

X-SPAN® Casing Patch

Restores Wellbore Integrity with Minimal Decrease in Internal Diameter to Achieve Greater Production

Objectives

- Confirm probable wellbore integrity issues in an onshore oil well. Based on production declines, the operator suspects worn and deformed casing.
- Permanently restore casing integrity with minimal loss of internal diameter (ID).
- Prepare the wellbore for subsequent perforating operations.

Our Approach

- Weatherford specialists met with the operator to perform a thorough pre-job analysis. The Weatherford team recommended running an UltraView® ultrasonic radial scanner (URS) to evaluate the condition of the casing.
- Based on their assessment of the URS log, Weatherford casing integrity specialists determined that a 146-ft (44.5-m) interval of highly worn and deformed casing needed to be repaired. They proposed installing an X-SPAN patch to permanently restore casing integrity.
- The Weatherford team developed a casing calibration program to condition the highly deformed 7-in. casing. Using a small workover rig, they opened and conditioned the damaged casing with casing swages and mills to enable the patch to reach setting depth.
- After deploying a 162-ft (49.4-m) section of X-SPAN casing patch from 3,380 to 3,542 ft (1,030 to 1,080 m), they expanded the patch to restore casing integrity.

Value to Customer

- The Weatherford team analyzed a URS log to identify an interval of deformed casing that was restricting production. By installing an X-SPAN casing patch, they established a steel mechanical seal to permanently repair the casing. This enabled the operator to perforate across the pay zone, recompleting the well, and achieve an increase in production.
- With its 5.500-in. ID, the X-SPAN casing patch provided sufficient clearance to enable the operator to run larger intervention and completion tools through the patched interval.
- The patch was installed using a small workover rig, for a cost savings over the day rate of a standard workover rig.
- The success of this operation encouraged the customer to use the same approach to improve production at other wells in the field that had experienced similar casing problems.



Working with a small workover rig, Weatherford casing integrity specialists in Colombia run the X-SPAN casing patch downhole to repair a section of damaged casing.

LOCATION

Colombia

WELL TYPE

Onshore oil producer

MAXIMUM HOLE ANGLE

15°

CASING SIZE

7-in., 26-lb/ft

PATCH INSTALLATION INTERVAL

3,380 to 3,542 ft (1,030 to 1,080 m)

TOTAL DEPTH

3,925 ft (1,196 m)

PRODUCTS/SERVICES

- Casing Integrity Restoration Services
- X-SPAN casing patch
- SecureView® wireline services
- UltraView® ultrasonic radial scanner log

