



# Weatherford®

## REAL RESULTS

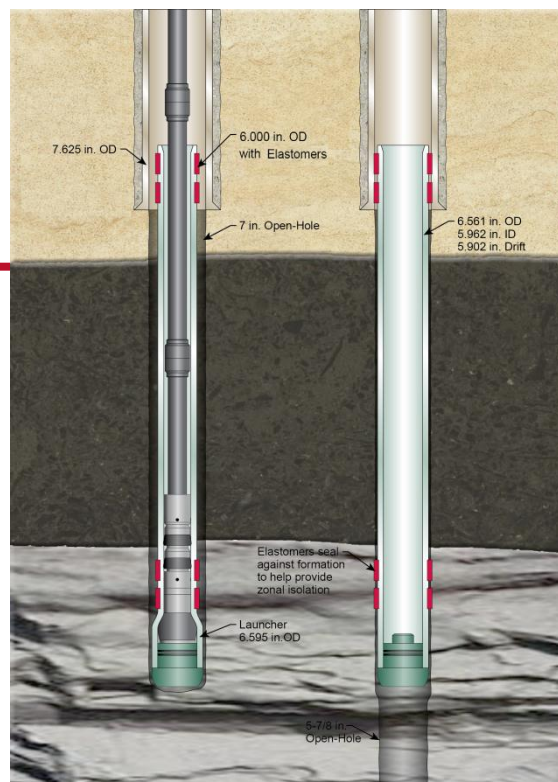
### RipTide® Reamer, MetalSkin® Liner Enlarge Wellbore, Isolate Water- Swellable Zone, Reach TD with Maximum Production Casing Size

## Objectives

- Enlarge an existing wellbore to provide the extra space required for a post-expanded liner.
- Provide zonal isolation below the existing 7 5/8-in. casing without cement. 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 the amount of NPT. During the conventional drilling, the water swellable shale began to activate, causing wellbore stability problems, leading to stuck pipe and sidetrack operations, which significantly increased NPT.

## Results

- The Weatherford RipTide 6000 series 6 1/2- × 7-in. drilling reamer was deployed and performed a successful reaming job, enlarging 744 ft (227 m) of the wellbore to 7 in.
- Weatherford personnel used the WellWizard® integrated data system to monitor underreaming parameters.
- Weatherford deployed a 6- × 7 5/8-in. MetalSkin openhole liner and successfully isolated a 774-ft (236-m) section of water-swellable shale without cement.
- The post-expanded MetalSkin liner was set from 8,441 to 9,350 ft (2,573 to 2,850 m) with a 134-ft (41-m) overlap, for a total of 909 ft (277 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 and to successfully reach TD.
- The operator completed the well with a 4 1/2-in. production liner and began producing 5,000 BOPD.



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

- 8,441 to 9,350 ft (2,573 to 2,850 m): expandable liner
- 8,576 to 9,350 ft (2,614 to 2,850 m): open hole

### Casing

- 7 5/8-in., 33.7-lb/ft production casing
- 6 × 7 5/8-in. MetalSkin open-hole Liner

### Products/Services

- MetalSkin openhole liner system
- RipTide 6000 series drilling reamer
- WellWizard integrated data system

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### Value to Client

- Using the RipTide® 6000 series drilling reamer enabled the operator to run the 6- × 7 5/8-in. MetalSkin® open-hole expandable liner system, which enlarged the wellbore.
- The MetalSkin liner system enabled the operator to isolate the water-swellable zones, maintaining a near-perfect hole size.
- 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 RipTide drilling reamer enabled the operator to enlarge the wellbore to 7-in., run a 6- × 7 5/8-in. MetalSkin openhole liner, and successfully isolate a 944-ft (288-m) section of a water-swellable shale zone without cement.

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