

CASE STUDY

QUEST GWD PROVIDES HIGH-INCLINATION WELLBORE SURVEYING IN ONE TRIP, SAVING \$335,000 VERSUS LEGACY TECHNOLOGY

► TECHNOLOGY

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

► APPLICATION

- High-inclination wellbore surveying
- Wellbore placement

► LOCATION

- UK North Sea

INDUSTRY CHALLENGE + OBJECTIVE

An operator in the North Sea was drilling a well and expected magnetic formation interference near the reservoir, which would affect the ability to present accurate, real-time MWD surveys. The well's inclination was expected to be greater than 90°, meaning the operator needed a gyro surveying system that could maintain its accuracy in high-inclination sections. We recommended running our solid-state Quest GWD system to address the operator's challenges.

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 steerability and sensor placement closer to the bit without the need for non-mag.

RESULTS + VALUE DELIVERED

- The Quest GWD system was successfully implemented with the third-party service company's MWD system (required for the RSS).
- The Quest GWD system's extended battery life allowed for 18 days of surveying in hole with no battery trip required, saving approximately 16 hours (estimated point-to-point trip time) or \$335,000 based on rig time. This would not have been possible with legacy GWD systems.
- The system accumulated a total of 488.5 operating hours, the highest ever for a Quest GWD run and surpassing the previous record by 147.5 hrs.
- The system presented 61 surveys, all of them passing QC and requiring no retakes, through 1,721 m of drilling.
- The job was carried out entirely remotely, a first for the client using GWD in the UK North Sea.

