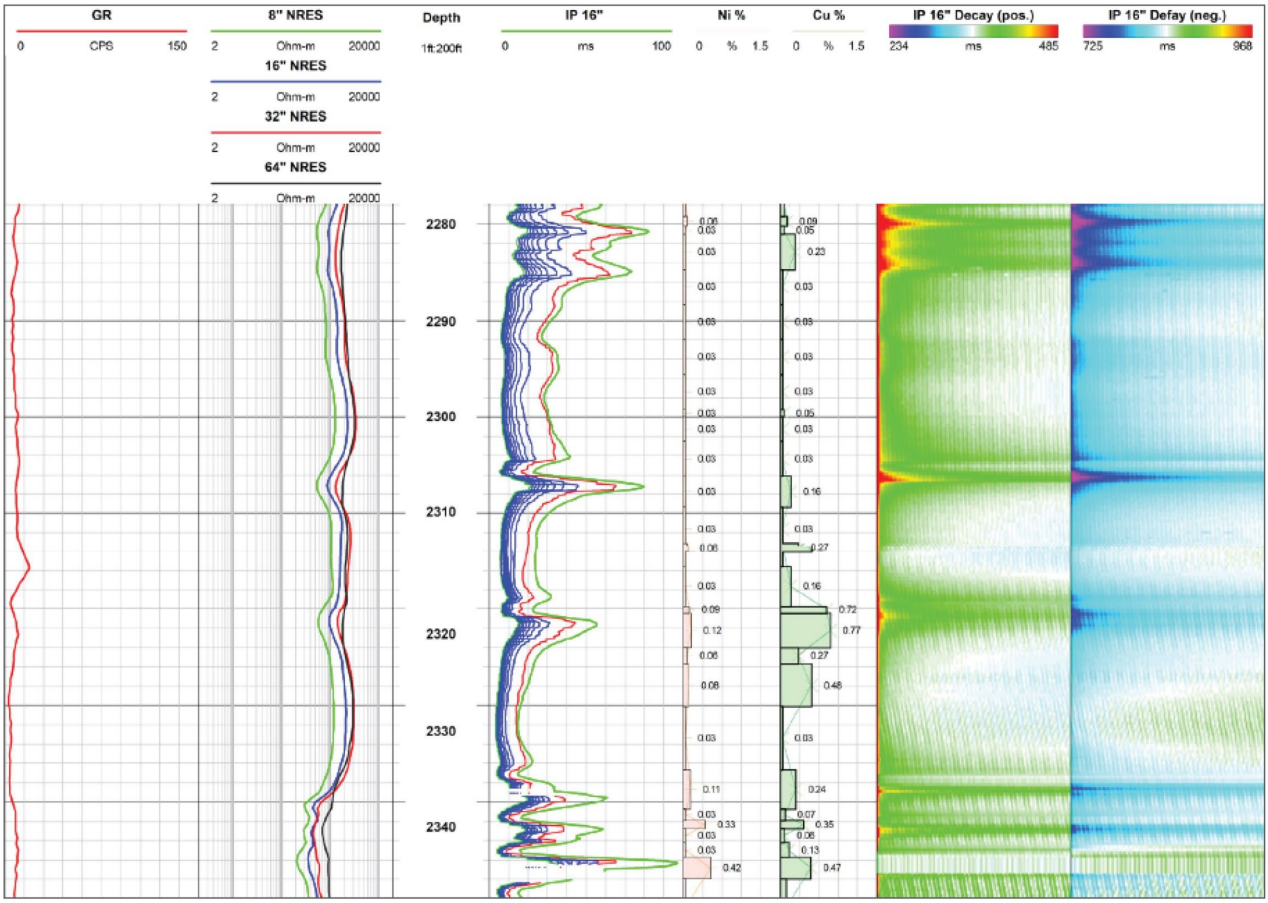
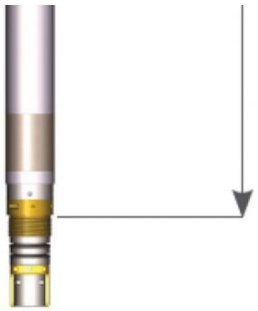
QL40-IP – Induced Polarization

mountsopris.com/ql40-ip-induced-polarization

August 20, 2020




QL40 IP
[74.8"]
1.90 m



Description

The QL40-IP Induced Polarization probe combines a quadruple spacing normal resistivity tool and dual spaced induced polarization tool to measure the electrical resistivity, spontaneous potential and chargeability of rocks. A high chargeability response is an indication of the presence of metallic sulphides and oxides or cation-rich clays.

The QL40-IP is stackable within the QL (Quick Link) product line or it can be run as a standalone tool.

Applications

- Detection of disseminated pyrite in sedimentary rocks
- In uranium roll-front deposits, which sometimes show higher concentrations of pyrite
- In coal seams to detect pyrite or other ferrous material
- Detection of sulfides in igneous and metamorphic rocks
- Identify montmorillonite clay in sedimentary depositional systems

Operating Conditions

Borehole Fluid
[X] Water
[X] Mud
[_] Dry

Casing
[X] Uncased
[_] PVC Borehole
[_] Steel

Centralization
[_] Required
[X] Not Necessary

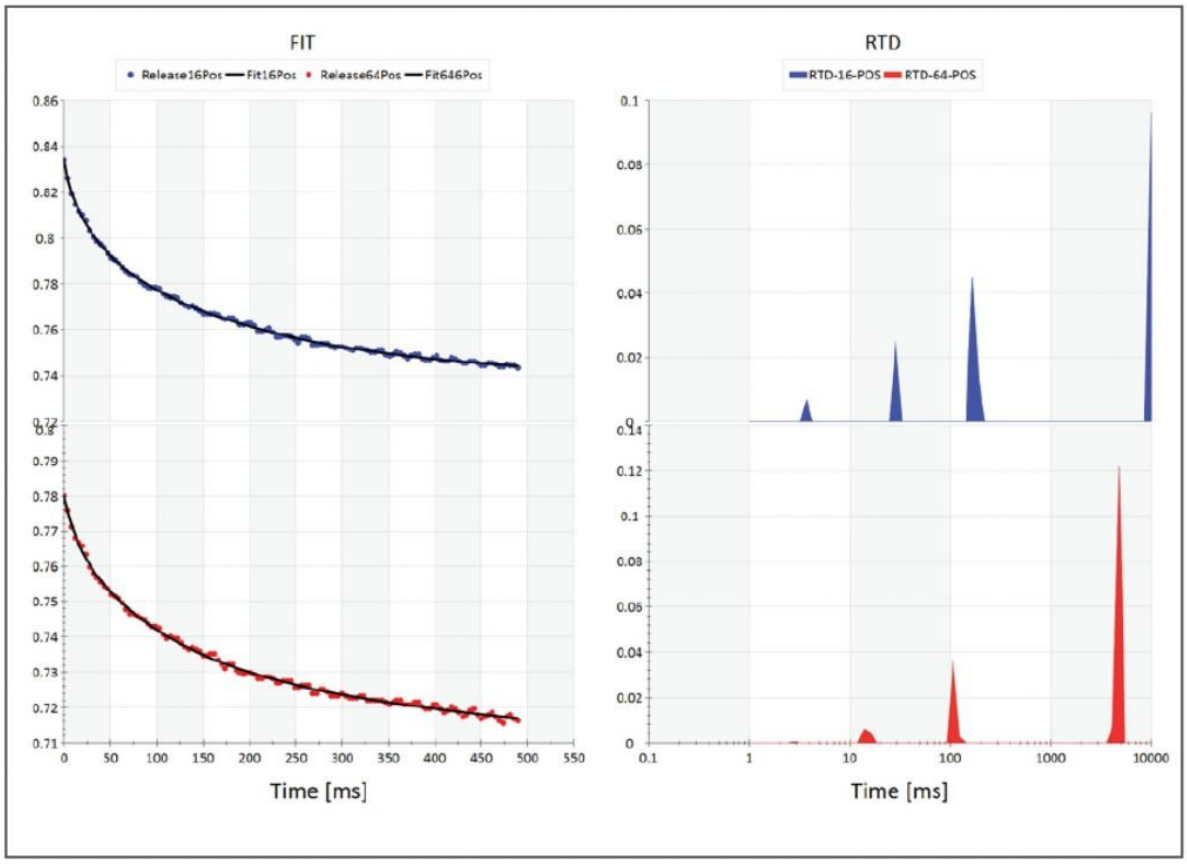
Isolation Bridle
[X] Required
[_] Not Necessary

Features & Benefits

- Real time recording and display of entire current injection and decay cycles (full waveform digitization of electrode voltage and injection current with downhole real time digital processing)
- Four resistivity measurements are recorded compared to two offered by most other manufactures
- Full measurement range and accuracy is achieved without the need for manual range switching
- User defined injection current cycle timing (custom ‘On’ and ‘Off’ times for IP measurements)
- Ultra slimline 43 mm OD and easy one-person operation

Specifications – Metric/English

Specification	Metric	Imperial
Diameter	43 mm	1.7″
Length	1.9 m	74.8″
Weight	9 Kg	19.8 lbs.
Max. Temp.	70ºC	158ºF
Max. Pressure	200 bar	2900 psi



IP inversion-RTD browser

Sensor: Stainless steel electrode
Chargeability: Measured over 10 windows per spacing
IP Resolution: 1.2 µV
IP Input Impedance: 1.4 MOhm
Cycle Timing: User defined 100 to 4000 ms (1 ms resolution)

Resistivity Range: 0.1 to 100,000 Ohm-m
Resistivity Accuracy: 1% Full Scale
SPR Range: 0.1 to 100,000 Ohm
SP Range: ± 18 V
SP Accuracy: ± 2.5 mV
SP Resolution: 0.5 mV

QL Stack Possibilities

- **QL40IP** + QL40GR (Gamma) + QL40MGS (Magnetic Susceptibility): Mining, Exploration
- **QL40IP** + QL40GR (Gamma) + QL40OBI (Optical Televiewer) or QL40ABI (Acoustic Televiewer): Exploration, Bedding Planes, Fractures
- **QL40IP** + QL40SGR (Spectral Gamma): Clay Typing, Detection of Sulfides
- **QL40IP** + QL40GR (Gamma) +QL40FTC (Fluid Res, Temp): Hydrogeologist's Tool, Groundwater exploration and assessment

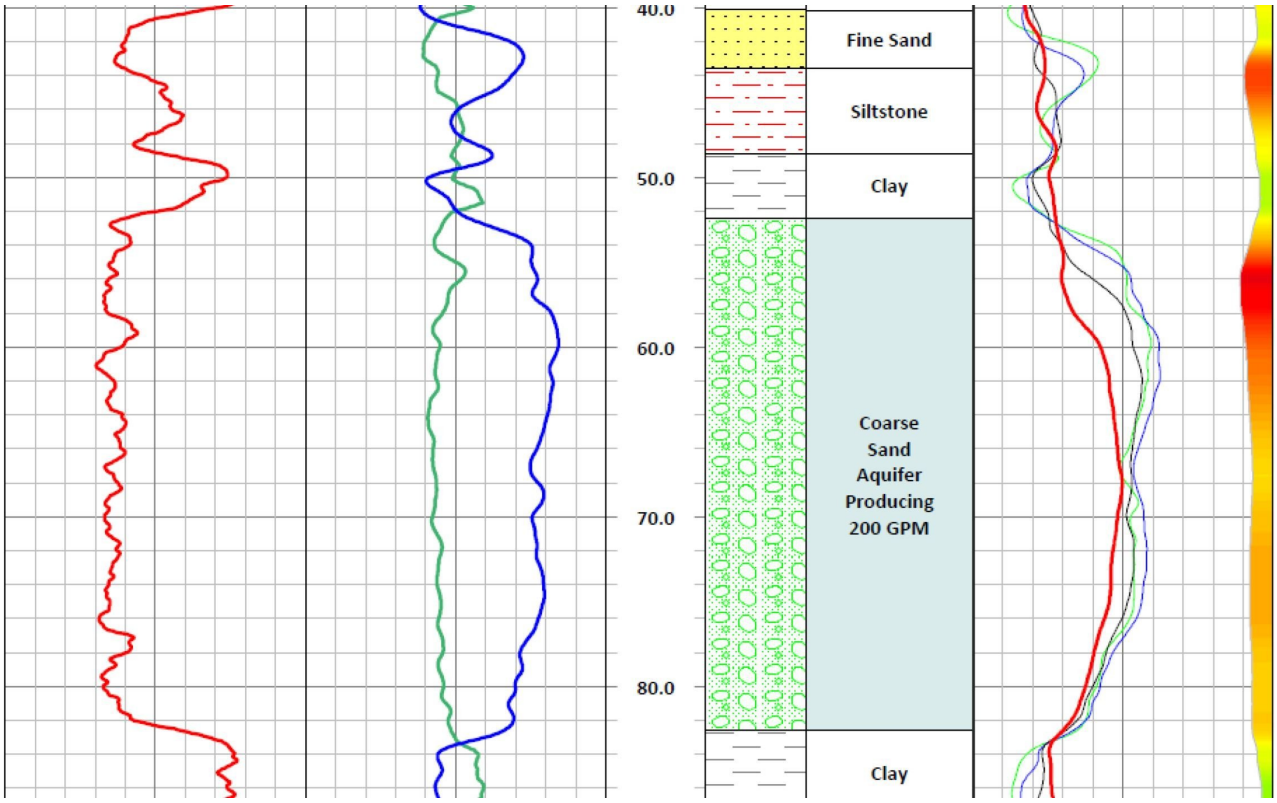
Documentation

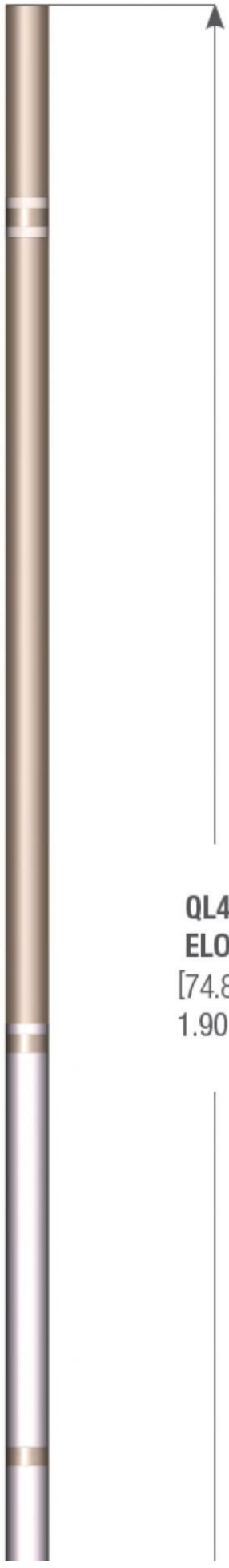
QL40-IP Induced Polarization Probe Brochure
User Guide

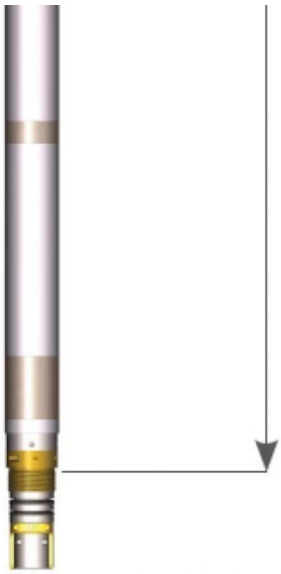
QL40-ELOG – Electrical Resistivity

mountsopris.com/ql40-elog-electrical-resistivity

October 11, 2020




QL40
ELOG
[74.8"]
1.90 m



Description

The QL40-ELOG digital probe measures 8, 16, 32 and 64 inch normal resistivity, single point resistance (SPR) and spontaneous potential (SP) simultaneously. 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 formation.

Applications

- 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

Operating Conditions

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[_] PVC Borehole
[_] Steel

Centralization
[_] Required
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Features & Benefits

- Four resistivity measurements are recorded compared to two offered by most other manufactures
- Can be combined with other logging tools of the QL product line or operated as a standalone tool
- With a simple firmware upgrade, the application can be extended to a QL40-IP Induced Polarization probe to record the chargeability of the formations
- Ultra slimline and easy one-person operation

Specifications – Metric/English

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Weight	9 Kg	19.8 lbs.
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Sensor: Stainless steel electrode
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- QL40ELOG + QL40GR (Gamma) + QL40MGS (Magnetic Susceptibility): Mining, Exploration
- QL40ELOG + QL40GR (Gamma) + QL40OBI (Optical Televiewer): Exploration, Bedding Planes, Fractures in Air or Clear Water

- QL40ELOG + QL40GR (Gamma) + QL40ABI (Acoustic Televiewer): Exploration, Bedding Planes, Fractures in Fluid-filled boreholes
- QL40GR (Gamma) + QL40ELOG +QL40FTC (Fluid Res, Temp): Hydrogeologist's Tool, Groundwater exploration and assessment

Documentation

QL40-ELOG Resistivity Probe Brochure
User Guide