MetalSkin® Monobore Openhole Liner Covers High-Pressure Zone, Enhances Production Options in a Challenging Deepwater Gulf of Mexico Well

Objectives

- Set a liner in the event that the operator encountered high-pressure sands.
- Isolate the high-pressure interval without reducing wellbore diameter and compromising completion design.

Our Approach

- Weatherford specialists met with the operator to discuss contingency plans for isolating pressure transitions between normally pressured sands that might be encountered while drilling through zones depleted by years of production. The operator needed to be able to seal off these zones without reducing the hole diameter, which would compromise their ability to reach a deeper target and set an optimized completion.
- To isolate the pressure transitions behind liner without sacrificing hole diameter, the Weatherford experts recommended a MetalSkin liner tieback shoe as a contingency that would enable the operator to run a MetalSkin monobore openhole liner (MMOL) system if needed.
- A Weatherford crew mobilized with tools and expandable liner system to the well. There, they ran a 14 1/2-in. OD tieback shoe on the bottom of the 14-in. casing to act as a receptacle for the expandable liner.
- With the tieback shoe cemented in place, the operator drilled ahead for more than 3,000 ft (914 m) before encountering a pressured sand. The Weatherford crew installed the MetalSkin expandable liner to isolate the increased pressure. This enabled the operator to reduce the mud weight to continue drilling through other known depleted intervals.
- After running the expandable liner to target depth, the Weatherford crew cemented and expanded it into the tieback shoe, then ran a 12 1/8-in. drill-out/mill-out assembly to clean out and test the liner. The MetalSkin expandable liner enabled the operator to continue drilling without compromising the well's original basis of design to set an 11 3/4-in. conventional liner through the expanded 11 3/4-in. liner.

Value to Customer

- The MetalSkin monobore open-hole liner covered a hazardous high-pressure sand to enable continued drilling through other depleted zones intervals without sacrificing the 11 3/4–in. conventional liner.
- The MetalSkin monobore expandable open-hole liner system mitigated the telescoping effect of conventional well designs, which enabled the operator to complete the well as planned, without having to run a smaller production liner.
- By optimizing completion geometry, the MetalSkin monobore liner system helped the operator reach the deeper target objective and maximize the return on investment.

The MetalSkin monobore solid expandable openhole liner system can help operators to mitigate drilling hazards while maintaining hole size.

LOCATION
Deepwater Gulf of Mexico

WELL TYPE
Offshore oil producer

HOLE SIZE
14-3/4 in.

HOST CASING
14 in., 115 lb/ft, TN125HC

EXPANDABLE LINER DIAMETER
11.75-in. OD × 10.550-in. ID pre-expansion
13.44-in. OD × 12.352-in. ID post-expansion

POST-EXPANSION LINER LENGTH
3,160 ft (963 m)

POST-EXPANSION LINER DRIFT
12.125 in.

TOTAL DEPTH
14,500 ft (4,420 m)

PRODUCTS/SERVICES
- MetalSkin® monobore openhole liner system
- SurgeMaster® II multiple-opening diverter tool
- RipTide® RatHole Killer® under-reamer
- Weatherford premium tubular-running services
- Weatherford cementing products:
- Sub-Surface Release™ plugs
- Sub-Surface Release™ darts
- BA-type remote-control top-drive cement head
- Large-bore autofill float equipment