



Operator Uses New GWD System to Improve Ellipse of Uncertainty on Extended Horizontal Tangent

GYROSTAR™ GYRO-WHILE-DRILLING SERVICE PROVIDES PRECISE WELLBORE GUIDANCE AND MITIGATES COLLISION RISK

ALASKA

OVERVIEW

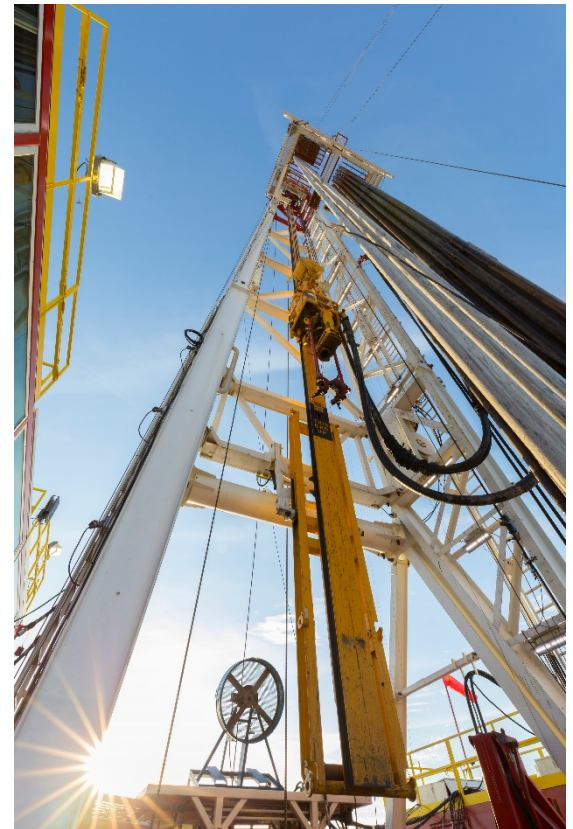
An operator on the North Slope of Alaska needed to drill a well through 900 ft of magnetic interference from offset wells. The main objectives were: 1) conduct high-accuracy surveys to optimize well placement, and 2) reduce the ellipse of uncertainty in drilling an extended tangent almost due west, at approximately 273° azimuth. Previously, gyro single-shots on e-line or spinning-mass GWD systems were used for such projects. However, due to current market conditions and a desire to reduce rig time/cost, a faster method was required to collect survey data and ensure precise directional drilling to avoid wellbore collisions, thus, minimizing non-productive time (NPT).

The GyroStar™ gyro-while-drilling (GWD) service from Halliburton Sperry Drilling was the recommended alternative to safely drill the entire 12¼-in. surface hole section from 0 to 6,973-ft MD, unaffected by magnetic interference. The compact design allowed SPEAR™ solid-state sensors to be placed closer to the bit in the measurement-while-drilling (MWD) string for definitive survey results. After seven days on standby, drilling the section, and completing an outrun memory multi-shot, the system had only used 38% of its battery life (compared to a conventional GWD solution, which would have taken two full batteries).

Previous solutions were limited by a backreaming out of hole maximum ROP of 60 RPM, but the GyroStar service had no RPM limits thanks to its downlink into memory multi-shot mode prior to tripping out of hole. Other benefits delivered by this new technology included:

- Zero NPT and no disruption to bottomhole assembly (BHA) functionality
- Survey time reduced by 30%—decreased from 2 min., 30 sec. to 1 min., 45 sec
- Reduced well time by six hours versus a wireline gyro system

This service further helped the operator maximize asset value with reduced tool handling and fewer number of crew members onsite, and operations remotely monitored for quality assurance.



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