

# PROBES

## DENSITY GAMMA



The Density Gamma probe (sometimes referred to as a Trisonde) offers a convenient, low cost alternative to the standard Formation Density probe whenever borehole diameter is restricted and qualitative density measurements are acceptable.

One common application is in logging through drill pipe when unstable borehole conditions prevent use of unprotected nuclear probes. The probe is unfocused and indicates the average density of material surrounding the borehole.

### Principle of Measurement:

The probe contains a detachable gamma source and two high-sensitivity scintillation gamma detectors. Gamma radiation from the source is backscattered by the formation (Compton effect) and reaches the two detectors where the count-rates provide an indication of formation bulk density.

## SPECIFICATION:

### Features

- Long-spacing detector (LSD) for deep penetration
- High-resolution detector (HRD) for accurate bed-boundary detection
- Optional borehole-inclination measurement

### Measurements

- Long-spacing density (cps)
- High-resolution density (cps)
- Natural gamma
- Borehole inclination (option)

### Applications

#### Minerals:

- Bulk-density variations
- Lithology
- Correlation with other logs
- Bed thickness and boundary location
- Borehole inclination and true vertical depth

#### Engineering:

- Detection of weathered or fractured zones
- Ground compaction studies

#### Water:

- Location of aquifer and aquitard

### Operating Conditions

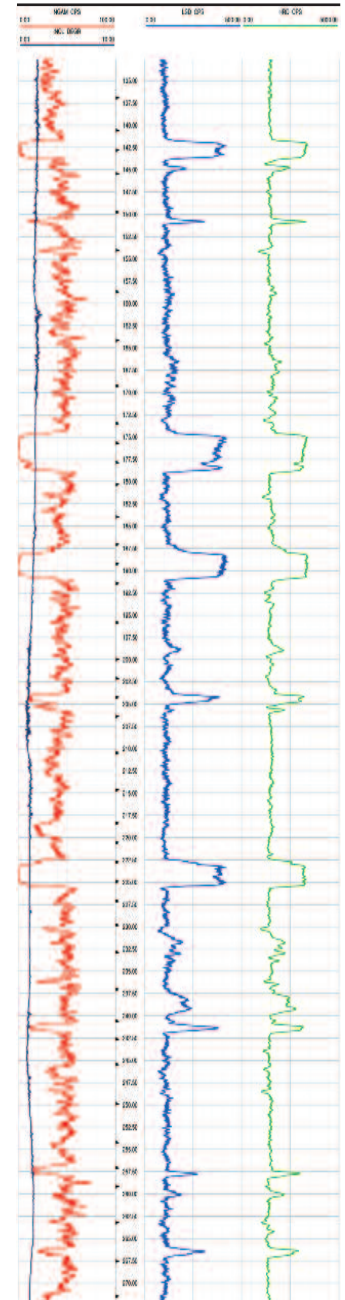
- Borehole type: all (qualitative measurement only)
- Recommended Logging Speed: 5m/min

### Specifications

- Diameter: 38mm
- Length: 2.31m
- Weight: 7.6kg
- Temperature: 0-70°C (extended ranges available)
- Max. pressure: 20MPa
- Inclination measures: 0° to 180°

### Part Numbers

- 1002010 Density Gamma probe
- 1002012 - with inclination



Example of logging data

Scan the QR code to go directly to [www.robertson-geo.com](http://www.robertson-geo.com)

