

Location: United States

Holistic fluid design saves North American operator 10 hours per production casing run

Hydraulic modeling and triple-combo lubricant package facilitated production casing run, saving the operator \$25,000

CHALLENGE(S)

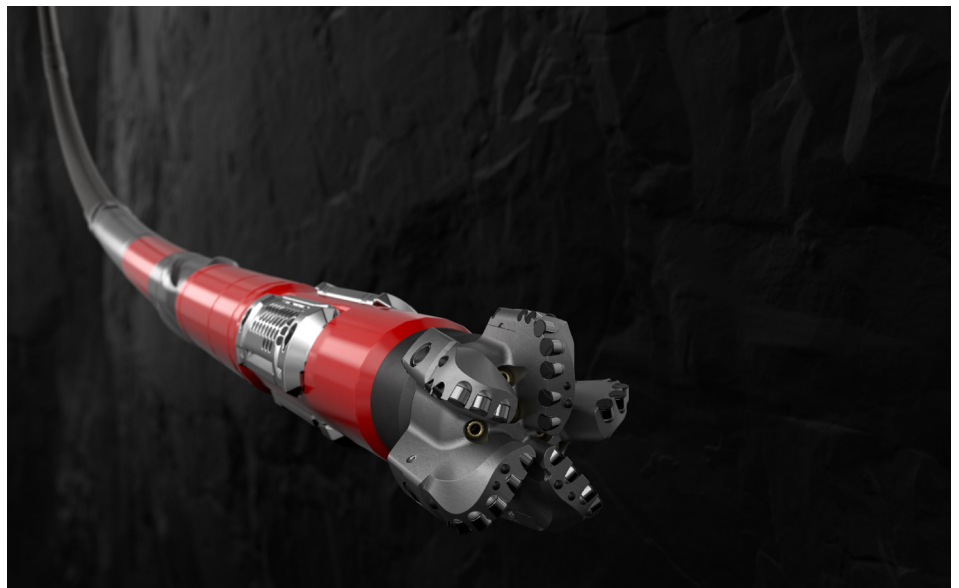
- Production casing average run times of 35 hours
- Avoid non-productive time (NPT) during the operation
- Reduce casing run times to improve operational efficiency

SOLUTION(S)

- Two-pronged technical approach considering hydraulic and chemical factors in achieving well construction success
- Drilling Fluids Graphics (DFG™) software for hole cleaning optimization and sweep design
- Custom lubricant design incorporating BXR™-L, BaraFLC®-903 and LUBRA-BEADS® combination treatment to be spotted in the lateral up to the curve

RESULTS

- Average reduction of 10 hours per production casing run saved operator \$25,000
- Substantial value brought to the operator by combining engineered chemistry with hydraulic modeling



Lengthy lateral sections of up to two miles (3,219 meters) were being drilled, and the operator had concerns about the time it was taking to install the production casing.

Background

An operator drilling lateral sections of up to two miles (3,219 meters) in Utah was averaging 35 hours per well to install the production casing. Halliburton was approached with this critical operational issue and challenged to optimize the fluid system and improve overall efficiencies.

Challenge

Lengthy lateral sections of up to two miles (3,219 meters) were being drilled, and the operator had concerns about the time it was taking to install the production casing. It was deemed critical to find a more efficient solution that would be simple to implement, and reliable in execution. Multiple vendors approached the operator with high-cost lubricant solutions that did not consider the “big-picture” well construction scenario.

Solution

Working with the regional North American team, Halliburton fluid experts provided a thorough review of the existing scenario. A two-pronged approach was taken to demonstrate to the customer that reducing their casing run times required more than the addition of a single lubricant. Utilizing DFG™ hydraulic modeling software, the cuttings load for the lateral section of the well was estimated. The effects of including weighted sweep to improve the hole-cleaning in this challenging section were clearly demonstrated. Baroid recommended spotting a combo-lubricant pill – made up of BXR™-L, BaraFLC®-903 and LUBRA-BEADS® – once the hole was cleaned.

BXR™-L and BaraFLC®-903 shale stabilizers help seal microfractures and can greatly reduce the potential torque and drag issues. LUBRA-BEADS® spherical solid lubricant functions like ball bearings that are highly resistant to extreme stress and are suited for use in highly deviated wellbores.

Results Bring Economic Value

The combined approach of weighted sweep and the lubricant treatment resulted in a reduction of casing run hours from 35-hour average to 25 hours. At the operator's planned spread rate, there was \$25,000 in savings. The strong technical approach was noted by the operator, showing value in not only product recommendations but in hole-cleaning modeling and pill designs.

For more information on Halliburton geothermal services, please go to halliburton.com/geothermal

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