CASE STUDY: GULF OF MEXICO

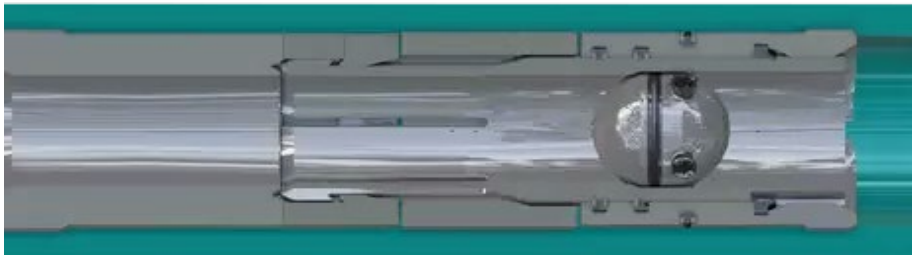
JABS bi-directional formation barrier optimizes deepwater completion design

CHALLENGE

- Execute stacked frac pack using single technology as fluid loss device (FLD) and formation barrier while providing reduced complexity if one of two zones is depleted

SOLUTION

- The Jettisonable Ball Seal tool (JABS) was installed in the lower zone of a deepwater (17,000'MD) stacked frac completion to act as a formation barrier, and an isolation tool
- The JABS was set while the well experienced 161 bph losses (qualified to 610 bph). Upon closing, the loss rate went to zero as the initial rate of 180 bph would diminish no further; saving both time and lost fluid costs
- The JABS became the new bottom for the upper sand control completion. Maintaining static conditions with ~1,300 psi+ overbalance hydrostatics to the LZ BHP, it withstood the rigors of perforating the upper zone and a wellbore clean out run to remove the same debris



JABS can be deployed in deepwater and high-pressure (15 ksi burst/collapse), high temperature (370°F) environments, gravel-pack operations, horizontal wells, and underbalanced (10 ksi differential across the ball) conditions.

RESULTS

- The operator was able to conduct additional completion operations as per their standard protocol while the JABS provided a barrier to lower zone formation
- Reduced risks and complexity of completing a stacked completion with a depleted zone
- Successfully jettisoned the ball at a field shear pressure within 7% of the at temperature design (~7,400 psi opening pressure)
- Delivered a well to production ahead of delivery times relative to analog wells

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