

XBAT™ Plus Azimuthal Sonic and Ultrasonic LWD Service

RELIABLE DATA FOR OPTIMIZED DRILLING, ENHANCED WELL PLACEMENT AND COMPREHENSIVE EVALUATION

OVERVIEW

With an ever-increasing drive to reduce costs in today's challenging drilling environments, the need for accurate and reliable data to address multiple drilling and evaluation applications increases. Whether the need is to ensure optimized drilling through real-time monitoring of pore pressure and wellbore stability, to optimize well placement through the generation of synthetic seismograms to tie back to surface seismic data, or to obtain porosity measurements without the risks associated with nuclear sources, obtaining valid acoustic data for the entirety of the well is essential. The XBAT™ Plus azimuthal sonic and ultrasonic service addresses a wide range of applications, enabling increased understanding of the drilling environment and reservoir properties.

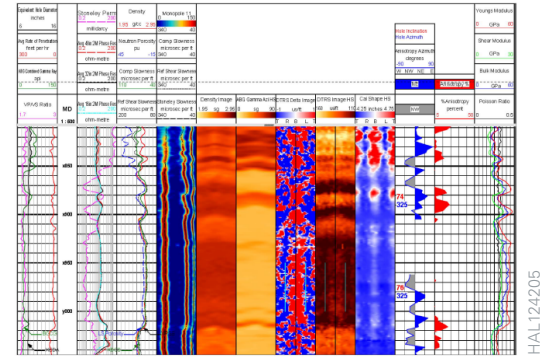
SAFER DRILLING. REAL-TIME DECISIONS.

The XBAT Plus service features an azimuthal 4-pinger ultrasonic caliper that provides a real-time assessment of borehole shape and quality, enabling timely adjustment of drilling fluid properties to maintain wellbore stability. With multiple firing modes and an azimuthal receiver array, azimuthal images can be used to aid geosteering applications, in addition to other formation evaluation applications, such as source-less porosity, gas detection, and input into rock mechanical properties across a wide range of formation types and borehole sizes.

OPTIMIZED DRILLING. ENHANCED WELL PLACEMENT.

The XBAT Plus transmitters provide increased signal strength at both low and high frequencies, delivering enhanced data quality in all formations. The tool's 24 receivers exhibit high sensitivity across the desired frequency range, minimizing noise impact. New ultrasonic transceivers deliver improved azimuthal caliper in large holes and heavy mud environments, and a 6 GB memory has been added to enable longer runs without compromising data acquisition. Firmware enhancements enable real-time assessment of both top of cement location and cement bond quality, meaning evaluation of the cement operation can be done while running in hole, without the need for a separate wireline cement bond log (CBL) run.

For more information, contact us at sperry@halliburton.com or visit us on the web at www.halliburton.com



Composite plot from SPE-18578 showing compressional and shear curves, refracted shear image, caliper image, anisotropy analysis and calculated rock properties.

FEATURES

- » Flexible tool configuration allowing while-drilling changes to the firing sequence as required
- » Real-time caliper and borehole shape for wellbore stability monitoring
- » Real-time casing energy enables evaluation of cement while tripping in hole

BENEFITS

Drill to Produce

- » Improve wellbore placement through time-to-depth correlation from the creation of synthetic seismograms
- » Enhance geosteering operations with real-time azimuthal acoustic data sets

Enhance Reservoir Understanding

- » Identify gas, using V_p/V_s ratio
- » Understand rock mechanical properties through derivation of bulk modulus, shear modulus and Poisson's ratio

Reduce Well Time

- » Reduce non-productive time associated with wellbore stability issues through monitoring of pore pressure and borehole shape in real time and optimization of the mud weight window
- » Decrease the need for separate wireline CBL run by using real-time top of cement evaluation and an early assessment of cement bond quality
- » Remove the environmental risks and well time often associated with nuclear sources through acoustic porosity estimation

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