

Wiggins IPR @ model

A specific IPR model:

(1) $\frac{q_O}{q_{O,max}} = 1 - \sum_{k=1}^N a_k \left(\frac{p_{wf}}{p_r} \right)^k$, $\{p_b > p_r > p_{wf}\}$, $\sum_{k=1}^N a_k = 1$, $\{0 < a_k < 1\}_{k=1..N}$

where

$q = q_O$	surface production rate of rate
q_{max}	Absolute Open Flow (AOF) for oil
p_{wf}	bottom-hole pressure (BHP)
p_r	drainarea formation pressure
p_b	bubble-point pressure
$\{0 < a_k < 1\}_{k=1..N}$	model parameters

This is a generalisation of Vogel model and reduces to Vogel model for $a_1 = 0.2$, $a_2 = 0.8$, $\{a_k = 0 \mid \forall k > 2\}$.

See also

[Petroleum Industry / Upstream / Production / Subsurface Production / Subsurface E&P Disciplines / Field Study & Modelling / Production Analysis / Productivity Diagnostics / Inflow Performance Relation \(IPR\)](#)

[[Vogel IPR @model](#)] [[Richardson and Shaw IPR @ model](#)] [[Wiggins IPR @ model](#)] [[LIT IPR @ model](#)] [[PADE IPR @ model](#)]

References

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