



# Weatherford®

## REAL RESULTS

### Shallow-Angle QuickCut™ Casing Exit System Minimizes Dogleg Severity at the Window to Enable Optimal ESP Placement

#### Objectives

- Mill a window in 9 5/8-in. casing to maximize window length and minimize dogleg severity at the casing exit for electric submersible pump (ESP) installation in the lateral.
- Maximize operational efficiency by creating the sidetrack in a single trip.
- Minimize long-term operating costs of the downhole completion system.

#### Results

- Weatherford's shallow-angle *QuickCut* casing exit system was deployed, and the window was milled at a depth of 5,400 ft (1,646 m) in a single trip.
- The 2.0° angle of the whipstock resulted in a minimal 4.4° dogleg severity at the casing exit window.
- The reduced dogleg severity and deeper well depth at the casing exit facilitated the installation of a larger ESP for increased pump-intake pressures and production capabilities.

#### Value to Client

- Using the shallow-angle *QuickCut* casing exit system enabled the joint operators to drill down to 6,400 ft (1,951 m) and install an ESP at the deeper depth, resulting in a higher pump-intake pressure of 1,074 psi (7.40 MPa) and an improved reservoir recovery factor when compared to placement at the original well depth of 5,300 ft (1,615 m).
- The single-trip, casing exit operation decreased rig time and costs while also reducing operational and safety risks.
- Achieving the deeper depth provided the operators with the ability to install a larger ESP, optimizing well downhole parameters and ultimately increasing production.
- The deeper ESP placement depth and increased pump-intake pressure will result in longer life for the ESP, which translates to more value gained from the well.



Workers examine the shallow-angle *QuickCut* casing exit system as it is readied for the well.

The shallow-angle *QuickCut* casing exit system provides an extended-length window milling system that produces the same high-performance milling and gauge retention as the standard *QuickCut* system in a single-trip design. The additional window length accommodates new technologies such as rotary-steerable systems and expandable and inflatable accessories.



**Location**  
Kuwait

**Well Type**  
Onshore horizontal

**Setting Depths**

- Exit Window: 5,400 ft (1,646 m)
- ESP: 6,400 ft (1,951 m)

**Casing Size**  
9-5/8 in.

**Products/Services**  
Shallow-angle *QuickCut* casing exit system

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