



Drill-N-Ream™ Technology Provides a Middle East Operator with Significant Rig Time Saving and Enhanced Wellbore Conditions

INTRODUCTION

One of the most frequent challenges faced during drilling is having tight spots due to formation swelling.

Depending on the severity of the situation, this may require a significant amount of rig time to do frequent wiper and clean-up trips especially prior to running casing. There is also the risk of being stuck. The Drill-N-Ream™ BHA from NESR and Hard Rock Solutions a Subsidiary of Superior Drilling Products, is designed to eliminate tight spots as well as the requirement for additional cleanup trips when it is run in tandem with the drilling BHA.

CHALLENGES

For this Middle East operator, drilling the 12 ¼” section often resulted in lost time due to tight spots and having to do extra reaming trips.

In many cases reaming trips would take up to 12.5 hours and a cleanup trip has to be performed prior to the running the 9 5/8” casing.

PROPOSED SOLUTION

NESR and Hard Rock Solutions proposed to use the world’s first well bore conditioning system: Drill-N-Ream™ (DNR) tool.

DNR increases the well bore drift by up to 1/8” over bit size while rotating during horizontal and vertical drilling operations. The two reamer stages on the DNR act in unison to force the cutting structure into the formation while efficiently reducing ledges, doglegs, and well bore tortuosity. On this candidate trial well, the DNR tool was run in conjunction with the drilling BHA which comprised of 12 ¼” PDC Drill Bit + RSS + 8 ½” LWD + 8” JAR + HWDP.

ACHIEVED RESULTS

1. Smooth hole achieved and eliminating tight spots when drilling the section.
2. Connections were made without any reported overpull during the wiper trip.
3. The wiper trip was completed using elevators without the need for reaming. Contrary to offset wells.
4. A cleanup trip was not required.
5. Casing running speed was significantly improved

Total rig time saving of up to 35 hours compared to offset wells drilled without DNR.

* Two trial wells (3 & 4) using DNR show significant rigtime saving during wiper trip as well as faster casing run speed from offset wells (1&2).

