

# QL40.IND Dual Induction Probe

The dual focused induction probe provides two simultaneous conductivity logs, corresponding to “medium” and “deep” radio of investigation into the formation.

The two depths of penetration are useful in porous, permeable formations where displacement of formation fluids by drilling mud creates an “invasion zone” with different electrical properties. High stability and exceptionally wide dynamic range allow the user to carry out precise measurements of conductivity in formations with sand-clay layers and mineralized water-soaked sands. The probe can be used in water filled, dry and plastic cased boreholes.



The QL40-IND sub can be combined with other logging tools of the QL (Quick Link) product line or can be operated as a standalone tool. It is compatible with Matrix, BBOX and the logger acquisition systems.

## Application

### Water

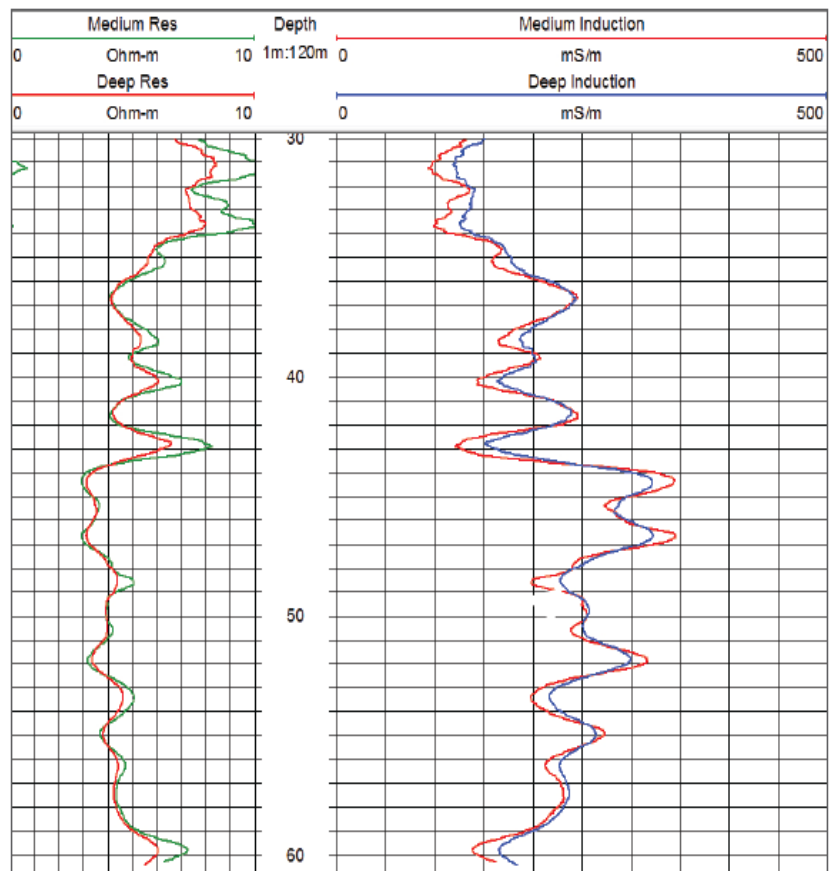
- Indicator of permeable zones
- Formation water salinity
- Long-term well monitoring

### Mineral/ Engineering

- Ore identification and quality
- Correlation

### Oil/ Gas

- Indication of hydrocarbons



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## Principle of measurement

An oscillating high-frequency magnetic field from a transmitter coil within the probe induces an alternating electrical current within the surrounding conductive formation. This current, in turn, induces voltages within receiver coils proportional to the formation conductivity. The transmitter receiver spacings determine the depth of investigation of the measurements.

## Measurement/Features

- Open or cased borehole
- Water filled

## Operating conditions

- Dry, fluid filled, or plastic cased borehole
- Compatible with Matrix, BBOX and logger systems
- Can be combined with other QL subs

## Technical Specifications

### Tool

- Diameter : Max 45mm (1.77")
- Length : 1.925m (75.78")
- Weight : 7kg (15.4lbs)
- Max. Temp : 70°C (158°F)
- Max. Pressure : 200bar (2900psi)

### Measurement point

- DC voltage at probe top :  
Min 80 VDC  
Max 160 VDC  
Nominal 120 VDC
- Current : Nominal 40mA

### Measurement

- Intercoil Spacing : 50cm and 80cm
- Operating Frequency : 100kHz
- Accuracy : < 3% F.S.
- Stability : < 0,5 mS/10 deg C
- Conductivity Range : 1-3000 mS/m

