

## Endura<sup>®</sup> Dual-String Section Mill

Provides Rock-to-Rock Cement Barrier in Offshore Well, Saves 3 Days' Rigtime, \$250,000 USD

### Objectives

- Efficiently section mill a 170-ft window in 9-5/8 in. inner casing and a 134-ft window in 13-3/8 in. outer casing.
- Establish a permanent rock-to-rock barrier adhering to industry plug and abandonment (P&A) regulations.
- Minimize milling trips, reduce OPEX, and save overall rigtime.

### Our Approach

- Weatherford experts recommended the Endura dual-string section mill with next-generation milling-blade technology to enhance milling performance.
- A 170-ft (52-m) window was milled in the 9-5/8 in. casing using conventional section milling technology to gain access to the 13-3/8 in. casing.
- The Endura mill dressed with cut-out blades was deployed to target depth and performed a successful cut-out in the 13-3/8 in. casing, creating a 20-ft (6-m) window.
- Cut-out blades were replaced with milling blades and the remainder of the window was milled, removing 114 ft (35 m) of 13-3/8 in. casing through the 9-5/8 in. casing in a single trip.

### Value to Customer

- Deployment of the Endura dual-string section mill saved the operator two additional milling runs and three days of associated rigtime, equating to approximately \$250,000 USD in cost savings as compared to previous operations and associated costs.
- The milling of the window allowed the operator to position a rock-to-rock cement barrier ahead of their planned days and within their P&A regulations, providing certainty regarding the prevention of fluid migration between hydrocarbon and non-hydrocarbon bearing zones. This approach increased interval access while reducing risks associated with poor annular conditioning, such as cement contamination and defects like channeling and formation of micro-annuli.
- Designed to drift through 9-5/8 in. casing in a retracted state and expand to mill the 13-3/8 in. outer casing, the Endura dual-string section mill eliminated all rig time associated with casing milling the entire 9-5/8 in. casing cemented to surface.



The Endura dual-string section mill creates a stable, permanent, and verifiable rock-to-rock barrier, cutting the P&A rig time in half. The barrier seals across the borehole by milling both inner and outer strings and mimics natural bedding.

#### LOCATION

Offshore, UAE, Abu Dhabi

#### WELL TYPE

Development, slot recovery

#### HOLE SIZE

8-1/2 to 17-1/2 in.

#### CASING SIZE

9-5/8 and 13-3/8 in.

#### DEPTH

3,630 to 3,764 ft (1,106 to 1,147 m)

#### PRODUCTS/SERVICES

- Endura dual-string section mill

