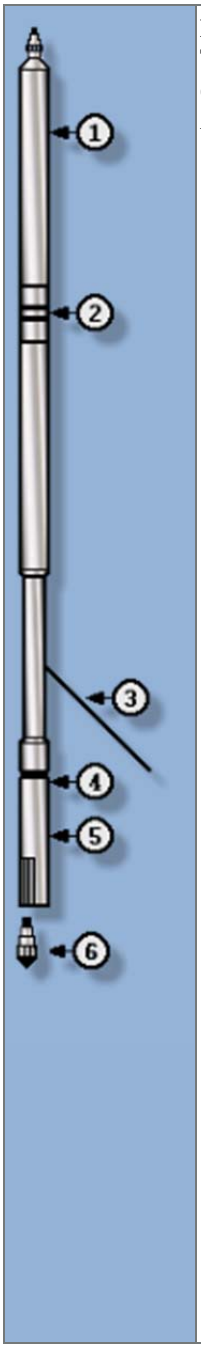
CENTURY GEOPHYSICAL LLC.
PRODUCT DESCRIPTION

9239 Compensated Density Logging Tool



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.) **2. 3-Element Guard Resistivity:** 127.6 mm (50.25 in.) guard electrode Offset: 63.5 cm (25 in.) **3. Caliper:** Motorized, uphole actuated 35.6 cm (14 in.) or 20.3 cm (8 in.) Offset: 210.8 cm (83 in.)	**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.) **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.) **6. Radioactive source:** 200-300 mCi Cesium 137 in bullplug Offset: 274.3 cm (108.0 in.)	**Length:**280.3 cm (110.35 in.) **Temperature:** 85 C (185 F) **Diameter:** 56 mm (2.2 in.) **Pressure:** 175 kg/cm^2 (2500 PSI) **Weight:** 32.7 kg (72 lb.) **Logging Speed:** 9 m/min. (30 ft./min.) **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%

Tool Information

Item	Model #	Part #
Tool with NG, CAL, ND, FD, MG	9239	320900
200-300 mCi Source w/Shield Cesium		please inquire
Source Handling Tool		101502
Calibration Gauge		212471
Guard Resistivity Calibration Box		335227