

Permeability log @model

Permeability prediction belongs to the secondary interpretation which means that it is based on results of preliminary open-hole logs interpretation in terms of volumetric rock model (usually, Effective porosity and Shaliness) and normally does not involve inputs from original open-hole logs.

Some open-hole logs (like variation between near and far zone resistivity) respond to permeability but can not be used in quantitative analysis because the value of response on other rock properties is difficult to assess and account for.

Inputs & Outputs

Inputs			Outputs	
$\phi_e(l)$	Effective porosity		$k(l)$	Absolute permeability
$V_{sh}(l)$	Shaliness			

where $l(x, y, z)$ is the along-hole depth and (x, y, z) – 3D spatial coordinates.

The model parameters are being fit to absolute permeability core data for each lithofacies separately $LFI(l)$.

Models

Absolute permeability @model

See also

Petroleum Industry / Upstream / Subsurface E&P Disciplines / Petrophysics / Absolute permeability

Reservoir Data Logs (RDL) @model

References