

SHF Skelt-Harrison @model

One of the [SHF models](#):

$$(1) \quad s_{wi}(h) = 1 - a \exp\left(-\left(\frac{b}{h - h_{FWL} + d}\right)^c\right)$$

where model parameters $\{a, b, c, d\}$ are calibrated on water saturation from OH logs for each [lithofacies](#) or [petrotype](#) individually.

The coefficient c is related to [FWL](#) correction but usually set the same for all [lithofacies](#) / [petrotypes](#) of a given reservoir unit.

If core data is abundant then one can build a reasonable correlation of model parameters on porosity ϕ and/or permeability k_a :

$$(2) \quad a = a(\phi, k_a), \quad b = b(\phi, k_a), \quad c = c(\phi, k_a)$$

See also

[Physics](#) / [Fluid Dynamics](#) / [Percolation](#)

[Petroleum Industry](#) / [Upstream](#) / [Subsurface E&P Disciplines](#) / [Field Study & Modelling](#) / [Petrophysics](#) / [Saturation Height Function \(SHF\)](#) / [SHF mathematical models](#)

[[Basic reservoir properties](#)]

References

Harrison, B., and X.D. Jing. "Saturation Height Methods and Their Impact on Volumetric Hydrocarbon in Place Estimates." Paper presented at the SPE Annual Technical Conference and Exhibition, New Orleans, Louisiana, September 2001. doi: <https://doi.org/10.2118/71326-MS>