Sperry Drilling Survey Management Audit Reduces Ellipse of Uncertainty by 600% to Meet Anti-Collision Criteria

Location: Houston (GOM)

OPERATOR’S CHALLENGE – The COMPASS™ well planning database being used by a customer failed anti-collision criteria on ongoing well plans due to unknown Instrument Performance Models (IPM) being applied to historic wellbores. As a result the wellbore uncertainty value applied was very conservative. To meet anti-collision criteria, the customer challenged Sperry Drilling to apply Survey Management tools to further refine the well plan ellipse.

HALLIBURTON’S SOLUTION – Sperry’s Survey Management audit identified several opportunities to improve the wellbore uncertainty. The main priority was to assign proper IPMs to all wellbores and to assign at least one casing depth to each well to assist with generating proper anti-collision reports.

In addition, Sperry verified surface hole locations (SHLs) using the most current platform as-built. Many surveys had missing or incorrect data requiring analysis and manual updating before the data could be imported into the COMPASS database. Finally, the surveys were corrected from true to grid north. Survey information was then broken down into depths by survey instrument used, then finalized by comparing the Bottom Hole Location (BHL) with the survey documentation gathered from the well library and state/federal resources.

By implementing survey management processes, Sperry Drilling Survey Management produced a significant improvement of wellbore uncertainty, which was applied to all of the corrected wellbores to meet anti-collision criteria.

ECONOMIC VALUE CREATED – Upon completion of the database audit by Sperry Survey Management, an average of 600% reduction in ellipse of uncertainty values were applied to all audited wellbores. With verification and implementation of proper IPMs, a significant improvement of wellbore uncertainty was applied to all of the corrected wellbores to enable the customer to meet anti-collision criteria on on-going well plans.