



FOCUSED DENSITY

Focused density surveys provide a continuous log of bulk formation density, using two or three shielded detectors in constant contact with borehole wall. Algorithms use the multiple detectors to compensate for mudcake, rugosity, and some casing influences (borehole effects).

The probe contains a removable Cs^{137} gamma source and multiple NaI scintillation detectors. A motor-actuated caliper keeps the shielded source and detectors in constant contact with the borehole wall, while also measuring borehole diameter. Gamma radiation that is back-scattered by the formation (Compton scattering) reaches the detectors, where formation density is inversely proportional to the gamma count rate. Calibrated measurements may be presented in grams/cm³ or pounds/ft³.

COLOG utilizes advanced software that compensates for borehole effects, and if a matrix density is known formation porosity may also be estimated. Engineering moduli can be calculated when density data is combined with the pressure-wave and shear-wave velocities from our Full-waveform Sonic log.

Focused density probes can be fitted with short or long caliper arms to accommodate a wide range of borehole sizes; from small NQ drilled boreholes to large augured holes.



APPLICATIONS:

- + Formation Density
- + Concrete Foundation Density
- + Casing Completion Evaluation
- + Formation Porosity
- + Engineering Moduli
- + Bed Resolution

PROBE SPECIFICATIONS:

Tool Diameter:	50mm (2 in.)
Tool Length:	302cm (119 in.)
Max Temperature Rating:	70°C (158 °F)
Max Pressure Rating:	2,900 psi
Parameters Measured:	Density g/cc (PCF)
Min Hole Size:	64mm (2.5 in.)
Max Hole Size:	355mm (14 in.)

