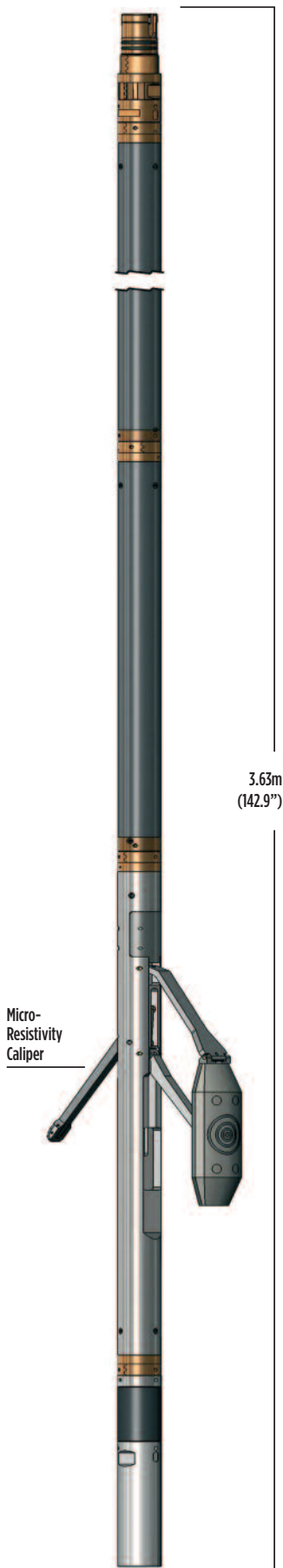


Micro-Resistivity (GMR)



Micro-Resistivity Module

The Micro-Resistivity module provides a high-vertical-resolution micro-focused resistivity measurement within the flushed zone.

The measurement electrodes are mounted on a flexible pad which is maintained in contact with the borehole wall by a motor-driven back-up/caliper arm. The measurement pad is interchangeable to give either micro-focused resistivity or micro-normal/micro-lateral electrode geometries. The tool is stackable with all other slim-2.5" oilfield probes. When combined with the Dual Laterolog it replaces the lower guard electrode.

Micro-focused resistivity principle of measurement:

A central current-injection electrode is surrounded by 3 concentric ring electrodes in a circular LL-7 configuration. The measure current is focused into a narrow beam which penetrates the mud-cake to give a resistivity measurement in the flushed zone (Rxo) beyond.

Micro-normal/micro-lateral principle of measurement:

Three in-line button electrodes, 1" apart, are configured to provide simultaneous 2" micro-normal and 1.5" micro-lateral measurements. Separation of the two measurement values due to their different depths of investigation gives an indication of mud-cake thickness.

SPECIFICATION:

Features

- High-vertical-resolution resistivity
- Robust back-up arm ensures good pad contact
- Pad interchangeable in field
- Fully stackable with other Robertson Geo oilfield probes

Measurements

- Resistivity of invaded zone (Rxo)
- Borehole diameter

Applications

- Determination of moveable hydrocarbons
- Correction of Rt for invasion
- Indication of permeability
- Precise location of bed boundaries

Operating Conditions

- Borehole type: open-hole, mud/water filled
- Ø:102mm (4") to 305mm (12")

Specifications

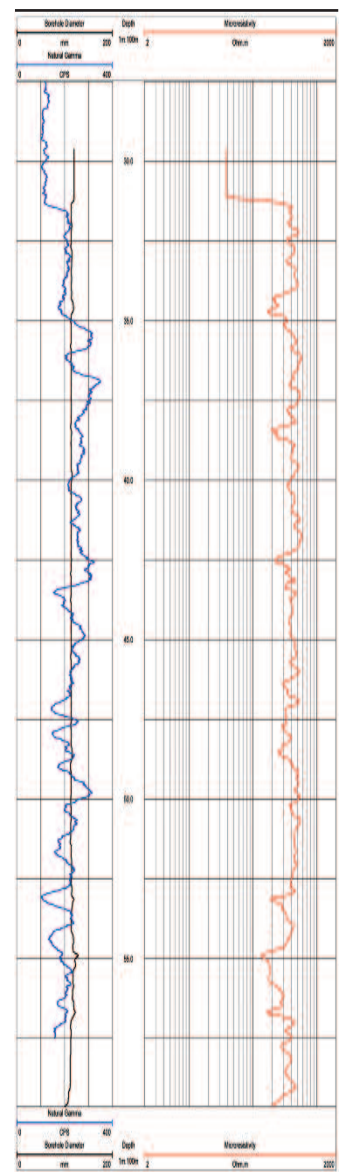
- Diameter: 102mm (4") (with 8" pad)
- Length: 3.63m (142.9")
- Weight: 55kg (121lb)
- Max. temperature: 125°C
- Max. pressure: 86MPa (12,500psi)
- Range: 0.2 to 2,000ohm.m
- Caliper range: 120mm (4.75") – 400mm (12")

Part Numbers

- I015642 Micro-Resistivity module

Accessories:

- I015644 Spare micro-focused resistivity pad
- I015646 Spare micro-normal/micro-lateral pad



Example of logging data