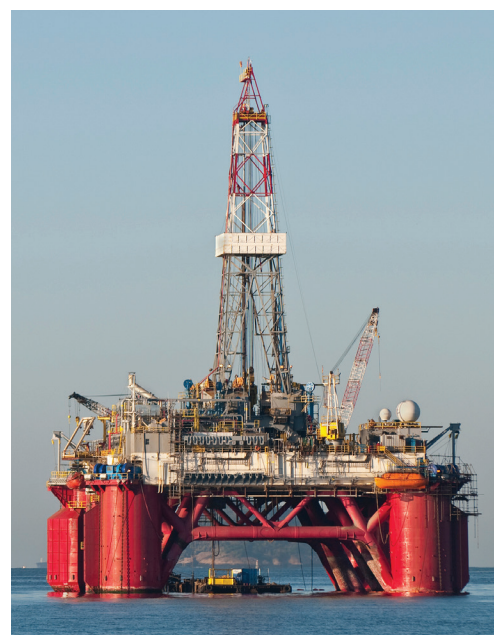
The BARO-LUBE NS lubricant treatment eliminated the need for a sidetrack, saving 7–10 days of rig time and associated costs. Had a sidetrack been required, the cost of drilling fluids alone would have been £75,000–100,000.

As a result of this success, the operator ordered that BAROLUBE NS lubricant be stocked on every future well drilled in this field – even on operations where Baroid would not be the primary fluids provider.

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