electromind s.a.

Induced Polarization Sonde IPG38

The **Induced Polarisation IPG38 sonde** uses four electrodes in Wenner array configuration to provide measurement of apparent formation chargeability and resistivity. The sonde induces a current trough the formation by applying a high DC voltage to the outer two electrodes. The current flows through the electrolytes in the formation fluids in pore spaces surrounding non-conducting mineral grains. Sulphides and other metallic mineral grains which are conductors develop a charge separation or polarisation, which increases as the inducting current flows. When the inducting current is turned off, the formation retains a voltage due to polarisation, which gradually decays. This voltage is sensed on the two central electrodes. The area under voltage decay curve (UA and UB) is integrated by the sonde microprocessor to give a measure of the formation polarization or chargeability. When the outer electrodes are energised, the voltage that appears at the centre electrode pair is also measured (UE), and is used to compensate the chargeability value for the effects of borehole resistivity.

The **Induced Polarisation IPG38 sonde** main features are:

- Indication of mineralization in ore prospecting
- Qualitative permeability studies in water and oil prospection

IPG38 Induced Polarization Sonde Features

Technical Specifications

Length:	2.79m
Diameter:	38mm
Weight:	7kg
Max. Operating Temp:	70°C
Max. Operating Pressure:	200bar
Power Supply:	70 to 100Vdc; 6W

Wireline

Cable Type:	Any standard wireline - coaxial, mono or multi-conductors Automatic cable selection and switching
Logger Compatibility:	eMindLogger / RG Micrologger

Sensor Array

Electrodes Spacing:	40cm (Wenner Array)
Number of Electrodes:	4 (A-M-N-B)
RA Measuring Range:	0 to 35kΩ
IP Range:	0 to 100% (dimensionless quantity)
Measurement Period:	220msec/polarity; >440msec for a complete cycle
Natural Gamma Detector:	NaI(Tl) scintillation crystal; 50mm x 25mm
Measuring Range:	0 to 65000cps

Measurement Functions

Natural Gamma
Apparent Resistivity
Induced Polarization
Area under Excitation
Area under Decay #1 and #2

Electromind s.a.
1, rue du chemin de Fer
web: www.electromind.eu
T : +352 26 30 53 13 F : +352 26 30 53 18
8378 Kleinbettingen (Grand-Duché de Luxembourg)
email: electromind@pt.lu