

TECHNICAL SHEET

NUCLEAR	GAMMA GAMMA	FDGS
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Generalities

Principle
The probe contains a detachable ¹³⁷Cs gamma source and two scintillation gamma detectors. The active windows of the source and detectors are maintained in contact with the borehole wall by a motorised caliper arm. Gamma radiation back-scattered by the formation (Compton effect) reaches the detectors where the relative count rates provide a measure of formation density.

Results
Depth-based bulk density, high resolution density.

Interest
Lithological identification, detection of weathered or fractured zones, mechanical properties (with sonic log), detection of cavities and missing cement.

Options
Caliper, natural gamma sensor.

Constraints / borehole

filling up	: <input checked="" type="checkbox"/> water	: <input checked="" type="checkbox"/> mud	: <input type="checkbox"/> dry
casing	: <input type="checkbox"/> PVC	: <input type="checkbox"/> steel	: <input checked="" type="checkbox"/> open
borehole	: <input checked="" type="checkbox"/> cored	: <input checked="" type="checkbox"/> destructive	
max. depth	: 2000 m		
effective diam.	: 75 mm – 300 mm (until 760 mm on request)		
temperature	: 0 - 70 °C		
max. pressure	: 200 bars		

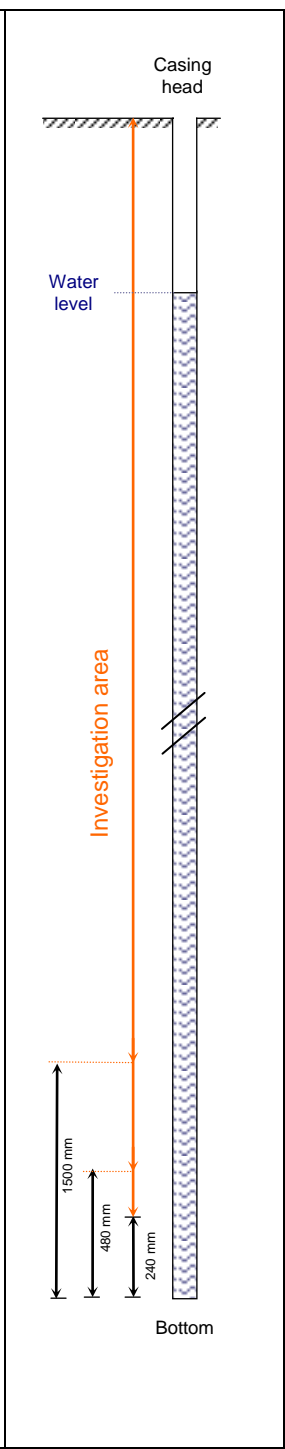
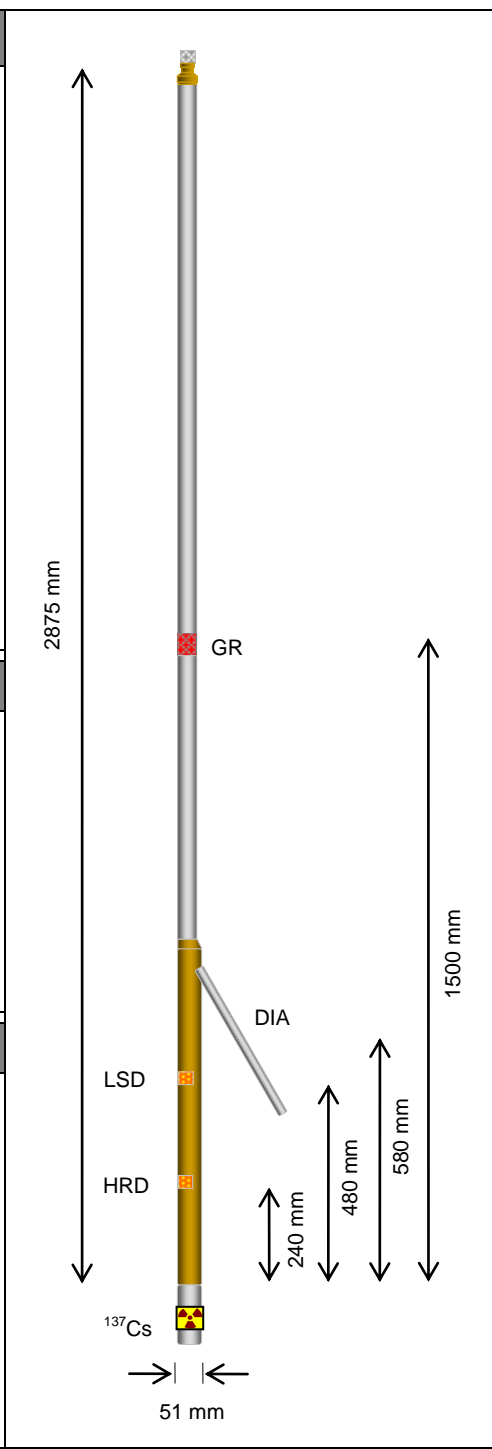
Technical specifications

Dimensions

- length : 2875 mm
- diameter : 51 mm
- weight : 19 kg

Elements

- 1 radioactive source : ¹³⁷Cs
- 2 scintillation γ detectors : LSD, HRD
- 1 natural gamma sensor : GR
- 1 mono-arm caliper : DIA



Records / Measures

Records

- Tool : centered off-centered
- Measure : down up
- Rec. speed : 5 m/min

Measures

- Range : 1.1 to 2.9 g/cc and caliper: 55 to 250mm
- Accuracy : < 0.1 g/cc
- Vert. resolution : 5 cm



Example

