

QL40-E-LOG

Multipoint Resistivity

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The QL40-ELOG probe measures 8, 16, 32 and 64 inch normal resistivity, single point resistance (SPR) and spontaneous potential (SP). Using one injection electrode and four measure electrodes, users can log resistivity profiles with different depths of investigation and gain information about permeability, porosity, water quality and geological formation properties.

Four resistivity measurements are recorded compared to two offered by most other manufacturers.

The QL40-ELOG is an inline sub. It can be combined with other logging tools of the QL (Quick Link) product line or operated as a standalone tool.

It is possible to extend the application of the QL40-ELOG to a QL40-IP Induced Polarization probe through a simple firmware upgrade. The QL40-IP configuration also allows recording of the chargeability of the formations.

Application

- Bed boundary analysis
- Facies changes
- Quantitative geological formation properties
- Identification of hydrostratigraphic units
- Aquifer thickness
- Water quality
- Identification of hydrocarbon intervals
- Detection of ore body zones

Accessories

Isolation bridles

QL40-IS1 (MS1 probe top)

QL40-IS2 (GO1 probe top)

QL40-IS4 (GO4 probe top)

Calibration box (P.N. 17 202 096/TB001)

Normal Resistivity
Spontaneous Potential
Induced Polarization

Combined
in one box



Tool

Diameter : 43mm (1.7") with neoprene insulator

Length : 1.9m (74.8")

Weight : 9kg (19.8 lbs)

Temp : 0 - 70°C (32 - 158°F)

Max. Pressure : 200bar (2900psi)

Normal Resistivity SP & SPR

Sensor : stainless steel electrode

Resistivity range : 0,1 to 100.000 Ohm.m.

Resistivity accuracy : depends on measurement range

- Below 1% of measured value from 1 to 5.000 Ohm-m
- Below 5% of measured value from 5.000 to 50.000 Ohm-m

Resistivity resolution : below 0.04% of measured value

SPR range : 0,1 to 100.000 Ohm

SP range : ±18V

SP accuracy : ±2.5mV

SP Resolution : 0,5mV

Operating conditions

Cable type : Mono, multi-conductor, coax
Isolating bridle required

Compatibility :

Scout Pro / Opal (Scout / Bbox / Matrix)

Digital data transmission Telemetry :

Variable baudrate telemetry according to cable length/type & surface system

Logging speed : 5-6m/min recommended

Centralisation : Not required

Borehole conditions :

Fluid-filled boreholes
Open boreholes

Principle of measurement

An electric current is injected into the formation from the current electrode. Potentials due to this current flow are measured on various measure electrodes on the probe with respect to a voltage-reference electrode located at the top of the isolation bridle. The spacing between the current and individual measure electrodes determine the depth of investigation of the measurement. The voltage measurements are proportional to the resistivity of the formation.

Measurements features

- 8", 16", 32" and 64" Normal Resistivity in [Ohm-m]
- Spontaneous potential (SP) in [mV]
- Single Point Resistance (SPR) in [Ohm]

