

Liner Wiper Plug Modifications Shorten Drillout Time to Save Three Hours of Valuable Rig Time

Objectives

- Improve drillout times for 7-in. liner wiper plug
- Drill 7-in. shoe track and 6 1/8-in. open hole in one run using a directional drilling assembly

Our Approach

- Weatherford liner systems experts met with the customer to discuss how to reduce the time required to drill the shoe track in an upcoming well. Following a detailed analysis of the process, the Weatherford team recognized that they could achieve a significant reduction in rig time through minor modifications to the liner wiper plug.
- The Weatherford manufacturing team developed an easy drill liner wiper plug (WLWP) prototype, which reduced aluminum content by 42%, and reduced weight by 6.57 lb (2.98 kg). An added fin improved wiping and extended the wiping range for 7-in. casing from 20 lb/ft to 38 lb/ft. The new plug also replaced HNBR rubber with phenolic rubber for an easier drillout.
- The liner team carried out 10 successful trial jobs with the new liner wiper plug, resulting in quicker drillout times on each run.

Value to Customer

- The operator achieved a minimum of three hours savings to drill the 7-in. liner wiper plug.
- Instead of running a dedicated slick assembly to drill the shoe track, the operator was able to use a directional drilling assembly to drill the track and then proceed directly with drilling the 6 1/8-in. openhole interval.



A new design of liner wiper plug helped the operator reduce drillout times.

LOCATION

Sultanate of Oman

WELL TYPE

Onshore oil producer

HOLE SIZE AND ANGLE

8-1/2 in., 40°

CASING SIZE

9-5/8 in.

LINER SIZE AND TYPE

7 in., 23 lb/ft

TEMPERATURE

122°F (50°C)

TOTAL DEPTH

5,740 ft (1,750 m)

TOP OF LINER

4,757 ft (1,450 m)

PRODUCTS/SERVICES

- Polished bore receptacle
- Liner top packer
- C-series dual grip mechanical hanger
- Landing collar
- Wiper plug system
- Float shoe

