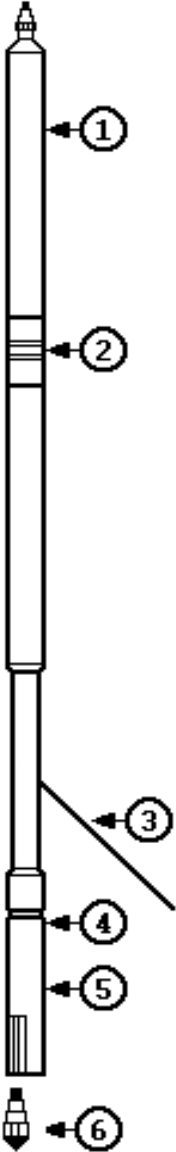


BACKGROUND INFORMATION

The Series 9239, Compensated Density logging tool uses the two focused density detectors to compute borehole compensated density real time while logging. No post processing required to produce CDL bulk density. Additionally, the tool also records natural gamma, caliper, and focused guard resistivity.

FEATURES

	PROPERTIES MEASURED (SEE DIAGRAM)	TOOL SPECIFICATIONS
	1. Natural Gamma: 2.2 x 10.16 cm (0.875 x4.0 in.) NAI Scintillation Offset: 21 cm (8.25 in.)	Length: 280.3 cm (110.35 in.) Temperature: 85 C (185 F)
2. 3-Element Guard Resistivity: 127.6 mm (50.25 in.) guard electrode Offset: 63.5 cm (25 in.)	Diameter: 56 mm (2.2 in.)	
3. Calliper: Motorized, up-hole actuated 35.6 cm (14 in.) or 20.3 cm (8 in.) Offset: 210.8 cm (83 in.)	Pressure: 175 kg/cm ² (2500 PSI)	
4. Far Density: 2.2 x 10.16 cm (0.875 x4.0 in.) 35.8 cm (14.1 in.) spacing Offset: 243.3 cm (95.8 in.)	Weight: 32.7 kg (72 lb.)	
5. Near Density: 2.2 x 3.2 cm (0.875 x1.25 in.) 20 cm (7.9 in.) spacing Offset: 259.3 cm (102.1 in.)	Logging Speed: 9 m/min. (30 ft./min.)	
6. Radioactive source: 200-300 mCi Caesium 137 in bullplug Offset: 274.3 cm (108.0 in.)	Tool Voltage Required: 56 VDC	

SENSOR RESPONSE RANGES

SENSOR	RESPONSE LIMITS	ACCURACY
Natural Gamma (NG)	0-10,000 API units	+/-5%
Short or Long Arm Caliper (CAL)	0 to 35.6 cm (14 in.)	+/-0.635 cm (0.25 in.)
Near Density (ND)	0.5 to 3.5 g/cc (0.02 to 0.13 lbs/ci)	+/-0.05 g/cc (0.001 lbs/ci)
Far Density (FD)	0.5 to 3.5 g/cc (0.02 to 0.13 lbs/ci)	+/-0.05 g/cc (0.001 lbs/ci)
Guard Resistivity (MG)	0 to 40,000 ohm meters	+/-5%

*Source: <http://www.century-geo.info>

