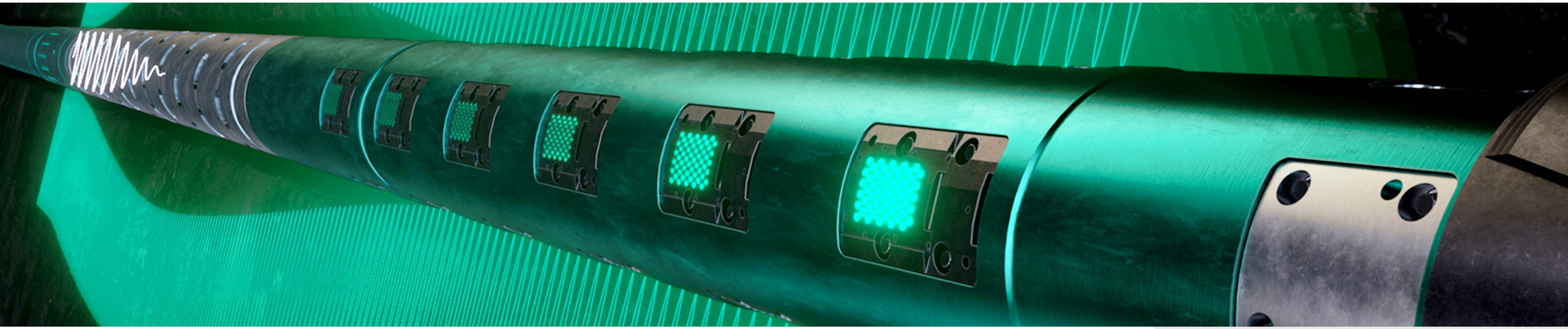


Mitigate risks and optimize well placement with a flexible acoustic LWD service

SoundTrak UHD advanced acoustic LWD service

SCAN NOW TO LEARN MORE

In today's complex drilling environments, precise wellbore placement and accurate reservoir characterization are critical to drilling success and long-term production performance. The Baker Hughes SoundTrak™ ultra-high-definition (UHD) advanced acoustic logging-while-drilling (LWD) service delivers accurate and flexible, acoustic measurements that help operators make faster, better-informed decisions at the wellsite.

PROVEN ACOUSTIC TECHNOLOGY FOR RELIABLE INSIGHTS

The SoundTrak UHD service uses proprietary technology to measure the slowness of compressional, shear, and Stoneley waves in both "fast" and "slow" formations. These measurements provide critical formation properties—such as porosity, rock strength, and geomechanical parameters—that directly enhance drilling efficiency and wellbore placement.

By integrating these insights into real-time operations, drilling teams can optimize trajectory decisions, reduce uncertainty, and improve overall well performance.

SUPERIOR ACOUSTIC LOGGING WITH FLEXIBLE BHA PLACEMENT

The SoundTrak UHD service is built around three core components: an omnidirectional acoustic source, an isolator, and a receiver array.

- The tool integrates seamlessly into bottomhole assemblies (BHAs) with OnTrak™, AziTrak™, and AutoTrak™ rotary steerable systems.
- The receiver section contains six levels with four receivers each. The tool delivers a quadrupole excitation that captures shear measurements in both fast and slow formations. Unlike LWD dipole tools, the quadrupole mode eliminates tool-mode noise and supports accurate dispersion corrections.
- Adaptive firmware dynamically tunes measurement parameters during drilling to match downhole conditions. This ensures high-quality real-time and memory data acquisition without costly relogs.

A high-resolution correlogram supports real-time quality control, while post-run dispersion corrections with model-based and phenomenon-based methods in the Baker Hughes WaveDAMA™ geoscience platform further enhance slowness accuracy. These capabilities make SoundTrak UHD a trusted solution for formation evaluation and applications such as top-of-cement detection.

APPLICATIONS & BENEFITS

- Drilling optimization and risk mitigation
  - Pressure management (pore pressure analysis)
  - Wellbore integrity and geomechanical analysis for drilling and completions
  - Casing point selection
  - Real-time TOC detection
- Reduce geological and seismic uncertainty
  - Improved time to depth conversion of surface seismic
  - Synthetic seismic tie
  - Acoustic slowness for re-processing surface seismic
- Reservoir characterization
  - Conversion of slowness to porosity
  - Seismic AVO (amplitude vs. offset) analysis for reservoir fluid typing
  - Stoneley wave permeability

MITIGATE RISKS AND ENHANCE DRILLING SAFETY

With accurate, real-time acoustic measurements, SoundTrak UHD enables early identification and mitigation of drilling risks long before they escalate.

Key risk-reduction benefits include:

- Improved pore pressure prediction for safer drilling margins
- Real-time cement top detection to confirm zonal isolation while drilling
- Optimized casing point selection to reduce wellbore instability risks
- Enhanced geomechanical analysis for better wellbore integrity management

SoundTrak UHD helps reduce nonproductive time (NPT) events such as well collapse, circulation losses, and blowouts. In well-planned operations, the service supports drilling at rates of penetration (ROPs) exceeding 500 ft/hr., making it ideal for today's drilling operations demanding high efficiency and low risk.

REDUCE GEOLOGICAL AND SEISMIC UNCERTAINTY

SoundTrak UHD's measurements are critical for linking well data with seismic interpretation. The service's acoustic measurements bring greater subsurface certainty by:

- Providing accurate time-to-depth conversion for seismic models
- Delivering reliable seismic-to-well tie-ins to refine geophysical models
- Improving reservoir mapping and fluid contact delineation for better well placement

By integrating real-time and memory LWD acoustic data, operators gain a clearer view of the subsurface, enabling confident reservoir navigation and optimized landing in the sweet spot.

IMPROVE RESERVOIR CHARACTERIZATION AND MODELING

SoundTrak UHD supports multidisciplinary workflows across geology, petrophysics, and reservoir engineering. Its measurements provide key inputs for:

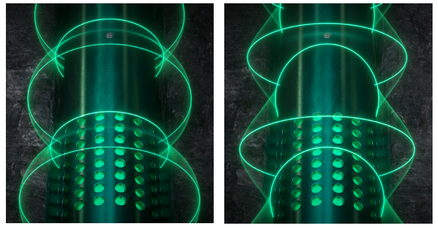
- Updating petrophysical models for enhanced reservoir characterization
- Converting slowness to porosity for volumetric calculations
- Providing supporting data to improve light hydrocarbon indicator studies
- Conducting seismic AVO (amplitude vs. offset) analysis for reservoir fluid typing
- Estimating permeability from Stoneley wave analysis

These insights enhance reservoir characterization, reduce uncertainty, and guide more informed development decisions.

DRIVE CERTAINTY AND PERFORMANCE WITH SOUNDTRAK UHD

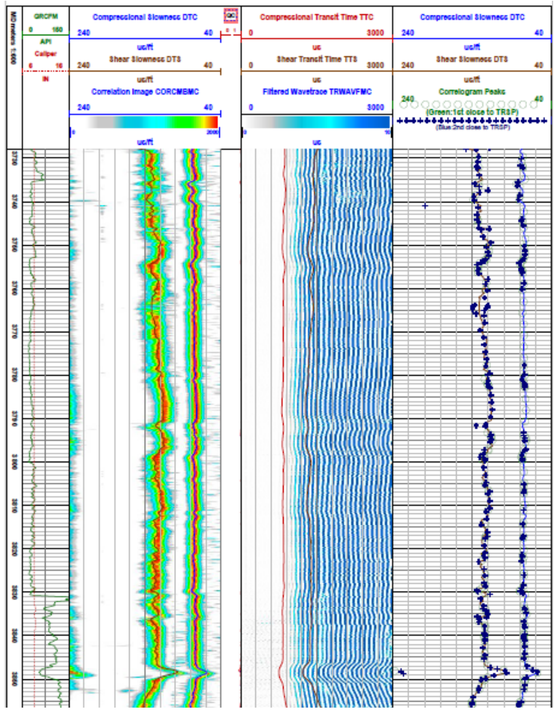
By combining accurate real-time measurements with flexible deployment, SoundTrak UHD delivers superior acoustic insights to reduce drilling risks, enhance efficiency, and improve reservoir understanding—all while lowering the cost and uncertainty associated with traditional wireline methods.

Contact Baker Hughes to learn how the SoundTrak UHD advanced acoustic LWD service can help minimize the risk and maximize the accuracy of your drilling operations.



Excitation modes for Monopole and Quadrupole.

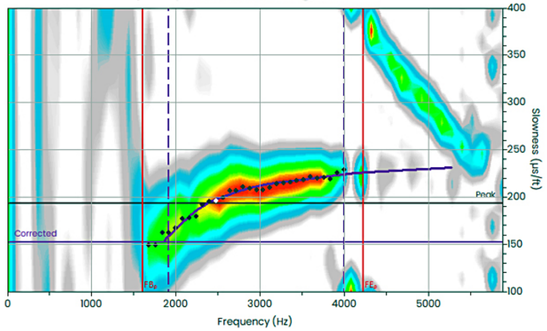
Standard deliverables from SoundTrak UHD



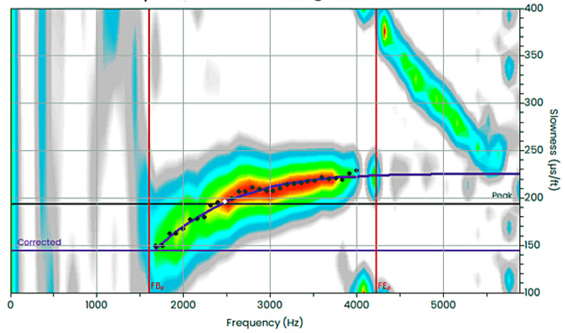
SoundTrak™ UHD

advanced acoustic LWD service

Dispersion Contour Data @ 28621.215 ft



Dispersion Contour Data @ 28621.215 ft



Examples of dispersion processing results with model-based and phenomenon-based methods.

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