

Case History

EXPatch™ Expandable Metal Casing Patch

Problem

The casing in a customer's highly deviated well was exhibiting signs of corrosion in a 62° deviated section. Beyond isolating the corroded section of casing with cladding, the customer wanted to ensure pressure integrity with a large pass-through ID, enabling the installation of an electrical submersible pump.

Solution

A tandem mill, flex joint, and magnet sub were run in hole. A 6.151-in. - 6.160-in. upper mill and 6.125-in. lower mill were used. The run was successful to depth, and the string was worked up and down to clean the hole prior to running cladding. Following this, the mill string was pulled out of hole. For additional weight, tools making up four drill collars were run in the hole above tool string and four near the surface above the deviation. Tools landed at 2933 ft (893.98 m) depth after working through tight spots, straddling the 45 ft (13.72 m) damaged casing area by 13 ft (3.96 m) on either side. EXPatch was installed inside the casing to isolate the corroded section of casing, and clad was expanded full length. The backside was filled with fluid to prevent the anchor from setting, and the running/expansion tool was pulled out of hole.

Results

Approximately 89 ft (27m) of EXPatch was installed inside 7-in. 26-lb casing in a deviated section of 62 degrees. The expansion process was completed in just over an hour with the top of the clad set at 2,844 ft (866.85 m), fully checking the corrosion problem. This project incorporated the first use of the EXPatch expandable metal casing patch technology in a highly deviated well.

Project Details

Project Date: July 2003

Well Location: California, USA

Well Type: Oil producer

Casing Size to Surface: 7-in. 26 lb

Clad Deployment Deviation: 62°

Expanded Clad Length: 89 ft (27 m)

Top/Bottom of Clad Set Depth: 2,844 ft/2,933 ft (866.85 m/893.98 m)

