CASE STUDY

GYROGUIDE REDUCES ELLIPSE OF UNCERTAINTY BY 80% IN E/W WELL

▶ TECHNOLOGY

- GyroGuide All-Attitude (Drop)

▶ APPLICATION

- High Angle E/W Well
- Risk Mitigation

▶ LOCATION

- Offshore West Africa (Cameroon)

INDUSTRY CHALLENGE + OBJECTIVE

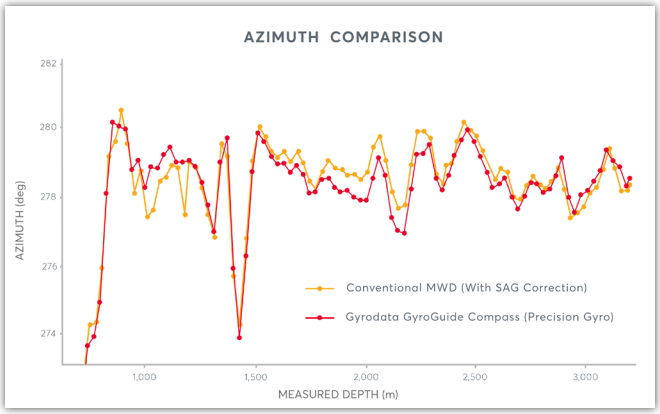
A major service provider was drilling in a high angle East/West environment and was unable to tie in the MWD at the start of the 12 ¼" section of the well. Due to the widening Ellipse of Uncertainty (EOU) at the 8 ½" section, many of the proposed well designs were insufficient to continue operations and adhere to the anti-collision requirements.

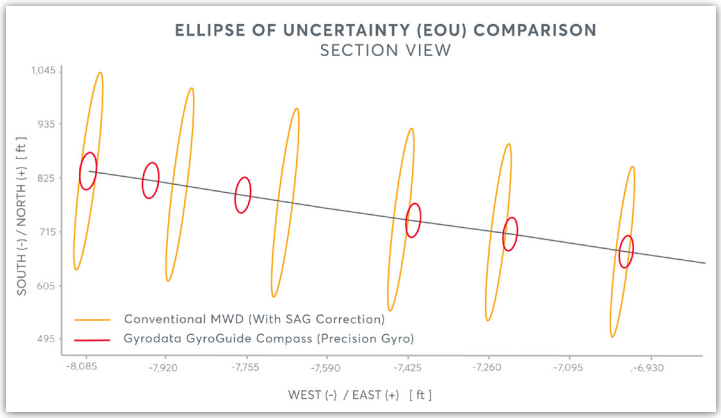
Based on the performance and operational constraints of conventional magnetic and north-seeking survey systems, the options for reducing the overall positional uncertainty and achieving the necessary increase in separation factor were limited.

TECHNOLOGY + SERVICE SOLUTION

Gyrodata recommended that the GyroGuide All-Attitude system be deployed, as it surveys at all inclinations with significantly improved accuracy. This system was selected to perform an 8 ½" hole drop survey from TD at 3,212 m, back to surface, with surveys collected at every stand (30 m intervals).

The tangent section of well (from TD back to 884 m) was the main area of concern, measuring approximately 68° inclination and 280° azimuth.





RESULT + VALUE DELIVERED

- An **80%** (or factor >5) **reduction in the lateral position uncertainty was achieved,** ensuring the separation factor was within the anti-collision parameters. This allowed the customer to continue drilling safely, and place the well with extreme precision. The project was completed several days ahead of schedule **saving the operator significant rig time and associated costs**.
- By utilizing the GyroGuide system in drop mode, an extensive wireline operation was avoided. This saved an estimated 10 - 12 hours of rig time, and the cost of the additional equipment and personnel that would have otherwise been required.
- The operator is intending to use GyroGuide on future wells with similar high angle E/W profiles.