Case Study

SET® Openhole Liner (OHL) Enables Operators to Confidently Reach Target Depths in $100MM Investment

Challenge

Predicting pore pressure and fracture gradient is a challenge for operators planning exploratory wells in the ultra-deep waters of the Gulf of Mexico. Consequently, operators have to calibrate their models with actual formation pressures taken while drilling the well. Many times such calibrations result in real-time adjustments to the casing program. In order to ensure that all the geological targets are reached with a big enough hole size to perform the formation evaluation plan, operators need to expand their casing program possibilities in shallow sections of the well. This allows for alternatives in deeper intervals to address unknown challenges and ensures well objectives are met.

In this project, the planned 13-3/8 in. conventional casing setting depth could not be reached due to a narrower than planned drilling window. Such an event, along with the uncertainties in deeper sections of the exploratory well, compromised reaching the geological targets with the mandatory hole size.

The only other option was to set the 13-3/8 in. conventional casing shallower than the plan, and take the risk of running out of casing sizes prior to reaching all the geological targets. That option would jeopardize the over $100MM USD investment to drill the well, without meeting the objectives.

Results and Value Added

The Operator chose to extend the 16 in. shoe with the 13-3/8 x 16 in. SET OHL system.

- The successful installation ensured the drilling window could be opened up again to run the 13-3/8 in. conventional casing 1,024 ft (312 m) deeper than its original planned setting depth.
- Adding a casing string without slimming the wellbore architecture was crucial to meet the well objectives with confidence.

This was the first 13-3/8 in. SET system installed in deepwater Mexico and sets a milestone for SET Technology in the deepest water depth on record.

Results and Value Added

- Completion year: August 2015
- Location: Ultra-Deepwater, Mexico
- Base Casing: 16 in. (84.0 lb/ft)
- Solution: 13-3/8 in. SET OHL
- Water Depth: 9,216 ft (2,809 m)
- Shoe Depth: 14,459 ft (4,407 m)
- Liner Length: 1,489 ft (454 m)