

Petrosky–Farshad (1993) saturated oil gas solubility R_s @model

Saturated oil gas solubility	R_s	scf/stb	$p \quad p_b$	$R_s = \left[\gamma_g^{c_3} \cdot (p/c_1 - c_4) \cdot 10^{-X} \right]^{1/c_2}, \quad X = c_5 T^{c_6} + c_7 \gamma_{API}^{c_8}$ $c_1 = 112.727, \quad c_2 = 0.5774, \quad c_3 = 0.8439, \quad c_4 = -12.340$ $c_5 = 4.561 \cdot 10^{-5}, \quad c_6 = 1.3911, \quad c_7 = -7.916 \cdot 10^{-4}, \quad c_8 = 1.5410$
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where

p	psia	Fluid pressure
T	°F	Initial formation temperature
γ_{API}	°API	Oil API gravity
γ_o	frac	Oil specific gravity
γ_g	frac	Gas specific gravity

See Also

[Petroleum Industry / Upstream / Petroleum Engineering / Subsurface E&P Disciplines / Reservoir Engineering \(RE\) / PVT correlations / Oil correlations](#)

[[Petrosky–Farshad \(1993\) oil correlations](#)]

References

Petrosky, G.E., and F.F. Farshad. "Pressure-Volume-Temperature Correlations for Gulf of Mexico Crude Oils." Paper presented at the SPE Annual Technical Conference and Exhibition, Houston, Texas, October 1993. doi: <https://doi.org/10.2118/26644-MS>