

PROBES

NEUTRON | NEUTRON SP/SPR



Neutron Probe

The Neutron probe provides qualitative porosity logging under most borehole conditions including through steel or plastic casing and drill-pipe.

A Dual Neutron probe is also available which provides a calibrated borehole-compensated neutron porosity measurement in mud-filled open holes. It is the probe of choice for quantitative formation-fluid studies.

Principle of Measurement:

The neutron measurement uses a ³He proportional detector and a detachable, sealed ²⁴¹Am-Be neutron source. Fast neutrons emitted by the source are scattered and slowed to thermal levels, principally by hydrogen in the formation. The Neutron SP/SPR probe combines this with a resistivity measurement, giving two independent indicators of formation porosity.

SPECIFICATION:

Features

Real-time qualitative porosity measurement

Measurements

Neutron:

- Neutron (raw counts)
- Natural gamma
- Option: Casing collar locator (CCL)

Neutron SP/SPR:

- Neutron (raw counts)
- Natural gamma
- Short normal resistivity
- Self potential

Applications

Minerals / Water / Engineering

- Lithology identification
- Location of aquifer and aquitard
- Shale content
- Correlation between open and cased-hole logs
- Strata correlation between wells

Operating Conditions

- Borehole type: open/cased, water-filled
- Recommended Logging Speed: 4m/min

Specifications

Neutron:

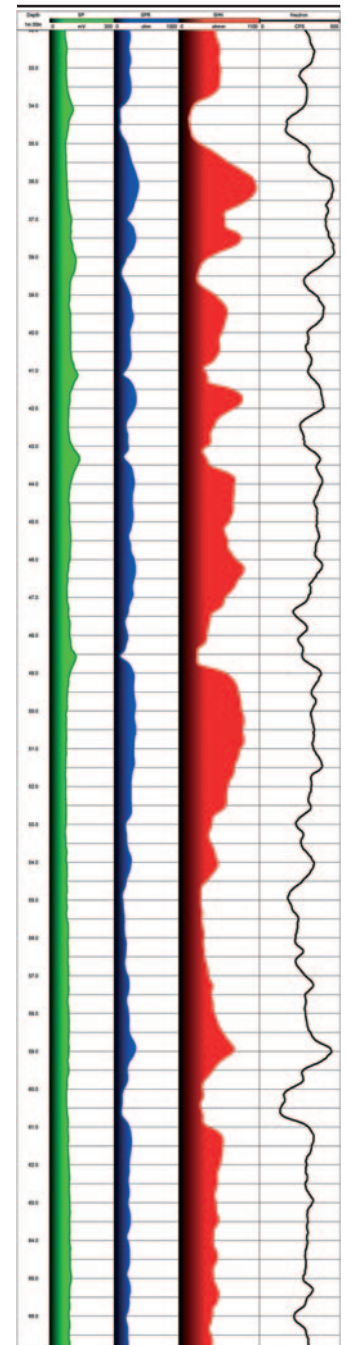
- Diameter: 38mm
- Length: 2.36m
- Weight: 7.5kg
- Temperature: 0-70°C (0-125°C optional)
- Max. pressure: 20MPa

Neutron SP/SPR:

- Diameter: 45mm
- Length: 2.86m
- Weight: 11.5kg
- Temperature: 0-70°C
- Max. pressure: 20MPa
- Range: 1-10000Ωm

Part Numbers

- 1002029 Neutron/Natural Gamma
- 1017443 Neutron SP/SPR probe with natural gamma
- 1015483 - includes natural gamma and CCL



Example of logging data

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