Case Study

KAIZEN intelligent drilling optimizer included in program that set record for fastest well drilled in 15-mile radius

An operator in Midland, TX recently implemented an updated drilling optimization program in the Midland Basin. This optimization program included the addition of a rotary steerable system, Precision Drilling's Alpha™ System, and the M/D Totco™ KAIZEN™ automated drilling optimization system. The intelligent drilling optimizer's role in the project was to constantly assess drilling conditions, and feed optimized RPM and WOB setpoints to the Alpha system, without driller intervention.

The KAIZEN system was seen to successfully apply the optimized parameters to the rotary steerable system. It was seen that this program yielded an 82% ROP increase over the best offset laterals on one pad, and a 43% ROP increase relative to best offset data on another pad. Within this interval, the operator was able to set a record on one of the wells drilled, as the fastest well drilled in a 15-mile radius.

The system assisted in achieving this record by persistently adjusting the Weight on Bit and Top Drive RPM setpoints in a manner that maximized ROP and minimized MSE. The KAIZEN system automatically applies the necessary setpoints needed to achieve the goals set forth by the end user. Kaizen was tuned to be more sensitive to MSE in higher vibration areas, and more sensitive to ROP in more benign hole sections. This adaptation to the on bottom drilling environment was seen to allow the operator to maintain optimal drilling parameters at all times, and played an integral role in an operator led effort to achieve record setting performance."

Case study facts

Client	Operator
Well	Confidential
Rig	Precision Drilling's Alpha™ System
Region	West Texas
Country	USA
Date	Q3 2020

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