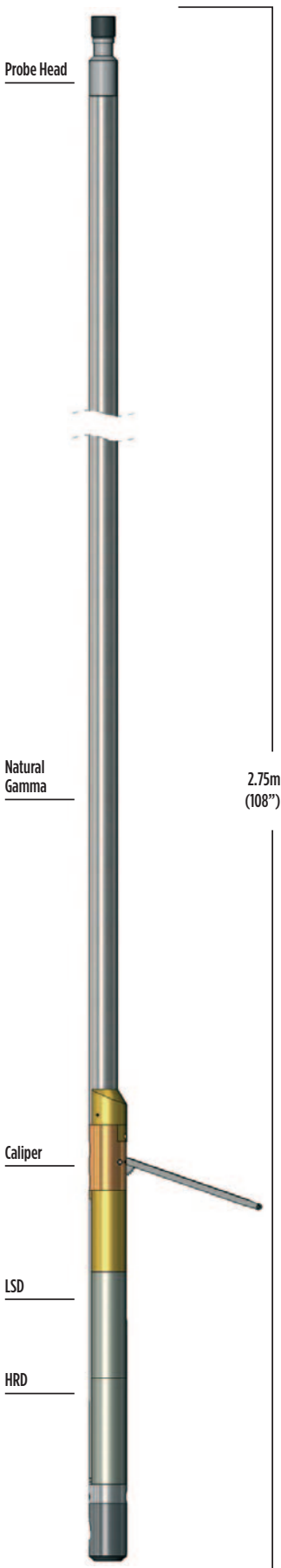


# PROBES

## SMALL-SOURCE DENSITY



Small-Source Density Probe

Stringent legislation on the transport and handling of radioactive materials increasingly prevents use of conventional density logging probes.

The Small-Source Density probe provides calibrated and borehole-compensated density logs at sensible logging speeds using a very low activity <sup>60</sup>Co gamma source that may not require a radiation licence in certain territories.

### Principle of Measurement:

The probe contains a detachable collimated gamma source and two high-sensitivity scintillation gamma detectors. The detectors are protected against direct radiation from the source or via the borehole by extensive heavy-metal shielding. The active windows of source and detector are maintained in contact with the borehole walls by a motorised caliper arm. The detected backscattered gamma radiation depends on the formation density. The probe includes a third gamma detector mounted remotely from the source for 'stripping' natural background radiation.

### SPECIFICATION:

#### Features

- Compensated density output directly in engineering units (g/cc)
- Tungsten shielding reduces borehole influence on measurement
- Separate short-spacing detector for accurate bed-boundary location

#### Measurements

- Bulk density
- High-resolution density (HRD)
- Caliper
- Natural Gamma

#### Applications

##### Minerals

- Lithology
- Density and porosity
- Correlation with other logs
- Bed thickness and boundary location
- Ash and moisture content in coal

##### Engineering

- Rock strength and elasticity parameters (with sonic log)
- Detection of weathered or fractured zones

##### Water

- Location of aquifer and aquitard
- Location of cement cavities behind casing

#### Operating Conditions

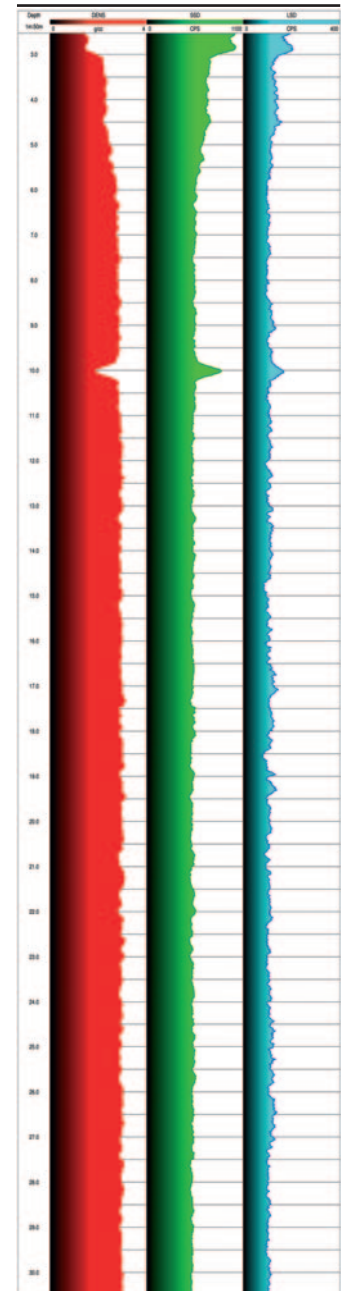
- Borehole type: open-hole, water-filled
- Qualitative measurements are possible in air-filled boreholes

#### Specifications

- Diameter: 51mm
- Weight: 19kg
- Temperature: 0-70°C (extended ranges available)
- Max. pressure: 20MPa
- Density range: 1.1- 2.9g/cc
- Caliper range: 50 - 250mm

#### Part Numbers

- 1002017 Small-Source Density probe



Example of logging data

▶ [CLICK HERE FOR ENQUIRY FORM](#)