

# CENTURY GEOPHYSICAL LLC. PRODUCT DESCRIPTION

## 9238 Logging Tool

### Background Information

The Multi-Parameter Sidewall Density Logging Tool contains a single detector, focused density system using a 200-300 mCi Cesium 137 source, to record apparent bulk density of the formation. Additionally, the tool also records natural gamma, caliper, and a medium guard resistivity, and comes standard with a short arm and long arm.

### Features

Properties Measured (see diagram)		Tool Specifications
<b>1. Natural Gamma:</b> 2.2 x 10.16 cm (0.875 x 4.0 in.) NAI Scintillation Offset: 45.7 cm (18 in.)	<b>4. Density:</b> 1.27 x 3.81 cm (0.5 x 1.5 in.) NAI focused scintillation Offset: 283.5 cm (111.6 in.) Source-to-detector spacing selectable between 19.1 cm (7.5 in.) or 95 cm (3.75 in.)	<b>Length:</b> 299.7 cm (118 in.) <b>Temperature:</b> 75 C (167 F) <b>Diameter:</b> 51 mm (2.0 in.) <b>Pressure:</b> 175 kg/cm <sup>2</sup> (2500 PSI) <b>Weight:</b> 28.1 kg (62 lb.) <b>Logging Speed:</b> 9 m/min. (30 ft./min.) <b>Tool Voltage Required:</b> 56 VDC
<b>2. 3-Element Guard Resistivity:</b> 101.6 mm (4 in.) center electrode, 141 cm (55.5 in.) Offset: 72.3 cm (28.5 in.)	<b>5. Radioactive source:</b> 200 mCi Cesium 137 in bullplug Offset: 288.3 cm (113.5 in.)	
<b>3. Caliper:</b> Motorized, uphole actuated Offset: 259 cm (102 in.)		

### Sensor Response Ranges

Sensor	Response Limits	Accuracy
Natural Gamma (NG)	0-10,000 API units	+/-5%
Short Arm Caliper (CAL)	0 to 20.3 cm (8 in.)	+/-0.635 cm (0.25 in.)
Long Arm Caliper (CAL)	0 to 30.5 cm (12 in.)	+/-0.635 cm (0.25 in.)
High Resolution Density (DEN)	0.5 to 3.5g/cc	+/-0.025 g/cc
Guard Resistivity (MG)	0 to 40,000 ohm meters	+/-5%

### Tool Information

Item	Model #	Part #
Tool with NG, CAL, DEN, MG	9238	320920
Source w/Shield Cesium		PLEASE INQUIRE
Source Handling Tool		101501
Long Arm		240951
Short Arm		211281
Caliper Calibration Gauge		212471
Guard Resistance Calibration Box		335225

