

STGIIP @model

[@wikipedia](#)

Volumetric value of [Gas Initial In Place \(GIIP\)](#) recalculated to [NTP](#) conditions:

(1)
$$V_{STGIIP} = \int_{\Omega} \left[\frac{s_{gi}(\mathbf{r})}{B_g} + \frac{R_s s_{oi}(\mathbf{r})}{B_o} \right] \phi_e(\mathbf{r}) dV$$

where

Ω	Petroleum reservoir
$\mathbf{r} = (x, y, z)$	Position vector to some location in a reservoir
$dV = dx dy dz$	Volume element of a reservoir
$p_i(\mathbf{r}), T_i(\mathbf{r})$	Initial formation pressure and temperature at location $\mathbf{r}$
$\phi_e(\mathbf{r})$	Effective porosity at location $\mathbf{r}$
$s_{oi}(\mathbf{r}), s_{gi}(\mathbf{r})$	Initital Oil saturation and Gas saturation at location $\mathbf{r}$
$B_o(p_i, T_i), B_g(p_i, T_i)$	Oil FVF and Gas FVF at Initial formation pressure and temperature
$R_s(p_i, T_i), R_v(p_i, T_i)$	Solution GOR and Vaporized Oil Ratio at Initial formation pressure and temperature

For practical implementation of [\(1\)](#) one needs to build a [Geological Model \(GM\)](#) and perform a numerical integration.

See Also

[Petroleum Industry](#) / [Upstream](#) / [Exploration](#) / [Booking Reserves](#) / [Gas Initial In Place \(GIIP\)](#) / [Stock-Tank Gas Initial In-Place \(STGIIP\)](#)