

CASE STUDY

REMOTE QUEST GWD SYSTEM ALLOWS OPERATOR TO ORIENT AND SET WHIPSTOCK AND ELIMINATES MOBILIZATION COSTS AND SAFETY RISKS

► TECHNOLOGY

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

► APPLICATION

- Whipstock orientation and setting
- Remote operations

► LOCATION

- North Sea

INDUSTRY CHALLENGE + OBJECTIVE

An operator in the North Sea needed to orient and set their 13³/₈-in. whipstock from vertical to mill out a window for sidetracking from a semisubmersible rig during drilling of an exploration well. Due to the operator's strategy of reducing crews offshore, as well as ongoing challenges with personnel mobilization as a result of the ongoing COVID-19 pandemic, the operator agreed to having unmanned survey services monitored remotely. It was critical that the operator not only successfully orient and set the whipstock but that they incorporate a survey system that could mitigate heave, which could affect the solution's reliability.

TECHNOLOGY + SERVICE SOLUTION

- We suggested implementing our Quest GWD system, powered by SPEAR solid-state sensors.
- Our solid-state SPEAR sensors, in conjunction with our intelligent mode technology, ensure effective surveying in environmentally noisy conditions.
- The sensors are able to handle harsher downhole environments when compared to conventional GWD systems.
- The SPEAR sensors' low power consumption enabled remote operations, with tools being prepared onshore for offshore deployment.

RESULTS + VALUE DELIVERED

- We successfully deployed the Quest GWD system without any personnel being necessary on the rig, with two survey specialists monitoring real-time well and survey data from a remote operating center onshore in Aberdeen.
- The extended GWD mode was programmed with a survey delay to allow maximum reliability of survey/toolface data while operating in difficult winter environmental conditions offshore.
- The extended GWD mode combatted the challenge of having only five pump cycles available to achieve setting the whipstock by reducing the number of surveys necessary to QC the data.
- The operation was completed in just three surveys, with excellent QC, ensuring full verification of the data.
- The remote system improved HSE on the rig and eliminated the costs and logistics of personnel transport and accommodation.

