

Micro-Conductivity Imager Logging Tool (MCI)

The Formation Micro-Conductivity Imager Tool (MCI) provides detailed borehole resistivity image data. Six pads are pushed against the borehole wall by a hydraulic actuating device. The pads closely and consistently make contact with the borehole wall, which is essential to obtaining high quality image data.



MCI Tool String

DESCRIPTION

Each pad contains twenty-four (24) buttons (electrodes) surrounded by a metal pad housing. To force the measurement current flowing into the formation, a control circuitry maintains a zero voltage difference between the focusing electrodes and the pad housing. The total 144 buttons can provide 144 micro-resistivity measurements, with vertical and azimuthal resolution of 0.2”.

The individual current measurement recorded from each button is a function of formation resistivity. These measurements are properly scaled to resistivity values so that they can be correlated with conventional shallow measurements. The current from the array buttons with conventional shallow measurements. The current from the array buttons can be converted to high-resolution color or gray-scaled borehole images.

APPLICATIONS

- Acquires and produces a variety of 2D and 3D borehole resistivity images, which are widely used in geological, petrophysical and borehole property analysis. The image data processing technique, image data base and intelligent image correlation techniques greatly widen the application scope of MCI imaging logging data.

The logging data is mainly used for:

- Sedimentary feature and rock texture recognition
- Lithology identification, profile correlation and electro-facies analyses
- Fracture, vug and fault identification analysis
- Dip analysis and structural feature analysis in the vicinity of the borehole
- Borehole geometry and in-situ earth stress analysis
- Formation evaluation in carbonate reservoir and some igneous rock reservoir

FEATURES

- Acquires high quality image data in rough borehole conditions
- Provides precise and consistent data due to the complete calibration facilities and systematic calibration procedures. The mature data acquisition and field processing software satisfies our clients with quick and flexible image presentation
- Has the ability to work in several modes: fast scanning mode, slow scanning mode or dipmeter mode

SPECIFICATIONS

MCI - Micro-Conductivity Imager Logging Tool

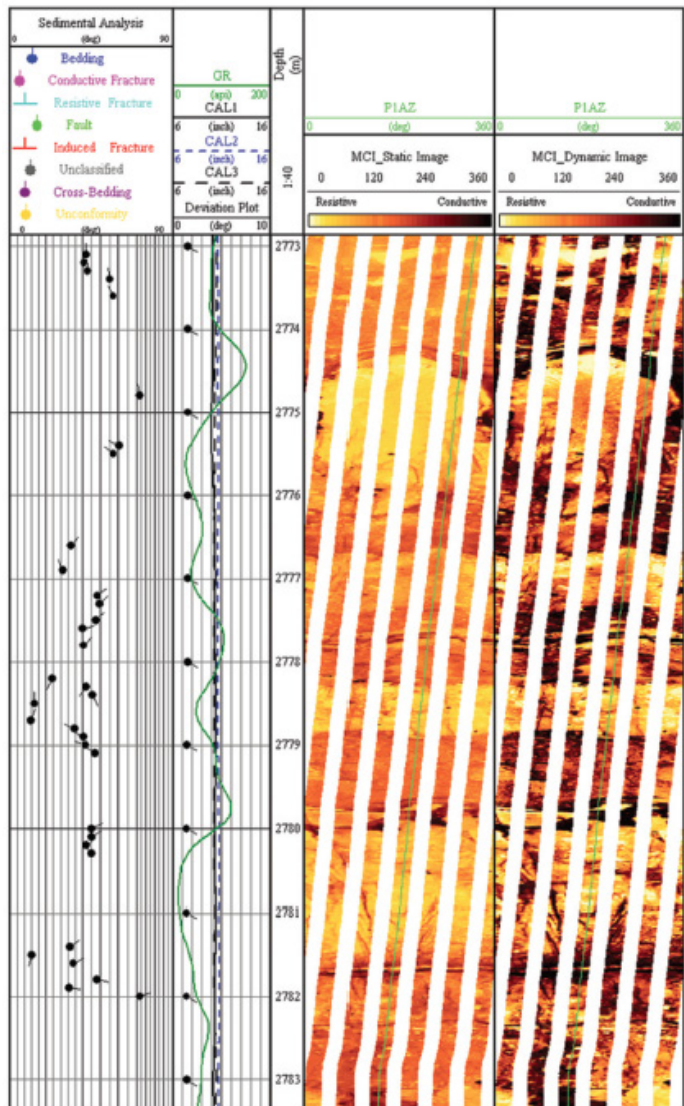
General Specs

Maximum Pressure	15,000 PSI (100 Mpa)
Maximum Temperature	350°F (175°C)
Telemetry	430 Kbps/100Kbps
Length	27.2 ft. (8.3 m)
Minimum Diameter	3.5 in. (90 mm)
Maximum Diameter	5 in. (127 mm)
Wellbore Range	6.3 in. - 20.8 in. (160-530 mm)
Borehole Coverage	60% (in 8 in. hole)
Sonde Inclination Measurement Range	Inclination: 0°-92 ±0.2° Azimuth: 0°-360° ±0.2° (when inclination > 3°)
Resistivity Measuring Range	0.2 - 2,000 Ω m
Vertical Resolution	0.2 in. (5mm)
Caliper Measuring Range	5 in. (127 mm) - 20.8 in. (530 mm)
Max. logging speed	24.6 ft/min (7.5 m/min) in Fast Mode. 12.3 ft/min (3.8 m/min) in Slow Mode

*Specifications are subject to change as tools are constantly being improved



MCI



MCI Log Example