AziTrak UHD high-definition deep azimuthal resistivity service

Maximize production and recovery potential with optimal wellbore placement

Precise well placement is essential to maximizing reservoir exposure and production. Without real-time insights into the location of fluid and lithological boundaries, drillers risk straying from the reservoir's productive sweet spot—reducing drilling efficiency, increasing nonproductive time, and necessitating costly course corrections.

The Baker Hughes **AziTrak™ UHD high-definition deep azimuthal resistivity service** delivers the clarity and real-time reservoir knowledge to keep wells within target formations. As a fully integrated measurement-while-drilling (MWD) and logging-while-drilling (LWD) service, AziTrak UHD service combines 360-degree azimuthal gamma ray, deep-reading azimuthal multiple-propagation resistivity, and downhole pressure and vibration measurements in a single sub. These measurements enable more informed decision-making and assured reservoir navigation, leading to better well placement while avoiding nonproductive boundaries.

Gain deeper insights from an advanced design

The latest evolution of the proven **AziTrak™ deep reading azimuthal resistivity service**, the AziTrak UHD service also features design advancements that provide more precise reservoir navigation in complex geological and structural settings.

- Orthogonal LWD antennas capture omnidirectional, deep azimuthal resistivity measurements at a higher signal-to-noise ratio, delivering greater measurement sensitivity and resolution.
- Deep-reading sensors placed just 16 ft (5 m) from the bit provide faster formation feedback and clearer porosity measurements, boosting geosteering responsiveness from tools like the Baker Hughes **AutoTrak™ rotary steerable system**.
- Dual-frequency operation (400 kHz and 2 MHz) enables precise mapping of multiple geological and fluid boundaries across all reservoir types.
- Greater depth of detection—up to 33 ft (10 m) radially from the borehole axis—delivers high-resolution boundary mapping for greater understanding of reservoir architecture.
- Flexible, hybrid inversions combine stochastic and deterministic approaches to generate real-time, high-definition earth models in full azimuthal orientation.

Applications

- Conventional oil and gas reservoirs
- Deepwater drilling
- High-angle and horizontal wells
- Brownfield production enhancement
- Field development with infill drilling
- Drilling through thin targets or geosteering close to a reservoir boundary

Benefits

- Improves production and recovery by directly enhancing the net-gross of the wellbore
- Affords more cost-effective field development decisions by improving understanding of the reservoir architecture
- Provides early detection of remote boundaries with real-time displays
- Reduces non-productive time (NPT) and eliminates sidetracks

Collaborate confidently in real time

When used with the **Kantori™ reservoir navigation service**, the AziTrak UHD facilitates real-time collaboration between field and office-based experts. Multidisciplinary teams can visualize the wellbore's position relative to bed boundaries, perform dip-picking, and analyze the well's distance to bed boundaries with greater confidence and accuracy. This integrated approach leads to faster, better-informed steering decisions and minimizes time spent drilling outside the target zone.

Improve net-to-gross at lower costs

With sensors closer to the bit, AziTrak UHD shortens geosteering response time, helping to keep the wellbore within the specific pay zone and away from non-productive formations. The result: increased net-to-gross ratios and a higher overall production potential for the well.

And because producing reservoirs are generally more porous than non-reservoirs, more time in the target zone translates to faster drilling rates and fewer days per well.

Maximize production at minimal risk

AziTrak UHD's detailed mapping of reservoir fluids and lithologies helps improve a well's production by maintaining maximum drain length within the reservoir. When combined with ultradeep azimuthal resistivity (UDAR) services, such as the **VisiTrak™ UHD multilayer mapping and analysis service** and **TRU-ARMS™ advanced reservoir mapping service**, AziTrak UHD measurements also help reduce development costs and extend the reservoir's production potential by eliminating pilot holes, identifying infill targets, and delaying water breakthrough.

Maintain a stable wellbore

By ensuring more precise wellbore placement, AziTrak UHD service helps minimize exposure to unstable zones and improve wellbore stability. Integrating the service's geological maps of fluid boundaries with other formation evaluation data, like porosity and fractures, supports smoother wellbores and more successful completion designs.

Contact your Baker Hughes representative to learn how the AziTrak UHD service, combined with the Baker Hughes Reservoir Navigation Service, can help you confidently steer your wells, minimize risk, and maximize ultimate hydrocarbon recovery.

Baker Hughes

Rewriting The Energy Equation™