ROBERTSON GEO®
Unlocking Your GeoData
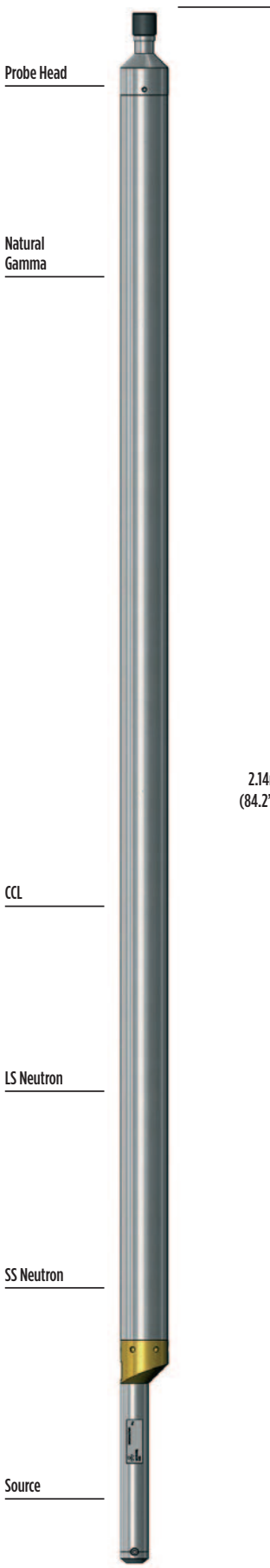
The Dual Neutron probe provides a calibrated borehole-compensated neutron porosity measurement in mud-filled open holes.

It is the probe of choice for quantitative formation-fluid studies.

A single-detector neutron probe is also available for qualitative porosity logging under most borehole conditions including through steel or plastic casing and drill-pipe.

Principle of Measurement:

The Dual Neutron measurement uses two ^{3}He proportional detectors and a detachable, sealed ^{241}Am-Be neutron source. Fast neutrons emitted by the source are scattered and slowed to thermal levels, principally by hydrogen in the formation. The ratio of the neutron flux reaching the near and far detectors depends on the hydrogen index and porosity. Use of dual detectors and a ratio method provides a porosity measurement compensated for borehole diameter but not independent of it.

SPECIFICATION:

Features

Real-time porosity measurement
Compensation for borehole diameter

Measurements

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

Applications

Minerals / Water / Engineering

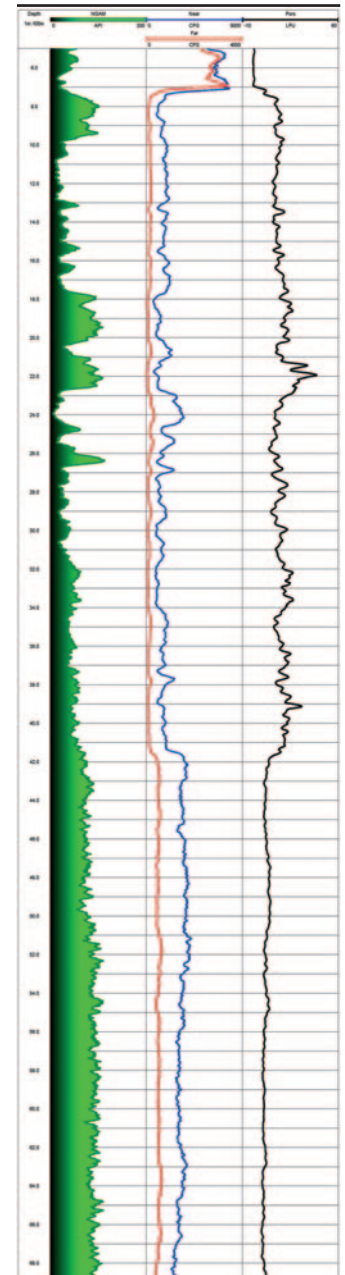| |
|---|
| Lithology identification |
| Location of aquifer and aquitard |
| Fracture analysis in coals |
| Correlation between open and cased-hole logs |
| Strata correlation between wells |

Operating Conditions

Borehole type:	open/cased, water-filled
Centralisation:	ex-centralised with bowspring
Recommended Logging Speed:	4m/min

Specifications

Diameter:	65mm
Length:	2.14m
Weight:	19.5kg
Temperature:	0-70°C (0-125°C optional)
Max. pressure:	20MPa
Range:	15 to 45% Limestone Porosity Units (LPU)

Part Numbers

I002029	Dual Neutron probe with natural gamma
I002030	- includes CCL

Probe Head

Natural Gamma

CCL

LS Neutron

SS Neutron

Source

2.14m (84.2")

Dual Neutron Probe

Example of logging data

▶ CLICK HERE
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