



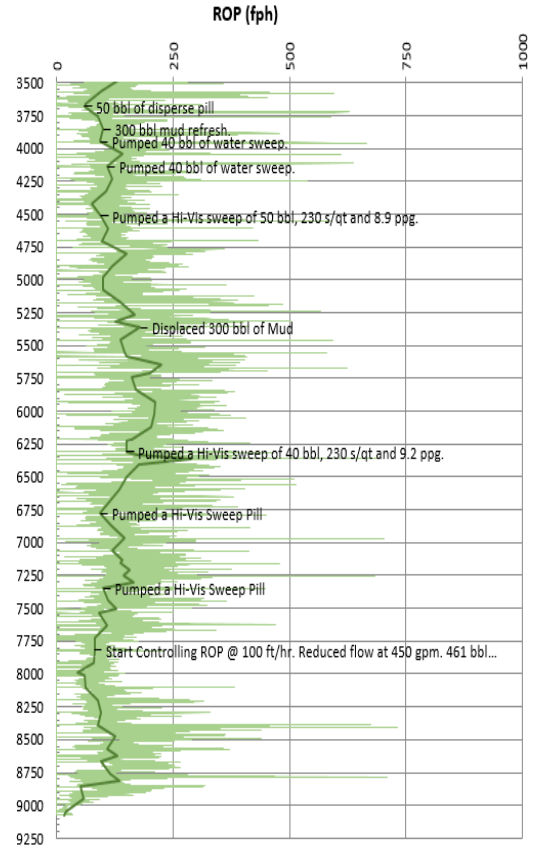
# Operator Puts Well into Production One Day Ahead of Plan

**GEO-PILOT® DURO RSS HELPS NAVIGATE STEEP INCLINATIONS AND CURVES WHILE MAINTAINING CONSISTENT ROP**

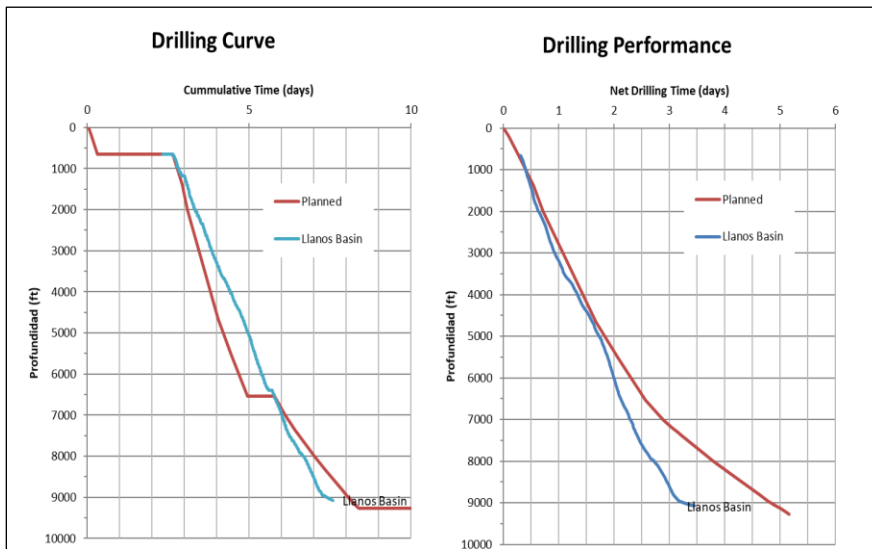
LLANOS ORIENTALES BASIN, COLOMBIA

## OVERVIEW

An operator wanted to reduce directional drilling time in Colombia’s Llanos Orientales basin formations, with the challenge of holding a 34° tangent in the face of approximately -6°/100 ft. Halliburton Sperry Drilling, along with the active collaborative participation of Halliburton Baroid, successfully drilled a total of 8,419 ft in an 8¾-in. hole section of slant well. This was accomplished using the Geo-Pilot® Duro 7600 rotary steerable system (RSS)—from casing shoe to total depth (TD)—instead of a mud motor to avoid large sliding times. Only one run was required, taking 75.33 hrs with a total effective rate of penetration (ROP) of 112 ft/hr. The RSS enabled a build from vertical to 34° inclination, with a maximum separation from plan of 19 ft at target depth. An average dogleg severity of 1.14°/100 ft was also maintained along the tangent in a sequence of layers with strong dropping and turning trends. Thanks to Baroid, the drilling conditions were greatly improved by pumping a series of pills to avoid bit balling due to reactive clays and performing fluid refresh, when needed, in order to reduce geochemical effects on the ROP. This engineered solution accomplished efficient weight transfers to the bit, requiring less weight on bit, and delivering better and more consistent ROP, maximizing asset value for the operator.



*Shows consistent ROP maintained for entire run by pumping high-viscosity pills downhole and refreshing fluids, etc.*



*Shows Llanos Basin actual drilling time outperformed plan expectations.*

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