



# Weatherford®

## REAL RESULTS

### MetalSkin® Openhole Liner System Isolates Water-Swellable Shale Zone, Maintains Optimal Drill-bit Size to Total Depth, Eliminates NPT

#### Objectives

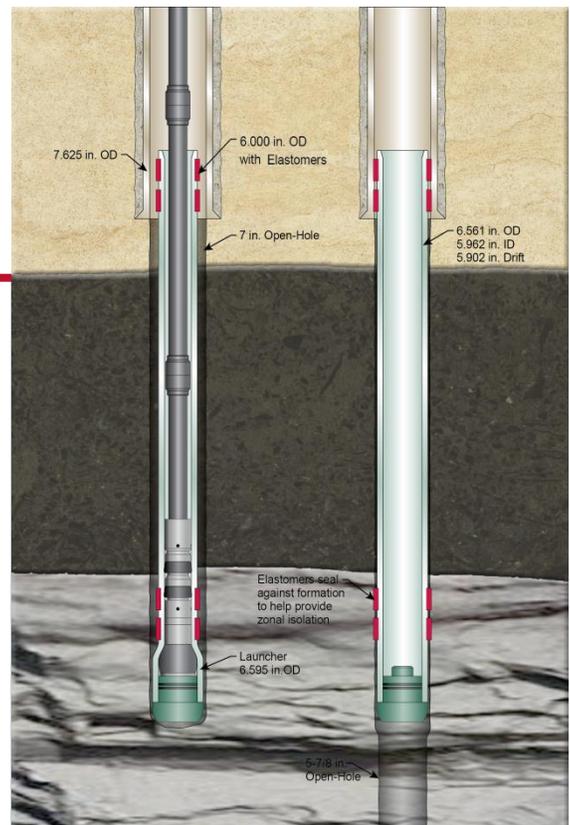
- Achieve zonal isolation below the existing 7 5/8-in. casing. Directly under the parent casing is a water-swellable shale zone followed by a total lost-circulation zone. The operator opted to drill with oil-based mud but, when the total lost-circulation zone was pierced, the mud exited into the formation with no returns. The operator could not substitute seawater because it activated the water-swellable shale.
- Enable a 5 7/8-in. drill bit to pass through to total depth (TD).
- Limit nonproductive time (NPT). During conventional drilling, the water-swellable shale began to activate, causing wellbore stability problems and leading to stuck pipe and sidetracking operations, which significantly increased NPT.

#### Results

- Weatherford deployed a 6-in. × 7 5/8-in. MetalSkin openhole liner and isolated a 1,361-ft (415 m) section of water-swellable shale without cement.
- The post-expanded MetalSkin liner was set from 6,358 to 7,874 ft (1,938 to 2,400 m) with a 154-ft (47-m) overlap, for a total of 1,516 ft (462 m).
- The resulting drift ID was large enough for the operator to drill through the total lost-circulation zone with a 5 7/8-in. drill bit.
- The mechanical barrier enabled the operator to use seawater instead of oil-based mud.
- The well was successfully drilled to TD.

#### Value to Client

- Using the Weatherford MetalSkin openhole liner enabled the operator to isolate a water-swellable zone under existing casing, drill through a deeper total lost-circulation zone with seawater instead of oil-based mud (leading to significant cost savings), and reach TD with optimal size casing.
- The MetalSkin liner installation eliminated weeks of NPT by solving the wellbore stability problems.
- Running the expandable liner as a mechanical barrier without cement further reduced cost to the operator by reducing material costs and minimizing installation time on the rig.



The Weatherford MetalSkin openhole liner system isolated a water-swellable shale zone located under existing 7 5/8-in. casing without cement, enabling the operator to drill to TD with minimal ID reduction and without increased NPT.

#### Location

Gulf of Mexico

#### Well Type

Offshore, high-angle re-entry well

#### Hole Size

- 7 5/8-in. (parent casing)
- 5 7/8-in. (resulting openhole)

#### Depth

- 6,358 to 7,874 ft (1,938 to 2,400 m): expandable liner
- 6,512 to 7,874 ft (1,985 to 2,400 m): openhole

#### Casing

- 7 5/8-in., 33.7-lb/ft production casing
- 6 in. × 7 5/8-in. MetalSkin openhole liner

#### Products/Services

MetalSkin openhole liner system

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