



# Rotary Steerable System and Industry's Closest At-Bit Reamer Save Operator 48 Hours and USD 2 Million

## ENGINEERED DRILLING SOLUTION, GEO-PILOT® DIRIGO™ RSS WITH TD REAM® TOOL, ELIMINATES EXTRA RATHOLE RUN

GULF OF MEXICO

### CHALLENGES

- » Reduce well time by reaming a deepwater rathole that contained a significant loss zone in the same run
- » Drill a difficult well path by dropping 2°/100 feet (2°/30 meters) from an angle of 63° to 35° in a deviated hole in a deepwater well

### SOLUTION

Deployed engineered drilling solution, the Geo-Pilot® Dirigo™ RSS matched with the TDReam™ tool – the industry's closest at-bit reamer [3 feet (0.91 meter) behind the bit]

### RESULT

Eliminated need for extra rathole opener run, saving operator approximately 48 hours and USD 2 million of deepwater rig time

### OVERVIEW

While drilling on a deepwater rig in the Gulf of Mexico with a water depth of about 8,000 feet (2,438 meters), an operator encountered significant losses in a weak zone due to depleted sands near the bottom of this section of the well. To continue drilling the well, a liner needed to be set to cover up the depleted sand at a total depth (TD) of 17,295 feet (5,272 meters). This necessitated the opening of a 135-foot (41-meter) rathole, or of the wellbore section that is not enlarged by a conventional reamer placed farther up in the bottomhole assembly, from 12¼ inches to 14 inches (311 mm to 356 mm) at TD in order to set the liner as close to the bottom as possible. The 7600 Geo-Pilot® Dirigo™ rotary steerable system (RSS), along with a proprietary at-bit reamer – the industry's closest and only at-bit reamer (the TDReam™ tool) that can simultaneously reach TD and enlarge the rathole to 3 feet (0.91 meter) from the bottom in the same run. This engineered drilling solution reduced the well time for the operator by minimizing rig downtime and avoiding a rathole opening run.

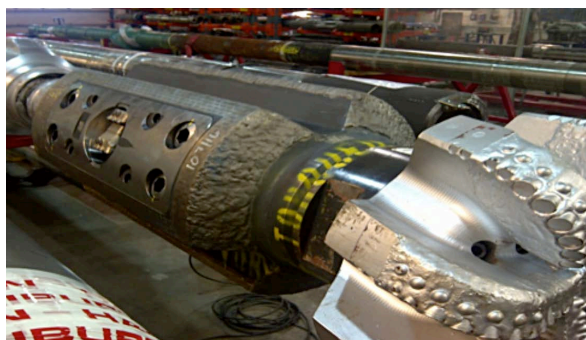


### WELLBORE COMPLEXITY POSES CHALLENGES TO ENLARGE RATHOLE AND REACH TOTAL DEPTH IN SINGLE RUN

Drilling a deepwater well that deviates from 63° to 35° embodies its own unique set of challenges to drill and steer the well. Adding an at-bit reamer and positioning it 3 feet (0.91 meter) behind the bit only enhances this complexity. The closest that any other service company had placed a reamer to the bit was 15–20 feet (4.6–6.1 meters), which is not close enough to the bit to open the rathole in this loss zone and allow the liner to be set on bottom on the same run. Furthermore, traditional methods would require the operator to pull out of hole and to run a dedicated rathole opening run in order to complete the task of setting the liner on bottom.

### **GEO-PILOT® DIRIGO™ RSS WITH TDREAM™ TOOL, INDUSTRY'S CLOSEST AT-BIT REAMER, CHOSEN TO ELIMINATE RATHOLE OPENING RUNS**

After listening and collaborating with the operator, Sperry Drilling deployed the Geo-Pilot Dirigo RSS matched with the TDReam tool from Halliburton Drill Bits and Services, which also contained a 14½-inch underreamer that was placed 135 feet (41 meters) behind the bit, with a rathole of 135 feet (41 meters). Up until this operation, most at-bit reamers were used in a tangent section due to steerability issues. In this deviated wellbore, the TDReam tool and point-the-bit Geo-Pilot RSS demonstrated great steerability by dropping 2°/100 feet (2°/30 meters) from 60° to 35° – a difficult task to achieve.



*The 7600 Geo-Pilot® Dirigo™ RSS with the at-bit TDReam™ tool eliminate an extra rathole run, saving the operator approximately USD 2 million.*

HAL121834

### **RSS WITH AT-BIT REAMER SUCCESSFULLY ENLARGES RATHOLE IN A SINGLE RUN, REDUCING WELL TIME AND MAXIMIZING OPERATOR'S ASSET VALUE**

Once section TD was reached at 17,295 feet (5,272 meters), the bit was then picked up above the rathole to activate the TDReam tool to enlarge the last 135 feet (41 meters) of the well to 14 inches. The operator was able to successfully set a 10¾-inch liner on bottom after the rathole was opened. The precise steerability and reaming capabilities of the Geo-Pilot RSS and TDReam tool proved its worth to the operator. This innovative Sperry Drilling and Halliburton Drill Bits and Services solution eliminated a dedicated trip to enlarge the rathole, and reduced the well time by saving approximately 48 hours of trip time, resulting in an estimated cost savings of USD 2 million – thus maximizing the value of the operator's deepwater asset.

[www.halliburton.com](http://www.halliburton.com)

Sales of Halliburton products and services will be in accord solely with the terms and conditions contained in the contract between Halliburton and the customer that is applicable to the sale.

H012605 9/17 © 2017 Halliburton. All Rights Reserved.

**HALLIBURTON**