

GeoEnlight™ Core Scanner

Gamma, Spectral Gamma, Resistivity, Permittivity, PhiW



Description

The GeoEnlight™ Core Scanner includes a state-of-the-art spectral gamma sensor to measure not only total gamma but also K, U, and Th. However, the novel aspect of the tool is its pair of radar sensors, which determine the resistivity, permittivity, and water-filled porosity along the core.

The sensors are packaged in a hand-held device which is placed on the core barrel to progressively scan the length of the core. Built-in motors and a depth encoder make it so simple to use. The user only needs to input the start depth of the core and the tool does the rest. The tool is designed to be run either at the rigsite or in the lab.

The tool is easily run from any computer, tablet, or smartphone.

Data are processed right on the tool and displayed on the screen as the tool scans and saved in a depth-based file upon completion of the scan.

The tool contains a long-life battery to allow for a full day of scanning without needing a charge.

Applications

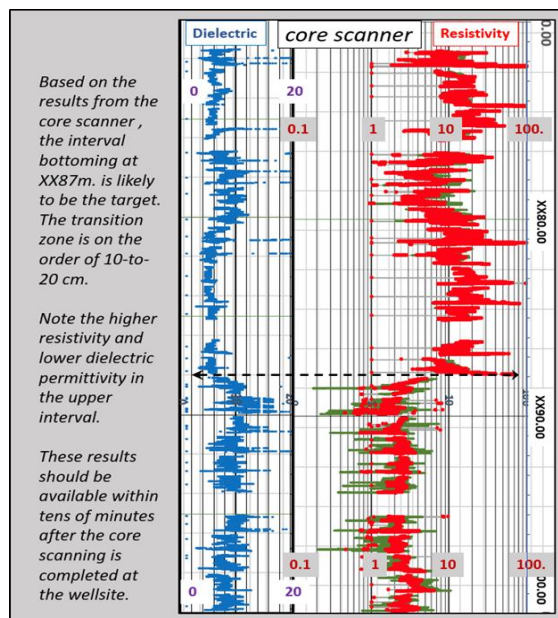
- Total Gamma at the rigsite for quick identification of lithology
- Spectral gamma for geological “fingerprinting”
- Resistivity & Permittivity at the rigsite to identify/characterize hydrocarbons
- High resolution microresistivity logs to enhance traditional wireline & LWD logs.

Deliverables

- Depth-based logs:
 - Total Gamma
 - K, U, Th
 - Resistivity
 - Permittivity
 - Water-filled Porosity



The GeoEnlight™ Core Scanner



Resistivity and dielectric permittivity derived from the data acquired on the rig floor. The inversion algorithm is particularly robust in intervals with higher resistivity. Note the hydrocarbon-water contact at XX88.



The GeoEnlight™ Core Scanner in action



Measurement and Performance Specifications

PARAMETER	SPECIFICATIONS
Gamma/Spectral Gamma	76x76 mm NaI (TI)scintillation detector, 4096 channel recording
Resistivity	1-1000 Ω -m Quantitative, <1 Ω -m Qualitative
Permittivity	2-25 F/m
Water-Filled Porosity	0.5-100%
Logging Speed	3-10 cm/s (10 cm station measurements also available)
Memory	12 hours continuous scanning (approx. 3600 m)
Battery	20 hours continuous scanning
Power Source	96 Wh battery with 100-240V/50-60Hz charger

Mechanical and Environmental Specifications

PARAMETER	SPECIFICATIONS
Tool Length	43 cm (16.9 in)
Tool Width	22 cm (8.7 in)
Tool Weight	7.2 kg (15.8 lbs)
Core Diameter Range	90-120 mm (standard) 70-160 mm (with adapter)
Core Barrel Material	Gamma –fiberglass, none or aluminum Radar/Permittivity - fiberglass or none