

XR™ Reamer Integrated Drilling System — Record Run

Integrated Drilling System with XR800 Hole Enlargement Tool Enlarges 2863.7m of Hole in Record Malaysia Run

Overview

Halliburton’s customer in Malaysia planned to drill a long directional hole in 8½ x 9¼ in. well sections simultaneously across depleted formation pressure in the field, but this posed the challenges of equivalent circulating density (ECD) management, hole cleaning, and hole quality. To assist with these challenges, Halliburton Drill Bits and Services designed a solution with an Integrated Drilling System that combined the directional drilling with hole-enlargement capabilities. This engineered design used the XR800 Reamer hole enlargement tool with FXE55R drill bit. Simultaneous drilling with hole enlargement produced a record hole of more than 2864 .7 m in a single run.

The XR™ Reamer hole enlargement tool provides simultaneous hole enlargement with an on-demand activation or deactivation system with full flow circulation while tipping out. The tool minimizes downhole vibration and produces a reliable performance in challenging environments.



XR™ Reamer Hole Enlargement Tool

CHALLENGE	SOLUTION	RESULT
The simultaneously drilling of long directional hole in 8½ x 9¼ in. well sections across depleted formation pressure creates challenges with ECD management, hole quality, and cleaning. The customer needed an integrated system to perform directional drilling and hole enlargements.	Halliburton Drill Bits and Services combined an FXE55R Fixed Cutter Bit with the XR800 Reamer hole enlargement tool. This run was combined with the Geo-Pilot® Dirigo rotary steerable system from Sperry Drilling services for reaming while drilling. A system using SPARTA™ Rock Mechanic modeling with MaxBHA™ and PBR™ (Precise Bit Reamer) simulated interactions between the bit, reamer, BHA, and formation during operations.	Halliburton’s Integrated Drilling System was successful. The system simultaneously drilled and enlarged the hole in a field record of 2863.7m in a single run with minimal drilling string vibrations, and excellent hole quality and ROP. The eliminated extra trips saved the customer approximately \$500,000.