

MetalSkin® Cased-Hole Liner Stops Water Production and Helps to Increase Production In a Neighboring Well to ~300 BOPD

Objectives

- Permanently isolate unwanted perforations from a depth of 906 to 1,025 ft (276 to 312.5 m) and damaged casing from a depth of 1,050 to 1,102 ft (320 to 336 m) in one run.
- Stop water production coming from the 9 5/8-in. casing.
- Minimize inside diameter (ID) losses after installing the mechanical isolation system to enable running the same type of artificial-lift equipment that had run previously in the well.
- Install the mechanical isolation system using the existing crane platform to avoid bringing in an extra rig. This would require overcoming weight and deck-space limitations.

Our Approach

- A previous caliper logging run had identified the target area and length of expandable liner required.
- Weatherford recommended the MetalSkin cased-hole liner as a reliable casing patch to isolate the perforations and damaged casing, and to minimize ID restrictions.
- Pre-job planning confirmed that the MetalSkin liner could be run using the existing crane platform and within weight and deck-space limitations.
- Using a tapered mill, scraper, bit sub, and magnets provided by Weatherford fishing services, the crew thoroughly cleaned the 9 5/8-in. casing string and prepared it for remediation.
- Weatherford personnel ran 225 ft (68 m) of 7 5/8- x 9 5/8-in. MetalSkin liner across the existing perforations and damaged casing. Using a jack system, the carbide anchor expanded into the parent casing by means of hydraulic pressure. Afterward, rig personnel used the crane platform to mechanically expand the rest of the liner.
- The liner installation was completed in one trip with no additional requirements for a shoe drillout.
- The operation had no recorded safety incidents.



Weatherford used 225 ft (68 m) of MetalSkin cased-hole liner to isolate unwanted perforations and damaged casing, which stopped water production and improved well performance.

LOCATION

Republic of Congo

WELL TYPE

Offshore, producer, oil

HOLE SIZE AND ANGLE

8.68 in., no deviation

CASING SIZE AND TYPE

9-5/8 in., 47 lb/ft

LINER SIZE

7-5/8 x 9-5/8 in.

LINER-SETTING DEPTH

892 to 1,106 ft (272 to 337 m)

PRODUCTS/SERVICES

- MetalSkin cased-hole liner
- Fishing services
- Tubular running services



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Value to Client

- The MetalSkin cased-hole liner permanently isolated the unwanted perforations and damaged casing without the need for multiple cement-squeeze operations, which saved both time and cumulative costs.
- After the installation of the MetalSkin liner, water production stopped and overall well performance improved.
- Post-installation indicators enabled the client to identify the source of the water production. The client applied the lessons learned to a neighboring well, which resulted in production increases of approximately 300 barrels of oil per day (BOPD) in that well.
- Because the MetalSkin liner minimized ID losses, it provided the operator with a hole size that would have been unavailable using a scab liner or straddle packer. This enabled running the same type of artificial-lift equipment that had run previously in the well.



*MetalSkin is a registered trademark of Weatherford in the US and United Kingdom.