



3 3/8" Product Line

Spectrum Gamma Ray

The Spectrum Gamma Ray (SGR) is an instrument logging the natural gamma radiation. The tool measures the entire gamma ray spectrum from 0 to 3000 keV. It records the total amount of gamma rays and provides quantitative measurements of the ⁴⁰Potassium, ²³²Thorium and ²³⁸Uranium contents of the formation. The Spectrum Gamma Ray Log can be run in open and cased holes with all mud systems and also in dry boreholes.

| Specifications | | | |
|---------------------|---------|--------------|--|
| Diameter: | 86 mm | (3.39") | Detector Type: CsI Scintillation Crystal |
| Length: | 2026 mm | (79.9") | |
| Weight: | 44 kg | (97 lbs) | |
| Max. Temp: | 175°C | (350°F) | Measure Point (from bottom): 610 mm (24") |
| Max. Pressure: | 140 MPa | (20 000 psi) | |
| Telemetry required: | yes | | Spectrum: 0...3000 keV, 256 Channels |
| Top Connector: | yes | | |
| Bottom Connector: | yes | | |

Measuring Parameters:

Measuring Range:

| | |
|----|--------------|
| GR | 0...3000 API |
| K | 0...50 % |
| U | 0...500 ppm |
| Th | 0...500 ppm |

Accuracy:

| | |
|----------|---------------------------|
| GR | ± 3 % of measured values* |
| K, U, Th | ± 4 % of measured values* |

* Gamma Ray measurements are radioactive measurements and hence subject to statistical variations. On a log, these variations amongst other factors depend on logging speed and filter strength.

Logging Parameters

| | | |
|---------------------|----------------|---|
| Recommended | | Recommended |
| Min. Hole Diameter: | 125 mm (4.9") | Logging Speed: 3-6 m/min (590 - 1200 ft/hr) |
| Max. Hole Diameter: | NA | Sample Rate: selectable |
| To be decentralized | | |
| in holes above: | 305 mm (12.0") | |
| Min. Casing ID: | 114mm (4.5") | |

Standard Displayed Curves

| | |
|--------------------|--|
| GR in API (gAPI) | Gamma Radiation |
| K in % | Potassium Content |
| Th in ppm | Thorium Content |
| U in ppm | Uranium Content |
| K/Th | Potassium plus Thorium Content |
| ChiSq | Chi-Square - a measurement for the quality of the spectrum fitting |
| RThK | Ratio between Thorium and Potassium Content |
| RThU | Ratio between Thorium and Uranium Content |
| RUK | Ratio between Uranium and Potassium Content |
| FlaskTemp °C or °F | Flask Temperature |

Combinability

With all other 3 3/8" instruments

