



INNOVERT® OBM System Remains Stable During Seven-Day Logging Operation

SYSTEM ELIMINATES NEED FOR MUD CONDITIONING TRIP, SAVING TIME AND MONEY

MARJAN FIELD, OFFSHORE SAUDI ARABIA

CHALLENGE

Static conditions during a seven-day logging operation posed risks of barite sag and possible well control issues

SOLUTION

Clay-free INNOVERT® oil-based mud system, which has delivered more than 10 years of proven sag-resistant performance

RESULTS

- » Logging operation was completed with no interruption for a mud conditioning trip
- » When the active system was circulated after logging tools were retrieved, the mud weight remained consistent – no sag detected
- » Operator saved at least one day of rig time, valued at USD 120,000

OVERVIEW

The operator planned extensive logging operations in an exploration well in the Marjan field, including retrieving samples to evaluate the reservoir in the 8-1/2-inch section, which has a 50° maximum deviation. The logging program was expected to take seven days, and there were concerns that the long static period would lead to barite sag and well control issues in the Ratawi and Arab formations.

The 8-1/2-inch pilot hole had been drilled using a potassium chloride (KCl) polymer mud system. Tight hole and sticky wellbore conditions had made it very difficult to get logging tools to bottom.

INNOVERT® OBM SYSTEM SELECTED FOR PROVEN SAG RESISTANCE

Based on its long track record for effective sag resistance, the clay-free INNOVERT® oil-based mud (OBM) system was proposed as the optimal fluid for this operation. INNOVERT fluid contains no organophilic materials, and it exhibits a unique gel structure that provides outstanding suspension with a rapid gel-to-flow transition when circulation resumes.

When planning the operation, the Baroid team analyzed offset data and prepared a risk-mitigation plan. The 8-1/2-inch sidetrack section was successfully drilled from 7,000 feet (2,134 meters) to 10,120 feet (3,085 meters) by using an 85-PCF (11.4-ppg) INNOVERT fluid.

Pressure and formation samples were obtained with a modular dynamics testing (MDT) system over a period of nearly seven days. After the logging operations were completed, the operator was able to trip to bottom with no issues.

The robust INNOVERT fluid gel structure helped prevent sag during this long static period. The mud system was circulated and conditioned for 3.5 hours, with no variations in mud weight during this circulation. Daily communications with field engineers ensured that the INNOVERT system was optimized for specific wellbore conditions.

The logging operation was completed according to plan without the need to stop for a conditioning trip, thus saving approximately USD 120,000.

The benefits of the clay-free INNOVERT system and its stable performance were clearly established as compared to conventional OBM systems. INNOVERT fluid will be used on future Arabian Gulf operations, including on an upcoming batch drilling project.

**INNOVERT® SYSTEM
ELIMINATES
CONDITIONING TRIP,
SAVING USD 120K**

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