Retrievable Bridge Plug Enables Proper Tubing Cut and Saves 4 Rig Days, Congo

Rigless intervention reduces workover cost and mitigates risk

The SIMultra* retrievable bridge plug saved 4 rig days during an intervention operation in HPHT environment.

The operator’s goal
A gas injector well was to be converted into a producer well. A workover program was planned to cut and change the existing tubular, including setting a standard plug to isolate the lower zone.

The wellbore had a 75° deviation at 4,283-m [14,052-ft] MD with a minimum restriction of 4.313 in at the nipple. The lower-profile sealbore provided an insufficient barrier and limited the deep-set plug development for the lower zone. And additional risks involving a severing operation, which had blocked the retrieving process, were identified.

The operator needed to create a gas-tight seal in a 5½-in, 320-kg/m³ [20-lbm/ft³] liner in a challenging HPHT environment with pressures up to 35 MPa [5,076 psi] and temperatures up to 152 degC [306 degF]. To minimize workover time and cost, alternative e-line rigless intervention options were pursued.

What was tried first
Traditional deep-set plugs did not meet the expansion requirement for the current working envelope, and a cementing operation was not a viable option to provide a consistent and homogenous barrier at such deviation and temperature.

What Schlumberger recommended
The SIMultra retrievable bridge plug was deployed using the TuffTRAC* cased hole services tractor. Certified to ISO 14310:2008 grade V0 and quality grade Q1, the SIMultra retrievable bridge plug incorporates a proprietary hybrid metal-elastomer seal to create a well barrier with both exceptional reliability and retrievability. Suited for HPHT operations, it is performance rated to 177 degC [350 degF], 69 MPa [10,000 psi], and extreme CO₂ sour service capability.

Using metallic support plasticity to close the extrusion gap during the setting process, the elastomeric compound of the historically high shearing stress is freed—unlocking sealing performance to a completely new stage.

What was achieved
The successful gas-tight isolation using the SIMultra plug enabled cutting the tubing properly, and the rigless intervention saved 4 rig days, reducing workover costs.

*Mark of Schlumberger
Other company, product, and service names are the properties of their respective owners.
Copyright © 2020 Schlumberger. All rights reserved. 20-PR-698110

slb.com/SIMultra