



## Drilling Fluids/Lubricants

# STICK-LESS 20<sup>®</sup> Lubricant Beads Reduce Drag 85–90% and Enable Whipstock to Reach Target Depth

Location: Al Khalij Field, Offshore Qatar

### OPERATOR'S CHALLENGE

The operator attempted to run a whipstock in order to sidetrack a well with a new lateral in a carbonate reservoir. Despite several attempts, abnormally high torque and drag prevented the whipstock from reaching within 1,000 m of the setting depth.

CHALLENGE	SOLUTION	RESULT
After several failed attempts, the operator needed a solution for setting a whipstock inside a liner in order to drill a new lateral through a carbonate reservoir.	A viscosified pill containing a combination of chemical lubricant and STICK-LESS 20 <sup>®</sup> lubricant beads was spotted inside the liner to help overcome severe drag inside the liner.	The drag was reduced from 15,000 - 20,000 ft/lb to less than 2,000 ft/lb after the STICK-LESS 20 lubricant treatment, and the whipstock was successfully placed at the target depth.

### HALLIBURTON'S SOLUTION

Baroid technical personnel recommended a combination of chemical lubricant and STICKLESS-20<sup>®</sup> solid lubricant beads to help overcome the severe drag inside the liner. The following procedure was implemented.

The chemical lubricant was circulated around the cased section of the well, followed by a 30-m<sup>3</sup> viscosified pill containing STICK-LESS 20 lubricating beads. No overpull was observed while the assembly was pulled out of the hole. The next attempt to run the whipstock was successful, and it was set at the target depth.

STICK-LESS 20 lubricant comprises solid beads that function like tiny ball bearings in drilling fluids to reduce torque and drag. The beads are made of high-grade annealed glass to resist fracturing. They are chemically inert, and are stable to over 500°F (260°C). These beads have proven to be particularly beneficial in lubricating the bottomhole assembly (BHA), assisting in sliding operations, and improving the placement of liners and other tubulars.

### ECONOMIC VALUE CREATED

With the combination of a chemical lubricant and STICK-LESS 20 beads, the operator was able to reach the desired setting depth in one run with a significant reduction in drag. The earlier drag values of 15,000–20,000 ft/lb were reduced to less than 2,000 ft/lb. At least two days of rig time were eliminated, with an estimated value of US\$500,000.