

Petrosky–Farshad (1993) undersaturated oil isothermal compressibility @ model

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|---------------------------------------|----------------------|-------------------|-----------|--|
| Oil isothermal compressibility | c_o | psi ⁻¹ | $p > p_b$ | $c_o(p, T) = c_1 R_s^{c_2} (p, T) \gamma_g^{c_3} \gamma_{API}^{c_4} T^{c_5} p^{c_6}$ $c_1 = 1.705 \cdot 10^{-7}, c_2 = 0.69357, c_3 = 0.1885, c_4 = 0.3272, c_5 = 0.6729, c_6 = -0.5906$ |
|---------------------------------------|----------------------|-------------------|-----------|--|

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 |
| R_{sb} | scf/stb | Gas Solubility at Bubble point pressure |

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>