CASE STUDY

HALLIBURTON

Middle East

Boots & Coots® resolves critical hydrocarbon leak with two-phase execution plan

C-clamp casing integrity remediation helps operator overcome challenge

CHALLENGE

- Hydrocarbon leak observed at surface of onshore well

SOLUTION

Casing integrity remediation with two-phase plan:

- Cold cut support brackets from the 13 3/8-in. casing to acquire dimensions
- Design and install non-sour service c-clamp rated for 500-psi working pressure injected with WellLock® resin system

RESULT

- Repaired leak and performed casing integrity remediation
- Operator able to move forward with workover plans

Overview

An operator in the Middle East needed to repair an external hydrocarbon leak before conducting a workover that required internal well repairs. The source of the small surface leak was between 18 5/8-in. and 13 3/8-in. casing strings and caused by a failure of the cement bond between casings.

Challenge

The project faced two key challenges: first, removing the support brackets from 13 3/8-in. casing to obtain accurate dimensions and install a C-clamp; second, damages (including dents and pitting) in the potential seal area of the 18 5/8-in. casing.

Solution

The Halliburton Boots & Coots® team developed a two-phase execution plan to help resolve the challenge. The first phase involved cold cutting the support brackets from the 13 3/8-in. casing to the accurate acquired dimensions. In the second phase, the team designed and installed a non-sour service c-clamp rated for 500-psi working pressure —injected with the WellLock® resin system and tested with 500 psi. The system served as a dependable barrier to mitigate fluid flows in the wellbore. The innovative use of the WellLock® resin system helped enhance the well integrity and performance of the operator.

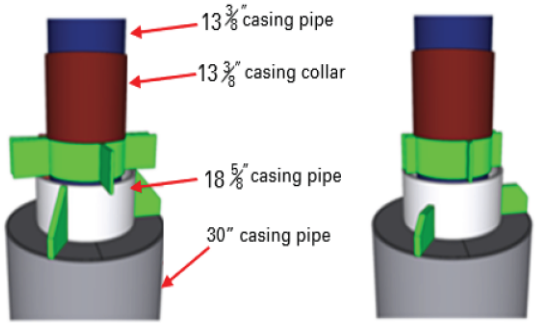
Observed leak

Dual bore clamp

Strong back

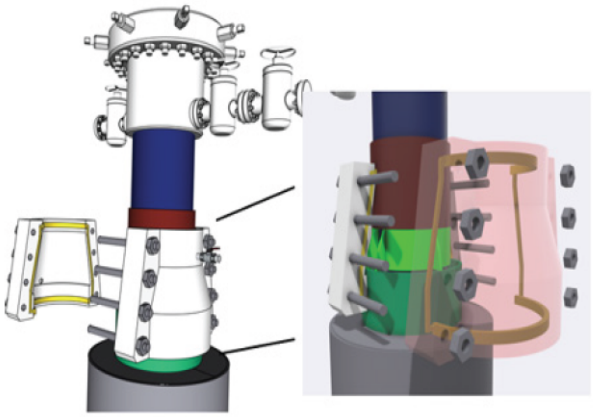
Result

Boots & Coots performed an initial site assessment and completed the first phase as planned. After the initial site assessment, the team conducted three additional site visits to locate the adequate 18 5/8-in. casing to seal against. They then installed the c-clamp and filled the clamp void with the WellLock® resin system. The repair was successful, and the operator was able to proceed with the workover plans.



Before cold cutting

After cold cutting



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