



Weatherford®

REAL RESULTS

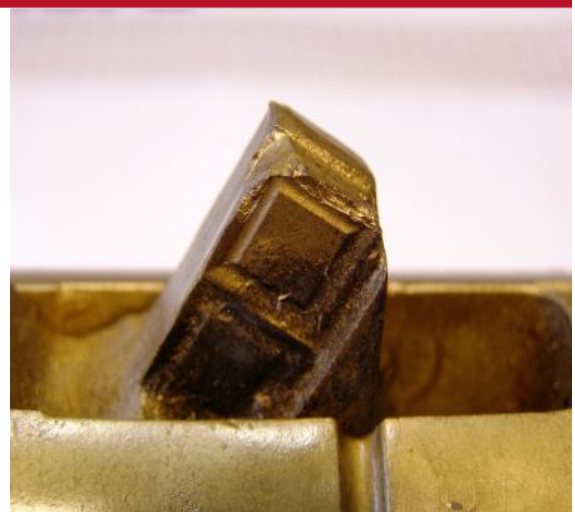
eCTD® Motor, Weatherford Hydraulic Tubing Cutter Overcome Downhole Challenges, Deliver Precise Tubing Cut

Objectives

- Cut a specialized injection nipple that was installed in a completion string to facilitate communication to the inside of the production tubing. The profile was set off-center, and no even cutting surface was available. The operator's previous attempt to cut the 3 1/2-in. nipple with a wireline cutter was unsuccessful.

Results

- Weatherford proposed using a 2 1/8-in. tubing cutter and a Weatherford eCTD motor, but the operation still posed several challenges.
- The location of the cut was a narrow window, measuring only 2 in. (50 mm) in length, located over 12,089 ft (3684 m) below the wellhead. Weatherford modified a non-rotating stabilizer (NRS) to land on the no-go and the provide the correct space out for the cut.
- The operator was concerned about the sweep of the cutter knives, customarily set at 4-1/2 in. (114.3 mm). The cut could not exceed 3 3/4-in. (95.25 mm). A stop was incorporated, and the required sweep was accomplished.
- The material properties of the nipple posed a potential concern, and it was uncertain how the cutter would operate downhole. The operator and Weatherford agreed to deploy the proven knife design.
- The presence of nitrified fluid meant that the performance of the motor would be more difficult to monitor on the surface. The use of MacFlow™, a multiphase flow-modeling software package, ensured the tool operator had full control of the operation aiding in the successful cut. Weatherford was able to monitor the progress of the cutting operation by applying pressure on the control line to the nipple.
- After locating the cutter on depth at 12,089 ft (3685 m), the nitrified fluid was pumped and, after only 10 minutes, the fluid was able to move through the passages in the injection nipple, confirming success.



Weatherford's eCTD motor has all the rugged traits of the proven CTD® motor and many additional enhancements that enable the motor to perform well in today's hotter and deeper wells with declining bottomhole pressures. This positive-displacement motor features a stator of uniform thickness that provides more consistent performance than conventional power section technology. The eCTD motor is the standard for reliable performance in coiled-tubing-deployed interventions.

Location

Germany

Well Type

Onshore, gas

Hole Size

3-1/2 in.

Depth

12,089 ft (3685 m)

Casing

4-1/2 in.

Products/Services

- eCTD positive-displacement motor
- Tubing cutter
- NRS-modified
- MacFlow software

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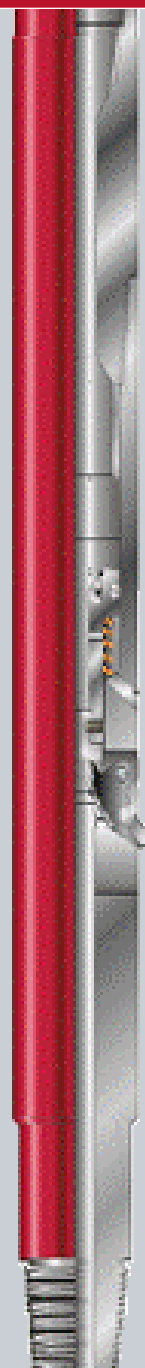
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Value to Client

- When all other conventional technology failed, Weatherford's eCTD® motor and tubing cutter enabled the operator to perform a successful cut of the injection nipple.
- The operator achieved a precise cut of the nipple by controlling the cutter depth with a specially designed limiting feature.

Weatherford's hydraulic tubing cutter is designed to cut tubing, drillpipe, and other tubulars. The cutter is flow actuated and mechanically rotated by a motor or through surface methods. A hydraulic anchor assisted with stabilization and bottomhole assembly centralization for a quick and clean cut.



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