

CHALLENGE

Large variation in connection times between rigs in geographic proximity

SOLUTION

Review and standardize drilling connection setpoints using client-specific Digital Well Plan.

RESULTS

16% improvement in intermediate section.

17% improvement in production lateral section.

AlphaAutomation™ Delivers Reduced and Consistent Connection Time Through Revised Digital Well Plans

CASE STUDY OVERVIEW

An operator in the Haynesville contracted 3 Precision Drilling rigs with Alpha automation for their drilling program. While most of the rigs were drilling near each other a large variation was seen in drilling and connection times when comparing rigs. All the operating rigs had the Alpha Automation installed and operating using a variety of digital well programs. After discussion with the operator a decision was made to focus and standardizing the connection times for all rigs using a revised digital well plan.

The optimization and Alpha Remote Operation teams along with the operator reviewed and standardized the connection setpoints required for automated connections. These review and standardization included reducing misdirected time allocated to a variety of processes like reaming, survey time, and bottom to slips time. Once these setpoints were redirected the process was run through the Alpha simulator to verify new connection times while mitigating any operational impacts to the well.

CONCLUSION

The revision and standardization of the new digital well plans resulted in consistent time and cost saving to the operator.

Results from the first 3 selected rigs using the revised digital well plans were very promising. As shown in figure 1 average connection time from start of the year to the week 35 was at 8.86 mins per connection. Post the revised digital well plans and measuring past week 35 to current the connection times were consistently reduced to 7.45 mins. Changes to the well and digital well plan included changes to drillpipe size and changes in well design complexity through the intermediate and lateral sections.

The 16% improvement seen in the intermediate vertical section was also translated to the lateral sections through changes in the digital well plan. As can be seen in figure 2 the lateral sections saw a 17% improvement where average connection time reduced from 12.91min to 10.67min, saving 2.3min per connection.

These cumulated savings reduced the overall connection time for the wells allowing for further review of the digital well plans on the remaining rigs in the field. In addition, real-time dashboards were setup to confirm compliance to the newly set digital well plans. These compliance dashboards allowed the operator to view the setpoints in real-time allowing them to manage change as well conditions dictated.

16%

INTERMEDIATE
VERTICAL
IMPROVEMENT

17%

PRODUCTION
LATERAL
IMPROVEMENT

FIGURE 1

Figure 1 shows the average connection times in the intermediate section.

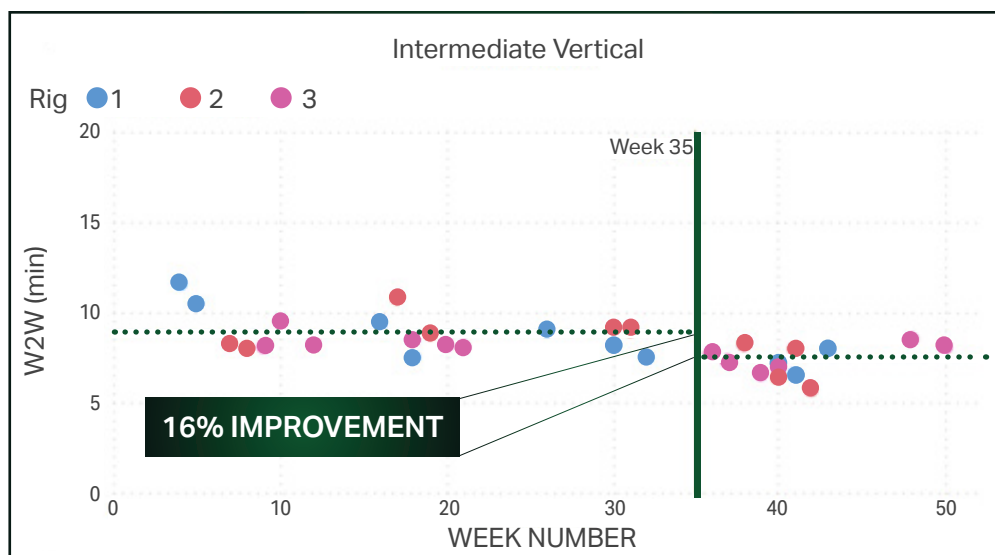


FIGURE 2

Figure 2 shows the average connection times in the production lateral section.

