

Operator Prepares Watered-Out Well for P&A Using Downhole Measurements from ACTIVE Services

CoilFLATE packer and PowerCutter tubular cutter provide real-time downhole measurements to enhance accuracy and confidence in job success

CHALLENGE

Prepare the well for P&A by cutting the upper production tubing and placing a cement retainer plug over the lower completion to be subsequently cemented and sidetracked.

SOLUTION

Deploy CoilFLATE* coiled tubing through-tubing inflatable packer and PowerCutter* precision tubular cutter on CT to maximize efficiency and prepare well for P&A.

RESULTS

Saved time and costs with no NPT or lost time during intervention by running the CoilFLATE packer and PowerCutter tubular cutter on the same CT intervention.



Well completed with an ESP producing water

An offshore well within the Republic of the Congo was completed with an ESP bypass system and was producing water. There was a small window of suitable tubing in which to set a 2½-in CoilFLATE packer below the depth of the production packer and subsequently cut the tubing in between both.

During this operation, the operator needed to achieve two objectives:

- Set a 2½-in CoilFLATE packer permanently inside 4½-in tubing within in a 105-ft [32-m] window of the 3.96-in ID joint to isolate the lower completion for subsequent cementing by the rig before sidetracking.
- Run in hole (RIH) with firing head and a PowerCutter tubular cutter to cut the tubing just below the packer.



The CoilFLATE packer provides reliable zonal isolation in the harshest environments.

Efficiency maximized with live downhole CT services

Schlumberger proposed ACTIVE* family of live downhole coiled tubing services to maximize efficiency and prepare the well for plug and abandonment. The ACTIVE PTC* live CT pressure, temperature, and casing collar locator tool provided depth setting of the packer and correlated the depth accurately for the PowerCutter tubular cutter. ACTIVE Isolation* live CT zonal isolation service enabled reliable inflation setting of the packer using internal and external pressure gauges. ACTIVE Perf* live CT perforating service was used to monitor the depth correlation of the PowerCutter tubular cutter and its activation was confirmed by monitoring the loss of the tool weight upon firing using the ACTIVE TC tool.

CASE STUDY: CoilFLATE packer and PowerCutter tubular cutter save time with single CT intervention, West Africa



The PowerCutter tubular cutter explosive charge (shown in cutout section) produces a 360° radial explosive jet.

The following sequence of events occurred in the first phase:

- CT was RIH and a total of three upward depth correlation passes were performed.
- CT was positioned using a correlated depth measurement as reference to place CoilFLATE packer at planned position.
- The operator switched to the CoilFLATE packer inflation step.
- Within 30 minutes the downhole temperature and pressure of the CoilFLATE packer stabilized. All the parameters of the operation have been monitored in real-time with the ACTive PTC tool and ACTive TC tool.

- An anchoring test with a positive slack of weight of 1,700 lbf on the packer confirmed the setting of the CoilFLATE packer.
- After disconnecting, a flow rate check was conducted to confirm the packer was not still attached to the upper BHA.
- Pull out of hole to surface to prepare for the ACTive Perf services conveyed tubing cutting operation performed with the PowerCutter tubular cutter.

The following sequence of events occurred in the second phase:

- The ACTive Perf services BHA was conveyed to required depth.
- The depth correlation was referenced to the operator's baseline log.
- The PowerCutter tubular cutter was fired and activation was confirmed by monitoring downhole parameters in real time.

Depth correlation accuracy confirmed packer positioning

The ability to run two different services in the same sequence and real-time monitoring of downhole measurement data ensured the accuracy and success of the operation. ACTive services provided a nondisputable advantage by monitoring all downhole parameters in real time to reliably activate the firing head. The CCL depth correlation enabled accurate CoilFLATE packer positioning, accurate depth positioning, and activation of the PowerCutter tubular cutter.

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