Collaborative Well Planning Optimizes Collision Avoidance, Saves Operator Two Weeks

Location: Gulf of Mexico, Green Canyon Block

Results
- Optimized well path planning around offset wellbores
- Visualized potential collision issues in 3D accounting for MASD
- Complied with the operator’s conservative collision avoidance policy

Challenges
- Deepwater production platform with 15 active wells
- Operator’s collision avoidance policy had a well-to-well separation factor of 1.5 or greater
- Ensure wellbore placement accuracy while decreasing well-planning time

Baker Hughes solution
- Facilitated collaborative well planning with the operator while visually demonstrating compliance with their collision avoidance policy
- Used 3D visualization to save an estimated two weeks of well planning
- Drilled the exploration well without incident

Upon completing an initial directional sidetrack well in the deepwater Gulf of Mexico (GoM) Green Canyon area, Baker Hughes was challenged with maintaining a separation factor of 1.5 or greater when drilling from a crowded production platform of 15 active wells. The operator’s conservative collision avoidance policy rendered traditional well-planning techniques unsuccessful.

To overcome this wellbore placement challenge, Baker Hughes deployed its proprietary CoViz® 4D reservoir management software. The CoViz platform is an advanced imaging technology that enables multidisciplinary users to view data in context with other field data for more informed decision making.

This integrated solution to predictive logging while drilling response modeling provided visualization of development decisions and how they would affect the reservoir in real time.

A team of Baker Hughes geoscientists used data provided by the CoViz platform to plan the well in compliance with the operator’s collision avoidance policy. The 3D modeling generated an optimized well path that adhered to the operator’s minimum allowable separation distance (MASD) between the sidetracked well, the offset wells and the parent wellbore, and enabled the Baker Hughes reservoir navigation engineers to save the operator an estimated two weeks of well-planning time while achieving optimum wellbore placement.

CoViz 4D reservoir management software is a trademarked product of Dynamic Graphics, Inc.