Compact™ Gamma Ray Tool

Providing accurate lithology and depth correlation reservoir measurements with industry leading conveyance options

Applications

- Determining the volume of shale content in simple lithologies, such as shaly sand
- Correlating well-to-well details in open and cased hole
- Providing primary log for depth correlation of other logging tools in the same well

Features and Benefits

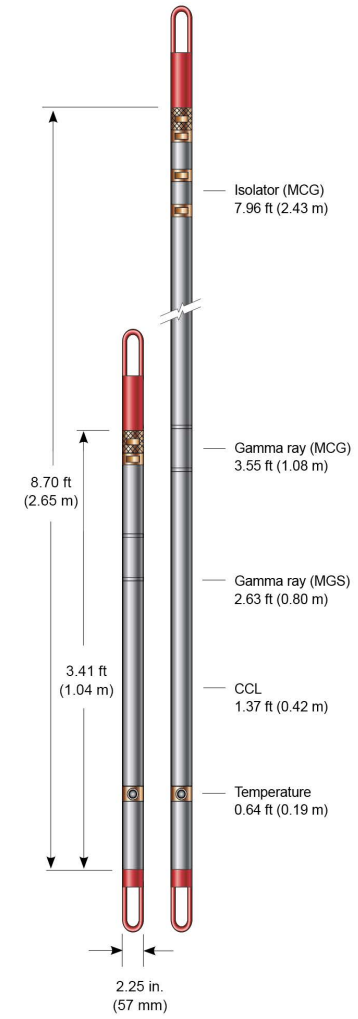
- The NaI detector is rugged, reliable, and sensitive; it provides a full range of accurate data for quantitative analysis and repeatability.
- The tool's 2- to 3-ft (0.61- to 0.91-m) depth of investigation enables the detection of gamma rays through several strings of casing.
- The tool's 1-ft (305-mm) vertical resolution enables accurate identification of formation contacts and is widely used for well-to-well correlation and between log runs.

Tool Description

The Weatherford Compact gamma ray (MCG) tool combines gamma ray, temperature, and casing-collar locator (CCL) logs with power conversion and surface communications for all other measurements in a Compact tool string. It is always the top tool in the string. The auxiliary gamma sub (MGS) is shorter and can be placed anywhere in the string to e record gamma ray and temperature close to the bottom of the well.

An integral power conditioner in the MCG tool automatically converts a wide range of cablehead voltages to a standard value for all tools in the Compact string. This feature enhances system flexibility and reliability by eliminating the need to match surface power to specific logging cables.

The MCG tool also processes data from the following auxiliary measurements: spontaneous potential originating from the array induction (MAI) and dual laterolog (MDL) tools; tension from the tension cablehead (MCB-A and MCC); tension and compression from the tension compression sub (TCS); external temperature; and CCL.



The Weatherford Compact™ gamma ray (MCG) tool provides primary depth correlation for logging tools.

Weatherford®

Compact™ Gamma Ray Tool

Specifications

Measurement specifications

Tool model	MCG	MGS
Data	Gamma count, temperature, CCL	Gamma count, temperature
Logging speed	3,600 ft/hr (18 m/min)	
Measurement range	Gamma: 0 to no practical limit (API) Temperature: 320°F (160°C)	
Vertical resolution	1 ft (305 mm)	
Accuracy	Gamma: ± 5% Temperature: ± 3%	
Depth of investigation	24 in. (60 cm)	
Borehole fluids	WBM, OBM, salt, air	

Mechanical specifications

Maximum outer diameter	2.25 in. (57 mm)	
Length	8.70 ft (2.65 m)	3.41 ft (1.04 m)
Weight (in air)	64 lb (29 kg)	24 lb (11 kg)
Maximum temperature	320°F (160°C)	
Maximum pressure	15 kpsi (103 MPa)	
Maximum borehole diameter	18 in. (457 mm)	
Minimum borehole diameter	2.80 in. (70 mm)	

