

Completion String RIH Analysis

Ref: SI06

Objectives

- Combine Local Dogleg Analysis [SM03] and T&D&B [SI01] for realistic side force and stress prediction
- Anticipate potential lockup of completion strings at planning phase
- Prevent lockup and/or damage of completion strings due to unplanned doglegs or tortuosity in real-time support
- Plan completion string installation roadmap - hookload (SOW, PUW) and surface torque vs MD to follow up onsite

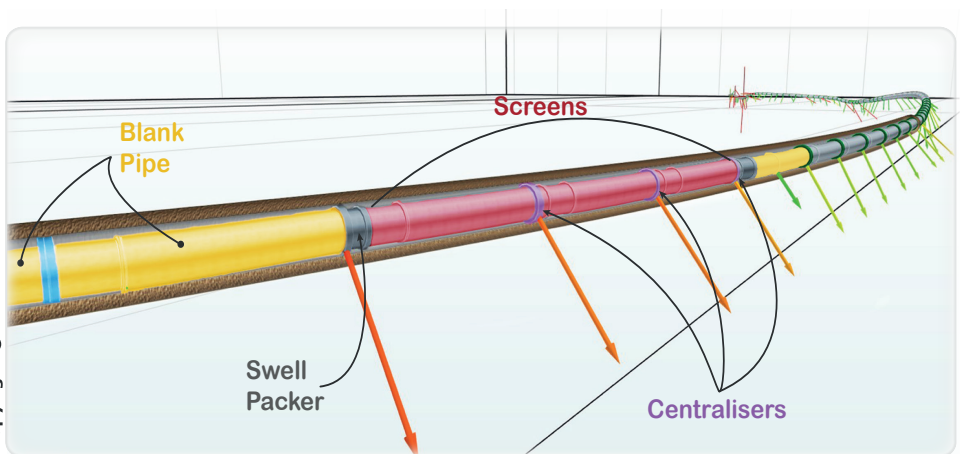
Benefits /

Pre-Well

Real Time

Post-Well

- Ensure maximum BPD and early financial break-even point by allowing the completion string to reach TD undamaged
- Avoid deferred production due to challenging operating conditions by optimising completion string design
- Anticipate challenging completion string deployment and take appropriate measure by re-design and CWOP
- Avoid costly fishing operations or in worst case losing the drain



Side forces along a Stand Alone Screens completion string

Includes

- Modelling of complex equipment (screens, inflatable packers, etc...)
- Detailed tortuous trajectory reconstruction from directional BHA model and survey [SM03]
- Analysis of side forces, bending stress, von Mises stresses on critical equipment [SI01]
- Friction factor determination (Sensitivity analysis on tortuosity, fluid, hole overgauge, ...)
- Buckling analysis to evaluate weight transfer with and without rotation and risks after lockup

Deliverables and Timing

- Earliest result delivery within 10 days after reception of full and usable set of data
- Delivery of final PowerPoint® or written report within 3 weeks, intermediate reports on demand
- Result support from our most experienced Drilling Champions, upon request
- Result presentation in client's office (optional)
- Real-time support available onsite or remotely (optional)