CASE STUDY

QUEST GWD HELPS OPERATOR ORIENT WHIPSTOCK AND ACCURATELY PLACE WELL AFTER COMPETITOR MISSTEP IN WEST TEXAS

TECHNOLOGY

- Quest™ gyro-while-drilling (GWD) system
- SPEAR™ solid-state sensors

APPLICATION

- Whipstock setting and orientation
- Wellbore placement

LOCATION

- West Texas

INDUSTRY CHALLENGE + OBJECTIVE

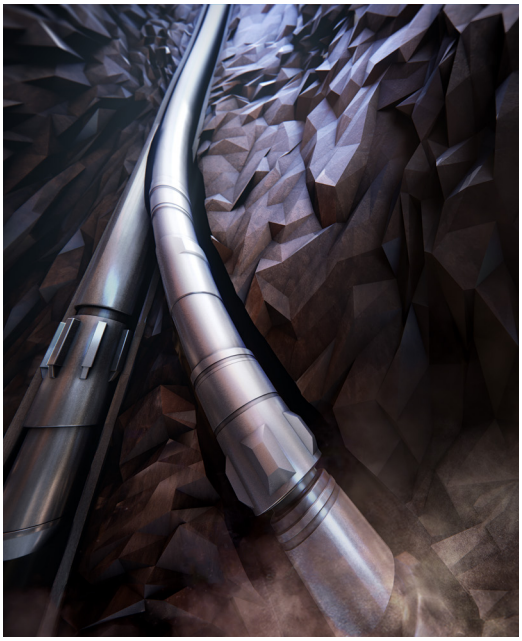
An operator in West Texas kicked off a curve and produced a 35° motor yield over the first 100 ft instead of the 10 to 12° expected. The planned directional activity was to build the curve with 100% slide drilling for a +/- 200-ft slide and then determine slide/rotate pattern. This drilling area had historically given lower motor yields at the kickoff point; however, it did the opposite in this instance, creating excess tortuosity in the wellbore that would have negatively effected other drilling, completion, and production operations. This necessitated the setting and orientation of a whipstock to get the well back on its planned trajectory. After multiple costly problems stemming from a competitor setting orientation, the operator decided to orient a new whipstock with us and run our solid-state Quest GWD system to recoup nonproductive time losses.

TECHNOLOGY + SERVICE SOLUTION

- We suggested implementing our Quest GWD system, powered by SPEAR solid-state sensors.
- The solid-state SPEAR sensors measure the earth's rotational rate precisely and accurately.
- The sensors are able to handle harsher downhole environments when compared to conventional GWD systems.
- The shorter SPEAR sensor package, loaded into a compact collar, allows greater steerablility and sensor placement closer to the bit without the need for non-mag.

RESULTS + VALUE DELIVERED

- When running the first whipstock, the directional team and operator believed that it was set 180° out. After damaging beyond repair (DBR) four PDC bits, the directional team and operator realized that the whipstock had in fact been set 180° out, meaning they had been trying to drill through the slide of the whipstock.
- After our competitor's misstep, we were called to the rigsite to orient the whipstock in the right direction. The directional team kicked off afterward and ran the Quest GWD system seamlessly to TD, allowing them to successfully reach their directional target and accurately place the well according to the well plan.



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