

SRD TOOL

Slipstick Reduction Device

Increase Sliding ROP

Efficiently Transfer WOB

Enhanced Friction Reduction

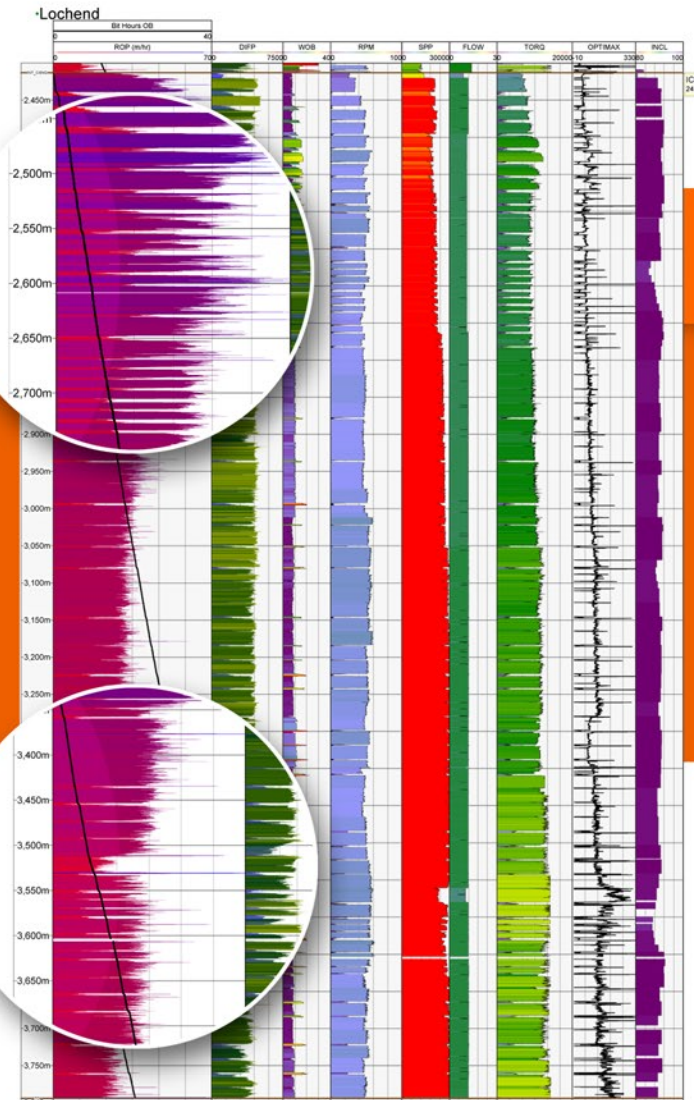
Reduced Shocks to Directional Tools

Negative Pulse Reduces Pressure Losses

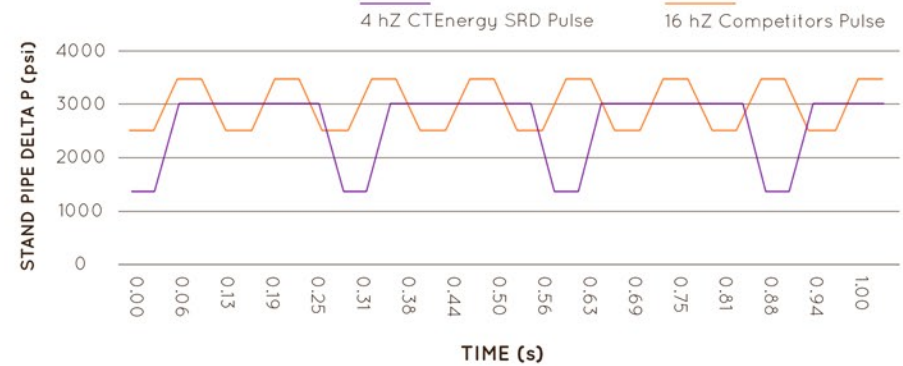


How The Tool Works

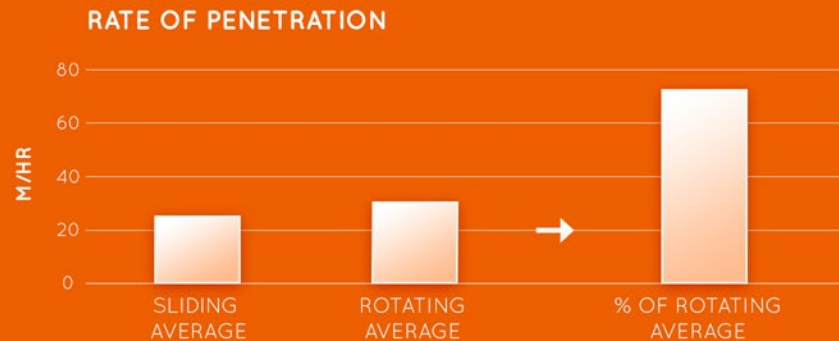
The SRD "Ratler" tool is located in the horizontal section of drill string that generates an axial vibration from the energy available. The axial vibration is produced by a negative pressure pulse created by venting a prescribed amount of drilling mud to the annulus at a controlled frequency. A shock sub, unique to the Ratler, transmits this negative pressure pulse into a high magnitude axial oscillation which breaks static friction between the drill string and annulus wall. This low frequency axial force reduces drag, improving weight transfer on bit.



The nature of the negative pressure pulse does not damage the MWD equipment; allowing tool placement to be closer to the bit, effectively breaking friction on the lateral section of the drill string.



As shown the Ratler has increased the sliding ROP for this run to an average of 70% of the rotating ROP.



Features & Benefits

- ▶ Negative pulse does not interfere with or damage MWD equipment, therefore placement in the string can be optimized
- ▶ Axial oscillations in the horizontal section of drill pipe generate a more efficient transfer of weight on bit, helping to improve ROP
- ▶ Axial oscillations of horizontal sections of the string break static friction, reduce stick slip, and increase sliding ROP