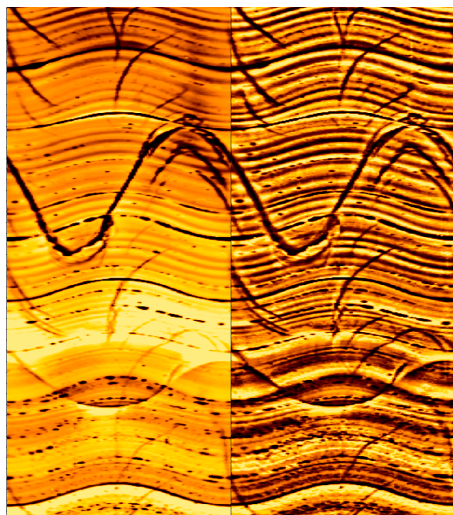


StarTrak LWD imaging system

Enhance production with high-definition LWD electrical imaging

The Baker Hughes **StarTrak™ advanced high-definition logging-while-drilling electrical imaging service** acquires microresistivity measurements around the circumference of the borehole during rotation of the BHA. The StarTrak service acquires azimuthal measurements in up to 120 separate oriented sectors providing excellent resolution – 0.25-in. by 0.25-in. (6.35 mm by 6.35 mm). The high resolution shows the sedimentological details of the formation and correlates well with conventional core analysis. This level of detail will result



High-definition static (left) and dynamic (right) StarTrak images showing thin beds along with natural and drilling induced fractures in a 6.5 ft (2m) interval.

in more accurate net-to-gross estimates in thin-bedded zones. Structural components of the formation are also clearly visible, aiding in reservoir modeling.

Complete characterization of fractures and faults is possible, providing valuable information for completion and stimulation of shale gas projects. The StarTrak service has been proven to give electrical images of outstanding quality even under conditions of moderate stick/slip and with penetration rates up to 150 ft/hr (45.7 m/hr).

Images can be viewed in real time, with azimuthal resolution of 16, 32, or 64 sectors, depending upon the mud pulse telemetry equipment used. With wired pipe, the full 120 sector image can be sent uphole in real time. Real-time images are valuable for detecting wellbore stability problems such as drilling-induced tensile fractures and breakout in time to mitigate the problem. Sedimentary steering is also possible with real-time images, letting you keep the wellbore in the best part of the formation.

Contact your Baker Hughes representative to learn more about how the StarTrak service can help you with your formation evaluation and imaging needs.

Applications

- Complex or thin-bedded intervals
- Shale gas plays
- Geosteering
- Wellbore stability

Benefits

- Delivers a highly detailed look at your formation
- Allows complete fault and fracture identification
- Provides early indication of wellbore stability problems
- Enables geosteering decisions
- Acquires high-resolution images at penetration rates up to 150 ft/hr (45.7 m/hr)
- Very tolerant of moderate levels of stick/slip
- Real-time images displayed through Baker Hughes' **Kantori™ remote service monitoring**