Natural Gamma, Deviation

User Guide

9702 Background Information:

The 9702 tool is a natural gamma, and deviation logging tool. The diameter of the tool is 1.625 inches, allowing it to be used in holes as small as 2.0 inches. The tool records both natural gamma ray and deviation of the borehole in a single pass. As with most logging tools, it should be lowered to the bottom of the hole, and then logged in the upwards direction. The magnetic deviation sensor consists of two X-Y inclinometers, and three magnetometers to record the path of the drill hole. For nearly verticals holes, less than 2 degrees of inclination, the tool may need to centralized in the hole, to get the most accurate deviation. In holes greater than two degrees, the tool will usually "ride" on the gravity side of the hole, and centralization is not needed.

Calibration Points:

The **natural gamma** can be calibrated with a small calibration source or run with the default calibrations from the Houston test pits.

Primary Calibration	Standard	Response Range
Natural Gamma	0 api units 200 api units	0 cps 190-210 cps
Deviation	All points will show 0 standard and response.	

In order to record **deviation**, a special deviation calibration file called XXXX.DEV (XXXX being the tool serial number) must be copied into the \log\cal directory. The deviation calibration is performed by recording two CPS rotating logs, and then using the magnetic tool calibration menu program to produce an XXXX.DEV file for each tool. Refer to the Deviometer Test Stand User Guide for procedures to calibrate the X-Y inclinometers and X-Y-Z magnetometers. Using this calibration procedure will insure an accurate hole deviation is computed using the Compu-Log program.

When a 9702 (with deviation option) is shipped from Century's Tulsa manufacturing and repair group, a 3.25" floppy disk containing an XXXX.DEV file specifically for the tool provided will be included. This file must be copied into the \LOG\CAL directory before attempting to log with the tool.

It is recommended that a Century Deviometer Test Stand be used to check the accuracy of slant angle, and bearing measurements. This test should be done after the XXXX.DEV file is copied to the CAL directory and before beginning a critical logging operation.

Deviation Check Out - The tool is tested in the "Rocket Launcher Test Stand" with tolerances of 2 degrees direction and +/- .5 degree inclination. Lastly, the tool is logged in the CGC test hole, with the deviation at 76.2 m (250 ft.) within an established target.

Phone: 918-838-9811
Fax: 918-838-1532

Century
Geophysical Corp.
1223 S. 71st E. Ave
Tulsa Oklahoma, 74112

sales@century-geo.com
www.century-geo.com