

# GOR Fractional Flow @model

A proxy model of GOR in producing well with reservoir saturation  $s = \{s_w, s_o, s_g\}$  and reservoir pressure  $p_e$ :

$$(1) \quad GOR = Y_g = R_s + \frac{M_{rg}}{M_{ro}} \cdot \frac{B_o}{B_g}$$

where

$M_{ro}(s)$	Relative oil mobility	$B_o(p_e)$	Oil formation volume factor	$s$	Reservoir saturation $\{s_w, s_o, s_g\}$
$M_{rg}(s)$	Relative gas mobility	$B_g(p_e)$	Gas formation volume factor	$p_e$	Current formation pressure

It provides a good estimate when the drawdown is much higher than delta pressure from gravity and capillary effects.

The model (1) can also be used in gross field production analysis and in this case the average reservoir saturation can be assumed homogeneous:

$$(2) \quad s_g(t) = (1 - s_{wi}) \cdot RF(t)/E_S$$

## See also

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[Water cut \(Yw\)](#)