

w water density McCain correlation @model

$$(1) \quad \rho_w(T, p) = \rho_w^*(T, p) / B_w(T, p)$$

$$(2) \quad \rho_w^*(T, p) = 62.368 + 0.438603 \cdot S + 0.00160074 \cdot S^2$$

where

$\rho_w(T, p)$	Water density with salinity S at temperature T and pressure p
$\rho_w^*(T, p)$	Pure water density (with zero salinity $S = 0$) at temperature T and pressure p
T	Temperature, °F
p	Pressure, psi
S	Water salinity, wt%

See Also

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

Reference

McCain, W.D.. "Reservoir-Fluid Property Correlations-State of the Art (includes associated papers 23583 and 23594)." SPE Res Eng 6 (1991): 266–272. doi: <https://doi.org/10.2118/18571-PA>