

X-Prima™ Squeeze Eliminates Lost Circulation in Pre-salt Exploratory Well

Florim Field, Santos Basin, Offshore Brazil

Challenge

Losses in calcium carbonate reservoir below the salt zone

Solution

Newpark's proprietary X-Prima high fluid loss squeeze

Results

Loss zone sealed

The Florim field is located 128 miles (206 km) off the coast of Rio de Janeiro in the Santos basin at a water depth of 6,592 ft (2,009 m). Lost circulation was believed to occur in the microbial calcium carbonate reservoir below the salt. To overcome the issue of losses, the operator planned to drill the well in five intervals to a total depth of 19,698 ft (6,004 m). The 8½-in. interval was drilled with a synthetic-based drilling fluid. The reservoir was drilled down to the first target and experienced severe losses, making it a challenge to successfully run the wireline logs. Normal operations were to condition the openhole prior to running wireline logs. In this case, an X-Prima pill would be spotted in the loss zone before tripping.

Determination of the loss zone was defined and X-Prima squeeze was to be used conventionally as a dewatering squeeze to remediate losses. All relevant equipment was lined up so that annular pressures could be monitored from the choke. The X-Prima squeeze was pumped and spotted to within several barrels of the bit. The BOP was then closed as the lost circulation material was bullheaded into the formation. During this time, a series of hesitation injections allowed the squeeze material to dewater and fully deposit into the thief zone.

X-Prima dewatering squeeze effectively sealed the loss zone, enabling a successful wireline log to be run without drag or sticking incidents during operations. The success of the dewatering squeeze saved the customer valuable time and resources.