

Case History

EXPatch™ Expandable Metal Casing Patch

Problem

The casing in a customer's well parted downhole at 5,400 ft (1645.92 m). This resulted in an OD passable through the parted section that, at its largest, was 5.5 in. Communication was found in a casing connection two joints below the parted section; no cement bond log was available. The well had also sanded up above the gravel-pack packer. Due to the casing's loss of integrity, the operator could not reverse the well clean.

The customer wanted to repair the casing for re-entry and re-establish pressure integrity, while maintaining the largest possible casing ID. Moreover, the customer wanted to implement a one-trip system with no clean-out trips following the job.

Solution

A preliminary dress-off trip consisting of a scraper, string mill, and taper mill was made prior to running the clad to ensure it would get to depth. The clad assembly consisted of: an upper hanger and an integral sealing element, 157 ft (47.85 m) of clad pipe and a lower hanger and an integral sealing element; this made the total length of the assembly was 185 ft (56.39 m). The Baker Oil Tools EXPatch expandable metal casing patch system was selected to run the clad because its modular design allows for flexibility in the length and design of clad. And, it's a one-trip system, which provides a large, full bore ID after expansion. The clad assembly was installed over the parted section of casing and lower leaking connection. The total expansion time—including rig tripping time—was just under three hours. An RTX retrievable guide shoe was used as an aid to guiding the clad through the parted section and was retrieved upon completion of the expansion.

Results

The 7-in. 26-lb casing was tested to anticipated and applied pressures with no pressure loss, and upon completion, no clean-out trip was required. The well was ready for the next remediation step. The resulting wellbore ID was only 0.5 in. less than the 7-in. 26-lb casing drift. Compared to squeeze jobs, or multiple trips using conventional casing patches, this job was very cost effective for the operator.

Project Details

Project Date: July 2004

Well Location: Texas, USA

Well Type: Oil producer

Formation/Lithology: Sand

Casing Size to Surface: 7in. 26 lb

Clad Deployment Deviation: Vertical

Expanded Clad Length: 185 ft (56.39 m)

