

CASE STUDY

QUEST GWD USED AS DEFINITIVE SURVEY SYSTEM IN NORTH SEA WELL, MITIGATING COLLISION RISK AND SAVING RIG TIME

▶ TECHNOLOGY

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

▶ APPLICATION

- Wellbore placement
- Collision risk mitigation
- Remote operations

▶ LOCATION

- Norwegian North Sea

INDUSTRY CHALLENGE + OBJECTIVE

An operator in the Norwegian North Sea was drilling the 16-in. section of a well in a complex field. While the operator originally intended to use gyro surveys from the beginning of the section to 850 m due to magnetic interference from an adjacent well, they ultimately decided to implement our Quest GWD system for the full well to save rig time and accomplish their directional objectives.

TECHNOLOGY + SERVICE SOLUTION

- We suggested implementing our Quest GWD system, powered by SPEAR solid-state sensors.
- 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

- Prior to drilling the section, the operator decided to monitor the Quest GWD survey times and assess the benefit of switching to MWD surveys once magnetic interference was cleared. Due to the Quest GWD system allowing survey times to be fully hidden in the connection process, there was no benefit of switching to MWD, as the tools would require rotational check shots to allow multistation correction. This saved approximately 30 min of rig time, equivalent to \$14,000 based on a rig spread rate of \$641,000 per day.
- The section was drilled from kickoff to TD with no survey retakes required and no extra time at connection.
- The entire job was carried out with remote support, with excellent collaboration between Gyrodata personnel and third-party service company employees. Remote operations eliminated the logistical cost of mobilization while providing a clear safety benefit. Savings associated with unmanned operations were approximately 8 rig days, or \$20,000.

