GeoTech® (GTi) Drill Bits

ENGINEERED FOR THE iCRUISE™ INTELLIGENT ROTARY STEERABLE SYSTEM

OVERVIEW

The Halliburton Drill Bits and Services has engineered PDC drill bits to maximize performance with the iCruise™ intelligent rotary steerable system (RSS). Rotary steerable tools have unique operating principles that require specific bit designs to achieve performance at the highest level. Halliburton simulates each GeoTech® (GTi) bit in Direction by Design® (DxD) software to match the bit to the iCruise RSS. This analysis software has been specifically tuned for the iCruise RSS and is backed by countless tests on both the component and system levels to deliver the GTi line of drill bits.

DATCI™ SERVICE PLATFORM: THE MOST EFFECTIVE BIT OPTIMIZATION SOLUTION

Combining powerful design and simulation tools, and a global network of technical resources, the Design at the Customer Interface (DatCI) service platform uses direct customer input to rapidly optimize each drill bit. Our global network of application, design, and evaluation (ADE™) service specialists works directly with the customer to define specific bit solutions, drawing from a toolbox of the industry’s most sophisticated software systems — with real-time performance optimization capabilities. That toolbox includes:

» SPARTA™ analysis software, which delivers advanced rock-strength analysis and modeling, providing clear and concise information to optimize drill bit selection and drilling parameter optimization

» iBitS™ drilling software for creating 3D bit designs anywhere, using the latest bit dynamics modeling, including upgrades that better simulate cutting structures for specific applications

» Direction by Design (DxD) software, which enables Halliburton to define the relationship between specific bit design features and their full impact on directional deliverables, enabling Halliburton to provide the ideal combination of steerability, stability, and aggressiveness for the application

» Enhanced hydraulics modeling that provides a more accurate bottomhole pattern and enables quantitative analysis on cutter faces and through junk slots to minimize erosion.

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

FEATURES AND BENEFITS

The ability for a drill bit to cut rock laterally is critical when attached to a rotary steerable tool. Lateral cutting allows the system to kick off, drill the curve and lateral, and make geosteering corrections to stay in the zone. There are many factors in a drill bit design that can affect the ability of the drill bit to cut rock laterally, such as:

» Cutter placement

» Gauge configuration

» Depth-of-cut control

» Bit profile

The challenge is not in the understanding of how each feature changes the bit tendency, but in understanding how each of these features interacts with each other. Simply maximizing each feature can lead to instability and make it difficult for the RSS to control the bit. Knowing this, Halliburton has developed a simulation tool to predict the side-cutting efficiency of the drill bit, and has tuned it specifically for the iCruise intelligent RSS. Each GTi bit will be iteratively run through the Halliburton proprietary DxD software to ensure a match with the iCruise RSS. This matching process ensures the dogleg and stability requirements are met while optimizing rate of penetration. Halliburton not only customizes the drill bit for the application, but also the tool that is guiding it.