$$\exp(: V :), \qquad V = -\frac{1}{p}\left(\frac{\mathtt{F1}^2}{24\rho_b}p_x - \frac{\mathtt{F1}}{12\rho_b}y^2 + \frac{y^4}{6\mathtt{F1}\,\rho_b^2} \right) \qquad (90)$$