

Field Results vs. Simulated Data Bladerunner® Case Study

APPLICATION

Liner Deployment (7", 26PPF)
Maximum Inclination (89.79°)

TECHNOLOGY

Bladerunner® (7" x 8-1/4" OD)

LOCATION

Kingdom of Saudi Arabia

INTRODUCTION

The Bladerunner centralizers are renowned for having ultra-low friction characteristics and high strength construction. Low friction blade inserts will reduce drag as the liner is run through the previous casing string to expose the SPIR-O-LIZER® 360° blade form to aid running as the liner enters the open hole. Low friction bands in the bore of the centralizer ensure extremely low start-up torque when the liner is rotated during the cementing process.

In this Case Study we set out to compare the performance of our friction-reducing centralizer. We achieved this by comparing simulated results utilizing Landmark WellPlan® software with Rig Data after casing was run with our Bladerunner®. This helped us verify that our equipment meets the performance standards we rate and advertise.

CUSTOMER CHALLENGE

A major operator in Saudi Arabia faced challenges with high drag forces while running a 7" Liner into a deviated well path. Torque and drag simulations showed that the Liner String would not be able to reach the required set depth without losing a significant amount of hook load and subsequently have the risk of helical buckling.

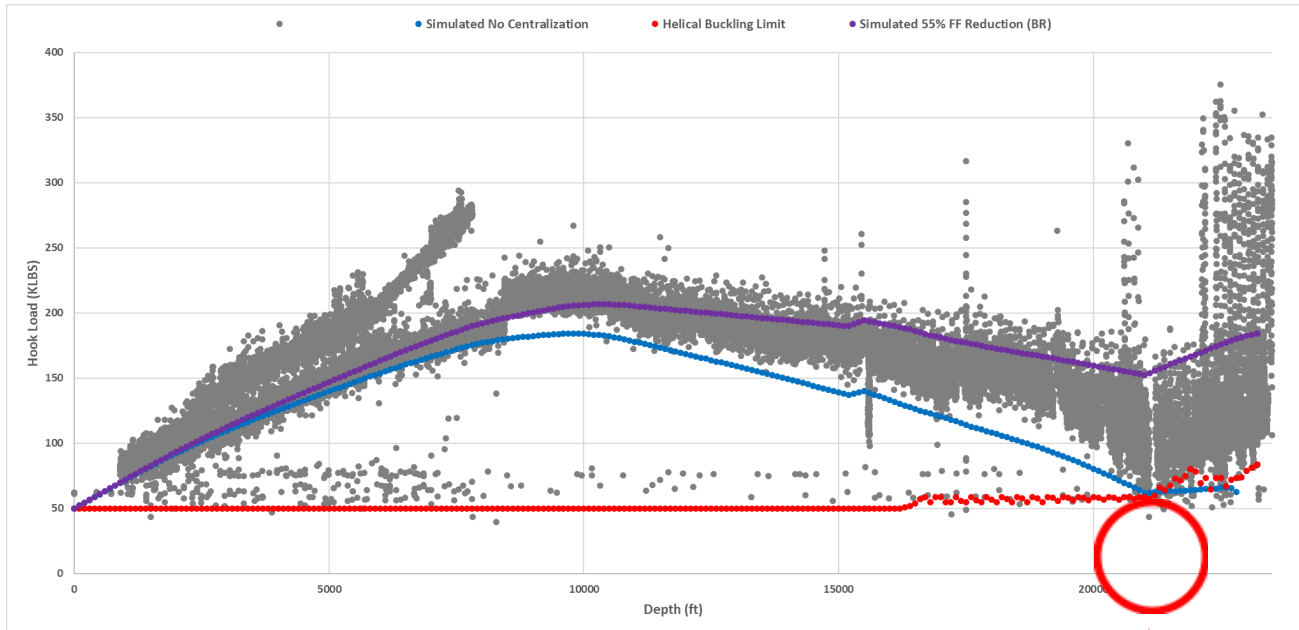
The Industry's Leading Friction Reducing Centralizer



VAREL SOLUTION

To reduce drag friction in this deviated well, the Bladerunner® centralizers were utilized. The low friction Teflon buttons on the exterior ensured a reduction in drag while running in the liner. And the spiral blades assisted in an increased stand-off in the open hole section for an improved cementing operation.

COMPARISON GRAPH (Field Data vs. Simulated Results)



HELICAL BUCKLING

CASE STUDY RESULTS

On challenging wells, The Bladerunner® centralizers were run along the entire liner at a frequency of one per joint, to enable a significant reduction in drag. The reduction in drag allowed the casing string to have a higher hook load which assisted in getting the casing to the bottom over the deviated and horizontal sections. The use of the Bladerunner® was shown to be critically important in ensuring the liner string was able to reach TD without any issues.

After the completion of the casing run, the Varel Applications Engineering group retrieved the Rig Data and compared the field results with our simulations. The outcome showed that the Bladerunner was able to reduce drag by 45 - 55%. The Liner string was also able to achieve an average standoff of 75% in the Open Hole, which allowed for a good cementing operation.

CUSTOMER VALUE

- Overall drag reduction of 45 to 55%
- Stand-off Average of 75% achieved in the Open Hole
- Prevention of Helical Buckling
- Ability to RIH quicker vs. no centralization

Varel Products are backed by extensive testing and post-job verification to ensure our equipment is fit for purpose and functions as advertised. Varel is continually improving our Engineering support and Product line knowledge to bring in the industry's best Downhole Equipment.