Drill String Fatigue Analysis

**Objectives**

- Evaluate well plan based on drill string fatigue failure risk, short/medium radius wells
- Monitor drill pipe fatigue damage in real-time and take preventive measures before failure
- Troubleshoot drill string fatigue failure
- Ensure follow up of drill pipe integrity and predict failure

**Benefits / Deliverables and Timing**

- Increase personnel and operation safety by improving drill pipe integrity
- Reduce NPT due to drill pipe failure (pipe body washout, …)
- Predict lifetime of new pipes in short/medium radius wells during tender evaluations
- Improve drill string life cycle management for short/medium radius wells with real-time support

**Includes**

- Stiff-string model with unique contact point management with side force including stress calculation
- Based on bending stress determination and cumulative fatigue accumulation rules (S/N Curves)
- Analyse fatigue along each pipe and/or any other specific point on downhole equipment
- Real-time drill pipe fatigue monitoring during all operations

**Post-Well**

- Evaluate well plan based on drill string fatigue failure risk, short/medium radius wells
- Monitor drill pipe fatigue damage in real-time and take preventive measures before failure
- Troubleshoot drill string fatigue failure
- Ensure follow up of drill pipe integrity and predict failure

**Pre-Well / Real Time**

- Increase personnel and operation safety by improving drill pipe integrity
- Reduce NPT due to drill pipe failure (pipe body washout, …)
- Predict lifetime of new pipes in short/medium radius wells during tender evaluations
- Improve drill string life cycle management for short/medium radius wells with real-time support

**Cycles**

Risk of drill string failure due to cyclic stresses induced by dynamic loads

DrillScan services catalog / Tubular String Integrity