



MATURE FIELDS



UNCONVENTIONALS

# XLR-RATE™ ROP Enhancer Saves Two Days of Rig Time and US\$250,000

## SOLUTION HELPS PREVENT BIT BALLING IN REACTIVE CLAY, DISPLACING COMPETITOR

CASANARE, COLOMBIA

### CHALLENGE

The operator needed to overcome slow penetration rates due to the highly reactive Guayabo clay formation.

### SOLUTION

The Baroid team recommended adding XLR-RATE™ ROP enhancer to minimize bit balling and clay accretion on the drillstring.

### RESULTS

The reactive clay formation was drilled successfully, and the well was finished two days ahead of plan.

### OVERVIEW

On a well where the drilling fluid was provided by a competitor, the operator experienced a sudden reduction in rate of penetration (ROP) while drilling the highly reactive Guayabo clay formation.

### CHALLENGE

Bit balling and accretion on the bottomhole assembly (BHA) caused delays in the operation. The operator challenged the Halliburton Baroid team to come up with a solution that would help avoid these slow penetration rates that were due to the highly reactive Guayabo clay formation.

### SOLUTION

Based on lab testing with XLR-RATE™ ROP enhancer, the Baroid team recommended a polymer fluid that had been used successfully on offset wells. The XLR-RATE additive would reduce bit balling and clay accretion on the BHA, and the operator was also advised to maintain strict control of the low gravity solids (LGS) content of the fluid while drilling.

### RESULTS

The recommended mud system helped the operator achieve ROPs that met customer expectations throughout the 12¼-in. interval. The well reached total depth two days ahead of plan, for a savings of US\$250,000.

As a result, the operator awarded a year-long contract for services to Baroid, replacing the competitor on future wells.

### MUD SYSTEM FORMULATION

Products	Concentration (lb/bbl)
CLAYSEAL® PLUS	2.0–3.0
CLAY GRABBER®	1.0–1.5
LIME (CAL) ALKALINITY	0.3–0.5
POLYAC PLUS™	0.75–1.5
BARAZAN® D PLUS	0.75–1.0
XLR-RATE™	1.5–2.0
CAUSTIC SODA	0.1–2.0

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