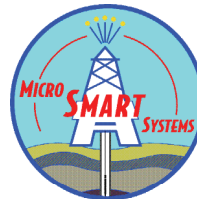


SGM-200



Downhole Memory Gamma Logger

The SGM-200 gamma memory logger provides downhole measurement of gamma, CCL, borehole temperature and fluid capacity.

The SGM-200 is utilized for various production logging (PL) and downhole evaluation applications such as gamma ray/CCL depth correlation, locating leaks, detecting non-performing perforations, locating fluid entry zones, fluid identification, detecting channels, etc.

If precise flow data is required, the Micro-Smart SFM-200 Downhole Memory Flowmeter is run in combination. The SP-2000 Downhole Memory Gauge (pressure) can also be utilized for fluid identification and pressure monitoring. A slickline depth recorder monitors and stores time/depth data.

Accurate, reliable, **QUALITY DATA** leads to **WELLBORE SOLUTIONS**. The SGM-200 uses a custom scintillation gamma detector with the sensitivity required for formation depth correlation. Fluid capacitance and borehole temperature sensors are mounted in a full-open window for optimal exposure to wellbore fluids.

The capacitance sensor's large count range for air to water (3000 cts) and the sensitive, high resolution, platinum RTD temperature sensor provide quality data necessary for the evaluation of wellbore fluid dynamics. Large memory capacity is adequate for long duration logging projects.

The SGM-200 is easy to program with or without the use of a compatible computer. With the use of our simple, menu driven software, you can retrieve and report the log data (using a compatible computer and printer).

If the customer requires standard API log prints, Micro-Smart Systems can generate the logs in our Houston office or provide the user with the required software programs and training. Complete PL analysis can also be provided upon request.

Advantages:

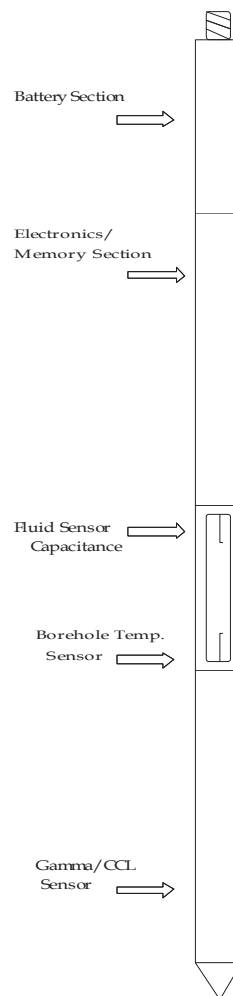
Some advantages of utilizing this tool in operations are:

- cost savings
 - less equipment and personnel required
 - less time required for transport and rigging
- safer operation
 - more reliable pressure control with less environmental hazard
- improved data quality
 - memory tool data is cleaner, eliminates noise problems associated with electric-line
- more reliable data acquisition
 - reliable battery and dual EEPROM tool memory eliminates potential problems with data transmission to surface unit via electric-line and power failures (surface equipment and electric-line shorts)

SMART Features:

Technological features of the SGM-200 are:

- Tool stores Time, Gamma, Fluid Capacitance, Borehole Temperature and CCL information
- Dual EEPROM Memory
- Large memory capacity
- Tool performs internal tests and delivers audible signal to confirm operation
- Switch selectable programming
- Custom computer programming
 - up to 15 time periods
 - specify time interval and sampling rate



"QUALITY DATA = WELLBORE SOLUTIONS"

SPECIFICATIONS:

Memory Capacity: 48,000 data sets (main)
2,000 data sets (backup)
Sampling Intervals: .468 seconds to 30 seconds
(in binary multiples)
Length: 9.3 feet (2.8 m)
Power: 14.4v (4 °C cell Lithium)

Gamma: Do not exceed 3° C/min. temp. change
Capacitance: 3,000 count change from air to water

Temperature: Resolution .04° F
Accuracy ± 2° F
Operating Temp.: 32° F to 302° F
(0° C to 150° C)
Diameter: 1.25" (31.7 mm)
Maximum Pressure: 15,000 psi
(102,000 kPa)
Weight: 24 lbs. (10.9 kg)