Weatherford®

REAL RESULTS

ESS® Expandable Sand Screen Achieves High-Rate, Sand-Free Production in Challenging Deepwater Environment

Objectives

- Drill an appraisal well to evaluate reserves potential through solids-free production in an unconsolidated sandstone formation featuring highly bi-modal particle size distribution with a high-fines tail.
- Install an integral off-bottom 7-in. liner and sandface completion to maximize borehole size through the reservoir. Zonal isolation barriers would have to be incorporated in the completion to eliminate the need for cementing the liner.
- Employ a tie-back hanger packer capable of withstanding annular pressures between the drillstring test (DST) tools above and the live annulus below.
- Incorporate a mechanical seal to the upper DST tool string to eliminate the need for a mechanical-set test packer.

Results

- An *ESS* system was employed to provide sand control, anchored below an EXR hanger packer with a high differential-pressure rating. The system was successfully installed and expanded in a single trip.
- Tandem, 20-ft slimline, discontinuous-rib, 7-in. ACP™ annulus casing packers were used in between to provide zonal isolation. These packers were successfully inflated in a subsequent trip with an acid-wash tool. A sealbore extension was also accommodated above the *ACP* packers to isolate the annulus for a DST tool string.
- The drill-in-fluid design and solids-control system were tailored so that mud could be conditioned during drilling.

Client
Shell Egypt

Location
Ultra-deepwater Mediterranean

Well Type
Gas producer

Hole Size
8-1/2 in.

Hole Angle
Vertical

Setting Depth
±12,000 ft (3,658 m)

Hole Length
1,001 ft (305 m)

Products/Services
- *ESS* expandable sand screen system
- *ACP* packers

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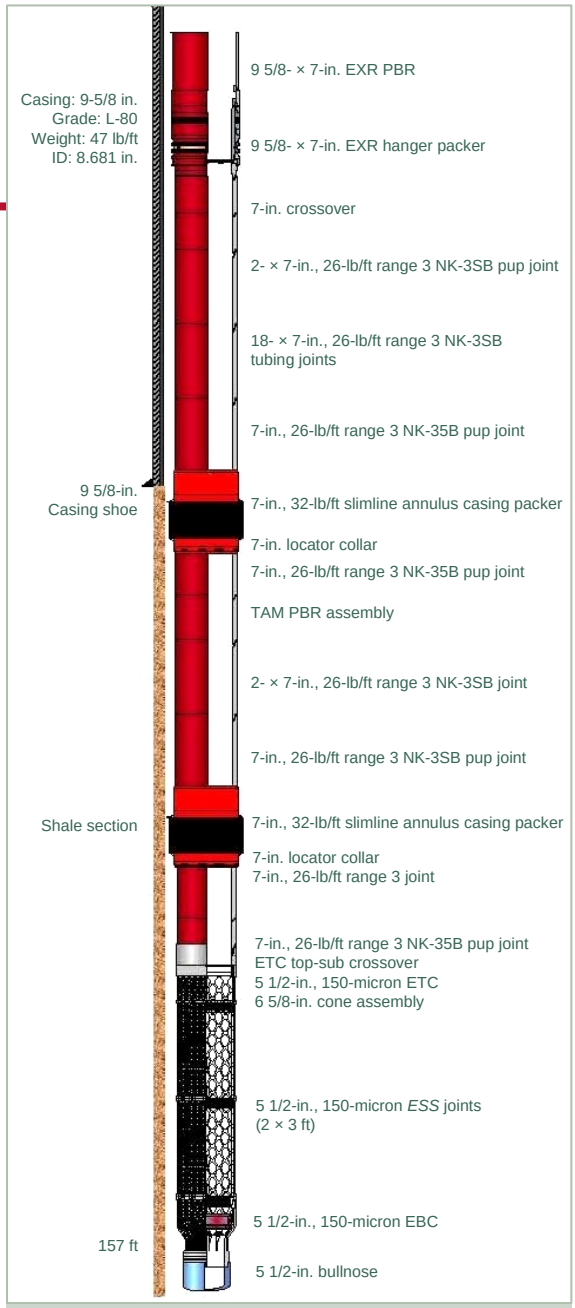
Value to Client

- Using an ESS® system avoided the high costs and operational complexity of open-hole gravel-packing in a deepwater environment and helped to achieve a high-rate, sand-free production with minimal completion skin.
- Conditioning mud during drilling greatly reduced cleanup circulating times and thus rig costs.
- Additional time and rig-cost savings were achieved by using a single-trip integral liner and sandface completion that also eliminated the need to cement the 7-in. liner.
- Eliminating the need for a mechanical-set test packer simplified DST string deployment, increasing reliability and resulting in additional cost savings.



The *ESS* system was anchored below an EXR hanger packer and was successfully installed and expanded in a single trip. Weatherford's *ESS* system is made entirely of corrosion-resistant alloy. It helps prevent sand production, provides borehole support, and combats aggressive corrosion conditions.

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