CASE STUDY: 2-7/8" AMP Wellbore Cleanouts - Leduc, Alberta, CANADA | case study no. 0021

Overview

Location: Leduc, Alberta
Well Type: Oil & Gas Confirmation Runs
Run Length: Consecutive Runs (#1) 3740 meters & (#2) 3550 meters
Circulating / Drilling Hours:14 hrs
Products / Services: InFocus 2.875" Drilling Motor w/AMP - All Metal Power section
Operator was Blacksmith Oil Tools, Medicine Hat, Alberta

Objectives

The reason for a confirmation run (toe tag) is to avoid tool/cement/well problems while there is a frac crew on location. Wells were 4.5" - kicked off at 900m, and are at a 90° angle from ~ 1400m to TD.

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Results

The client recently used a conventional motor on an identical job, so this was a great time to try an AMP to determine pressure differences. Operator noted, "... there are times that we can be maxed out with circulating pressure with 2" coil tubing and 6000m of coil on the reel. You can't cycle coil above 28,000 kPa because of the affect on coil fatigue."

"We pumped about 80 m^3 of straight clean fluid on each well for a total of 160 m^3. On the job we pump 100 l/min (26.4 gpm) in the vertical and then pick up our rate to 200 l/min (52.8 gpm) in horizontal. Once TD'd we pick up to 450 l/min (119 gpm) to do a bottoms up. Then reduce rate back down to a minimum. Encountered a 1m stringer on the first well."

Upon return to InFocus, the tool was immediately put on the Dyno. Both pre- and post-dyno results were consistent.

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Benefits

Operator - "The motor wasn't as hard to handle as I expected due to the extra weight [up to 50 lbs]. I would say the nicest surprise was to be able to easily drain the motor before removing it from coil so no one below gets soaked. This is a big problem in the winter. All in all, great job on the motor and I'm looking forward to using it further!"

Operations Notes

BHA

2-3/8" Internal Coil Connector
DFCV (Double-Flapper Check Valve)
InFocus AMP Motor, 9:10 Lobe 3.8 Stage
Fishneck / Pineapple Mill

Well 1

Pig coiled tubing to prep for motor operations. Install coil connector. Pull test to 21 daN and pressure test to 28 MPa.
Install MHA, motor, and mill. Open wellhead. RIH. Test motor on the fly.
Run through liner top. No weight change seen.
RIH to bottom at 200 lpm (53 gpm) at 6 MPa.
At 3734m differential increased to 10.5 MPa. Mill through 1m of cement. Continue to bottom to 3740 m.
Do bottoms up at 450 lpm (119 gpm).
POOH and spot FR on lateral. Shut wellhead in. Rig off.

Well 2

Pull test coil connector to 21 daN.
Install MHA, motor, and 95.7mm mill. Open wellhead. RIH. Test motor on the fly.
Run through liner top - good.
RIH to bottom at 200 lpm (53 gpm) at 6MPa. Tag at 3550m.
Pull up 2m and increase rates to 400 lpm (106 gpm). Pressure at 13.5 MPa.
Tag bottom at 3567.5 m. Differential increases to 15.5 MPa. Kick out pumps.
Do bottoms up at 450 lpm (119 gpm). POOH and spot FR on lateral.
Shut well in. Move to rig base.

InFocus would like to thank: brett@blacksmithoiltools.com

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