

TORC components

Enhancement in Torsional Stability and Torque Response

Vibrations are some of the main challenges observed in interbedded formations. Variations in rock properties cause torsional oscillations which usually lead to full stick-slip. Torque fluctuations, in many cases, also diminish toolface control of fixed cutter drill bits. Depth-of-cut (DOC) control is the conventional method used to minimize torque fluctuations and mitigate stick-slip.

ReedHycalog has developed an efficient approach to DOC control. Patent pending TORC™ DOC control elements are designed to a unique geometry, providing up to four times larger contact areas with the bottom hole, diminishing torque oscillation generated by primary PDC cutters rock interaction.

TORC control elements have a unique geometry design to match the cut profile of the PDC cutter track. This increases the available contact area, improving the torque response compared to conventional round depth of control components.

Proprietary cutter analysis software simulates the weight-on-bit (WOB) and torque relationship for drill bits, employing depth-of-cut control features.

The enhanced TORC control elements reduce torque fluctuations, improving directional control, reducing sliding time, and increasing overall ROP.

