CT Energy Toe Tapper | Case Study

LONG LATERAL, BEATING LOCKUP

Top Notch Thru Tubing Services performed a mill out job on an well with a length of 21,000'. The well had a KOP of 7,161' and hit 80 degrees at 7,725' leaving 13,157' from that point onwards in the horizontal.

CERBERUS FRICTION MODELING

Cerberus Modelling software was used to help predict the effects of friction on the well. Multiple different scenarios were tested using the software to study how far different BHA options would reach.

NO FRICTION REDUCTION TOOLS AND NO LUBRICANT

0.27 Friction Factor resulting in increased friction at 16,432'

FRICTION LUBRICANT WITH AGITATOR

0.25 Friction Factor resulted in increased friction at 17,214'

FRICTION LUBRICANT WITH HYDROPULL

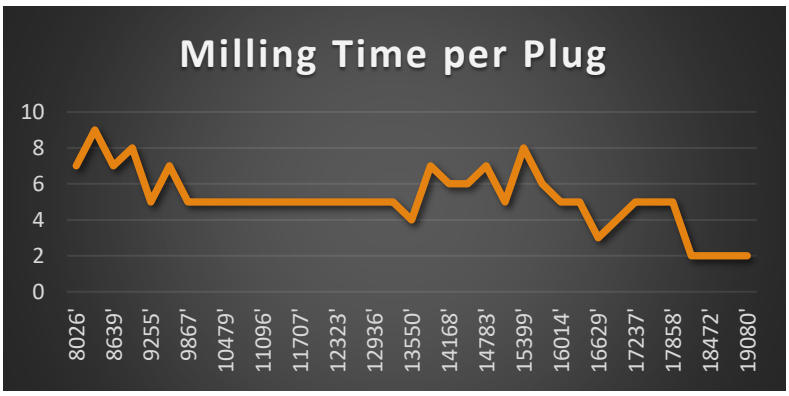
0.23 Friction Factor resulted in increased friction at 17,629'

FRICTION LUBRICANT WITH TOE TAPPER

0.21 Friction Factor resulted in Lockup at 18,777' (2,105' short of TD)

RESULTS

The Toe Tapper beat out predicted lockup by milling out the 37th plug in the well that was placed at 19,080' in 2 minutes. This was 303' further than predicted by the Cerberus software. Below is the graph of the milling time per plug vs. the depth. As can be seen in the graph, no trend in increasing time can be seen in milling times. The BHA was POOH after a 2.5 hour travel time between the last 2 plugs. 37 plugs were milled in 30 hours.



" THE INTRODUCTION OF THE TOE TAPPER INTO OUR BHA IS HELPING US GET FURTHER FASTER FOR OUR CLIENTS. REACHING RECORD DEPTHS IN RECORD TIMES AND WE LOOK FORWARD TO THE POTENTIAL THIS TOOL ADDS TO OUR BHA. AS OPERATORS SET THEIR SIGHTS ON LONGER LATERAL COMPLETIONS THE TOE TAPPER IS SURE TO INCREASE OUR EFFICIENCY SAVING OUR CLIENTS TIME AND MONEY. "

BEN LOREDO,

BUSINESS DEVELOPMENT MANAGER, TOP NOTCH THRU TUBING SERVICES