EARTH Imager formation resistivity imaging service
Acquire high-resolution microresistivity images in oil-based mud systems

The Baker Hughes, a GE company (BHGE), EARTH Imager™ formation resistivity imaging service delivers high-resolution microresistivity images in wells drilled with nonconductive oil-based mud systems. It offers significantly improved vertical resolution and borehole coverage when compared to other available systems. The EARTH Imager service uses advanced electrical conductivity measurements allowing for petrophysical and geological evaluation at a much greater resolution than previously possible in oil-based mud systems.

High-resolution borehole images are acquired by an independently articulated six-arm carrier and a power standoff design, ensuring optimal sensor-to-formation contact, even in highly deviated wells. Each of the six arms has a pad with eight sensors, resulting in 48 microresistivity measurements that capture detailed features for identifying bedding, fractures, faults, stratigraphic features, and borehole wall features such as breakout and drilling-induced fractures.

The EARTH Imager service allows simultaneous acquisition of high-resolution resistivity and acoustic borehole image data sets. Whether deployed alone or in combination with acoustic imaging services, such as the Circumferential Borehole Imaging Log™ (CBIL™) service or the UltrasonicXplorer™ service, the EARTH Imager service helps analyze structural dip, fractured systems, depositional environments, borehole stability, and net-pay identification in thinly bedded sequences. This unique capability offers a powerful interpretation perspective based on two sets of complementary data, saving rig time. The EARTH Imager service is also fully combinable with other BHGE logging tools.

For more information on the EARTH Imager service, contact your local BHGE representative or visit bhge.com

Applications
- Dip and strike determination
- Fault and fracture identification and description
- Sedimentary and stratigraphic interpretation
- Delineation of other geological structures
- Seismic upscale and verification of a seismically derived structural model

Benefits
- Provides high-resolution images in oil-based mud systems
- Acquires simultaneous microresistivity, acoustic, and ultrasonic images
- Saves rig time with additional interpretation of complimentary data
- Provides range of solutions from image processing to complex multi-wall sedimentological study

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### Properties/Specifications

- **Instrument diameter**: 5.25 in. (133 mm)
- **Length**: 30.7 ft (9.7 m)
- **Weight**: 680.9 lb (310 kg)
- **Minimum borehole size**: 6 in. (152 mm)
- **Maximum borehole size**: 21 in. (533 mm)
- **Maximum temperature**: 350°F (177°C)
- **Maximum pressure**: 20,000 psi (138 Mpa)
- **Number of pads/sensors**: Six pads; eight sensors per pad
- **Mud type**: Oil-based mud
- **Tool compressive strength**: 36,000 psi (16,330 kg)
- **Tool tensile strength**: 36,000 psi (16,330 kg)
- **Formation resistivity ranges**: 20–3,000 ohm
- **Conveyance method**: Wireline or pipe conveyed logging

The static and dynamic normalization presentation of the EARTH Imager service identifies structure and finer sedimentary layering.