

Spectral Gamma Ray probes GRS 42, 60 & 73

The detector assembly comprises of a 25 x 50 mm (**GRS 42**) or 50 x 150 mm (**GRS 60**) cylindrical NaI crystal coupled to a thermally stabilised photomultiplier tube.

The probe is capable of resolving 250 discrete gamma ray energy levels over the range 60 to 3060 keV; count rates from all of which are transmitted to the surface during logging.

Subsequently, discrete windows centred on the K, U and Th peak levels are used to derive the concentration of these radioelements.



Power supplies and
communication

SPECIFICATIONS :

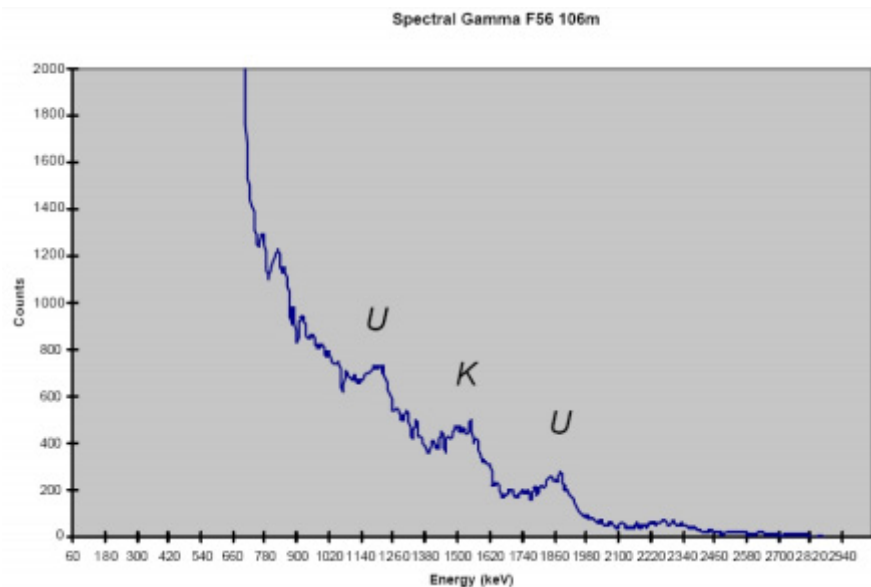
- Diameter GRS 42 : 42 mm
GRS 60 : 60 mm
GRS 73 : 73 mm
- Length /Weight : 1120 mm / 7 Kg
- Detector GRS 42 : 25 x 50 mm
GRS 60 : 50 x 150 mm
GRS 73 : 50 x 150 mm High
- T°Max. Temp / Pressure : 70°C / 200 bar
- Spectral energy range : 60 to 3060 keV
- Spectral resolution :
GRS 42 & GRS 60 : 250 channels, 12 keV per channel
GRS 42 & GRS 60 : 500 channels, 6 keV per channel

Gamma detector and
counting electronics

BOREHOLE CONDITIONS

- dry or fluidfilled
- open-hole or through steel or PVC casing 75mm minimum

Examples



Example spectrum from borehole data showing the characteristic peaks of K40 and U238

The spectral gamma ray sonde is most often used to determine the concentrations of the three principal radioelements contributing to the natural radioactivity of rock formations: potassium 40, thorium 232 and uranium 238.

The applications of this technique include lithological analysis, stratigraphic correlation and the detection of alteration zones of interest in mineral prospecting.

