READ CASED HOLE

Version 1

Image courtesy of GE oil & gas

TECHNICAL DATA SHEET

FDR

Fluid Density Radioactive

The FDR uses low energy gamma rays to determine the downhole fluid density during a production logging operation. It provides a safe and reliable measurement that is unaffected by well deviation and flowrates.

Gamma rays are emitted from an Americium-241 source at one end of a measuring cell and are detected at the opposite end by a scintillation detector and photo multiplier. Well fluid flows through the cell and attenuates the received count rate in an inverse logarithmic function of the average fluid density.

The tool is calibrated in air and freshwater to derive calibration values.

APPLICATIONS:

- Multi-phase production profiling
- Fluid identification
- Density measurements in a range of fluid flow rates

BENEFITS

— High accuracy and repeatable measurement across wide fluid density range

— Resolves density in homogenous, turbulent or slugging flow regimes

— Suitable for all well deviations, including horizontal

— Shielded detector highly resistant to radioactive scale interference

— Deployable on Slickline, Electric line, Coil Tubing and Tractor

— Low activity source for safe handling transport and storage

Image courtesy of GE oil & gas

Specifications

Temperature rating	350°F (177°C)
Pressure rating	15,000 psi (103.4 MPa)
Tool diameter	$1\ ^{11}/_{16}$ in (43 mm)
Tool length	23 in (585 mm)
Tool weight	9.6 lb (4.4 kg)
Protective shield weight	12 lb (5.4 kg)
Measurement range	0 to 1.25 g/cc
Accuracy	±0.03 g/cc
Resolution	0.01 g/cc
Materials	Corrosion resistant throughout