

CASE STUDY

REMOTE QUEST GWD SYSTEM PROVIDES NORTH SEA OPERATOR WITH DIRECTIONAL CONTROL AND HIGH-ACCURACY WELLBORE SURVEYS

► TECHNOLOGY

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

► APPLICATION

- Directional drilling
- Wellbore placement

► LOCATION

- North Sea

INDUSTRY CHALLENGE + OBJECTIVE

An operator in the North Sea was batch drilling four wells from a jackup. To improve efficiency, the four tophole sections were to be completed collectively, rather than drilling one well at a time. Each well was to be drilled vertically before kicking off at approximately 1,200 ft to between 4 and 6° of inclination by TD. This nudge in varying azimuthal directions would ensure that drilling could achieve optimized separation factors and reduce wellbore collision risks between the four wells. Expecting magnetic interference and wanting to take remote, high-accuracy surveys to assist with gyrosteering while drilling, the operator decided to implement our Quest GWD system with the third-party service company's full directional package.

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 Quest GWD system incorporates our advanced downhole data collection with smart processing, ensuring faster surveys and gyrosteering mode transition.
- The system also features our intelligent mode technology (IMT) for surveying in noisy tophole environments.

RESULTS + VALUE DELIVERED

- The Quest GWD system served as the primary source of directional control and was successfully run inside the service company's collar to streamline BHA handling on the rig.
- The operation was carried out entirely remotely, with both day and night crews onshore.
- Fully remote operations provided an HSE benefit by removing personnel from high-risk zones offshore.
- The operator was able to utilize the same tools and equipment more efficiently with less risk of having to rig down and rig up BHA components, eliminating additional rig time. In addition, survey times were reduced, and remote operations eliminated mobilization and logistics costs.
- The system's dramatically increased battery life allowed it to remain in a fully built, shutdown state for longer and mobilized offshore fully made up without the need for on-site personnel to finalize rig-up.

