PEGASUS

New Generation of Premium PDC Drill Bits

In the mythical past, Pegasus was the winged horse that proved immortal against all its opponents and could overcome every challenge. In the modern world, drilling challenges are becoming increasingly tougher, and the demands of drill bits are rising. ReedHycalog's new premium Pegasus ™ series drill bits combine industry-leading technologies to overcome the harshest and most challenging drilling applications, including geothermal. Where existing fixed-cutter, hybrid, and roller cone bits have 'foal'en short of their target, Pegasus drill bits are here to fly you to the next level of bit performance.

The latest **ION+™** shaped cutter technology provides a customized, stable, and efficient cutting structure to reduce torque generation and maximize ROP in hard, abrasive, and interbedded formations. A patented dual-diameter design allows the pilot to pre-fracture the formation while the reamer then drills stress-relieved rock to maximize lateral stability and improve drilling efficiency. The **MaxSteer™** enhanced gauge length feature positions the bit breaker slots in the gauge pad, which reduces the makeup length to maximize steerability. Depth of cut (DOC) control provided by features such as our patent-pending TORC™ DOC elements, which are designed with a unique, enhanced geometry. TORC elements enable up to four times larger contact area with the bottomhole to minimize torque fluctuations, improve directional control, reduce sliding time, and increase overall ROP.

Struts™ high-density impreg secondary elements on the pilot and reamer gauge combine carbide toughness with diamond hardness to protect the primary cutting structure against impact damage and enhance bit stability. The **BitIQ™** smart sensor technology provides tri-axial vibration, RPM, and temperature data. The platform is designed to evolve, allowing the Pegasus bits to collect usable data that improves performance for the entire drilling system.

Step-changing performances

A 16 in. Pegasus bit proved its superior durability by being run four times without repair in a challenging application where conventional fixed-cutter bits lacked durability, and hybrid and roller cones were limited by operational hours. The Pegasus bit delivered the ROP of a conventional fixed-cutter bit while providing the stability of hybrid and roller cone bits. This superior performance resulted in the lowest cost per meter of all drill bit types and provided both technical and cost-saving benefits to the customer.

A 12.25 in. Pegasus design was also run in a challenging geothermal application where traditional PDC and hybrid bits would come under gauge. Compared to the hybrid design, the Pegasus design drilled 15% longer at a competitive ROP and reached total depth while offset bits were pulled for hours. It achieved all the direction requirements of the bit run and exhibited a better dull condition than our competitor. The rig reported smooth torque and steady drilling throughout the bit run.