

OPERATOR SAVES 2.38 DAYS OF DRILLING TIME, EQUATING TO A SAVINGS OF OVER \$140,000 PER WELL

Head-to-head comparison proves science-based directional drilling approach enhanced bit and BHA integrity and reduced time to target

Challenge

A major operator was drilling in the Haynesville shale, a formation known for extreme drilling environments that can expose downhole tools to costly damages and drilling remediation. The operator recognized that every un-planned trip could add days to the well cycle, further inflating their drilling costs. Additionally, this operator was concerned about high torque and drag numbers, which could have extended the expected well cycle times. To proactively combat these known challenges, the operator contacted Helmerich and Payne to discuss what suite of solutions they could deploy in order to achieve a better drilling outcome.

Solution

H&P suggested pre-planning for the challenges ahead by utilizing DrillScan® software—specifically the Torque and Drag and Buckling module. This module is based on a unique, field-validated stiff-string model that is as accurate as Finite Element Analysis (FEA), but faster.

To enhance wellbore quality while minimizing economic impact, H&P recommended the Bit Guidance System in conjunction with AutoSlide® technology to help ensure simultaneous and accurate execution.

In order to validate the effectiveness of this suite of solutions, the operator executed the first and second wells on this pad using manual slides that did not follow the recommendations provided by H&P's Bit Guidance System. The third and fourth wells on the pad were drilled in accordance with H&P's recommendations, using H&P's comprehensive suite of technology.

Outcomes

The DrillScan software analysis uncovered high friction factors caused by high wellbore tortuosity. Knowing this ahead of time allowed H&P to recommend that the operator lower the doglegs in the curve from 10 deg/100 to 8 deg/100. While drilling, the Bit Guidance System collected data to make more efficient sliding decisions that were autonomously executed using AutoSlide technology.

Wells 3 and 4, drilled using H&P's integrated solutions, reduced the average bottom drilling hours from 196 to 139 hours compared to the manually operated wells 1 and 2 - resulting in a savings of 57 hours.

57 HOURS SAVED, EQUATING TO APPROXIMATELY \$140,000 PER WELL



PROJECT OVERVIEW

Location

Haynesville Shale,
East Texas

Outcomes

- Enhance Bit and BHA Integrity
 - Reduce Failures and Repair Costs
- Reduce Time to Target
 - Increase Rotating ROP
 - Increase Slide ROP
 - Reduce Flat Time

Technologies

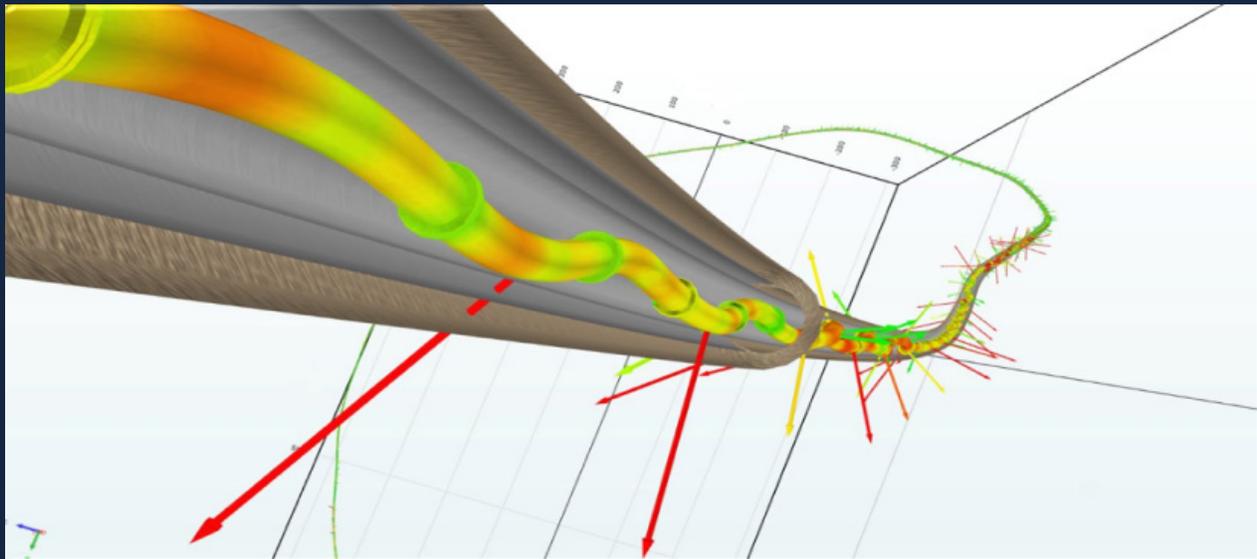
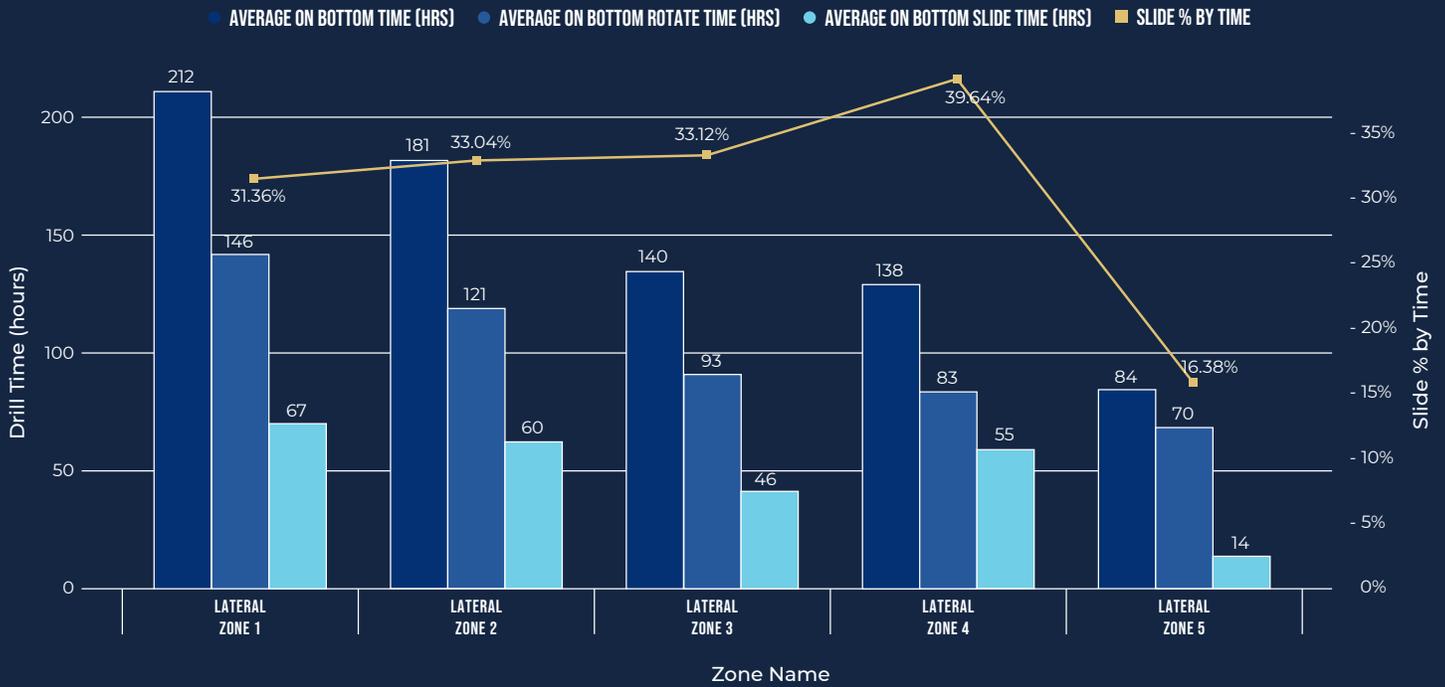
- DrillScan® Software
- Bit Guidance System
- AutoSlide® Technology

Are you looking to achieve a similar outcome?

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ON-BOTTOM HOURS



Advanced 3D DrillScan® Torque & Drag & Buckling Analysis helps ensure the success of drilling, casing, and completion operations through the anticipation of critical mechanical loads.



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