

# BHA & Bit Run Drilling Hydraulics

Ref: NPT03

## Objectives

- Ensure that the planned operations do not exceed your rig pumps capacity
- Evaluate pressure losses in the surface system, drill string, BHA, mud motor and annulus and at the bit
- Estimate hole-cleaning efficiency in the planning phase
- Optimise hydraulic horsepower or jet impact force at the bit
- Estimate ECD along the wellbore including surge and swab pressure analysis

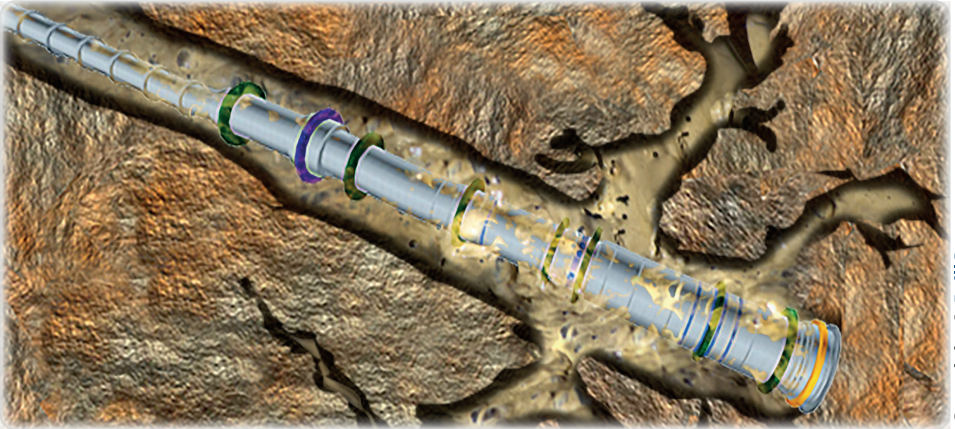
## Benefits /

Pre-Well

Real Time

Post-Well

- Reduce risks of well control and hole integrity issues due to swab & surge
- Optimise ECD to stay safe within mud weight window  
Optimise pump rate and nozzle size to allow bit hydraulics optimisation
- Save time by anticipating hole cleaning issues



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Accurate calculation of pressure losses reduces risk of lost circulation

## Includes

- Relevant rheological models (Newtonian, Bingham plastic, Power Law, Herschel-Buckley)
- Industry best practices for bit optimisation and hole cleaning assessment
- Any type of BHA (Rotary, VGS, RSS, Motor, URWD)
- Downhole motor, string and bit pressure losses calculation
- Show the location of laminar and turbulent flow

## Deliverables and Timing

- Earliest result delivery within 2 days after reception of full and usable set of data
- Delivery of final PowerPoint® or written report within 1 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)