Comments about Problem 2. Zoom session 04.02.2021

for pipeline, flowline, riser, tubing

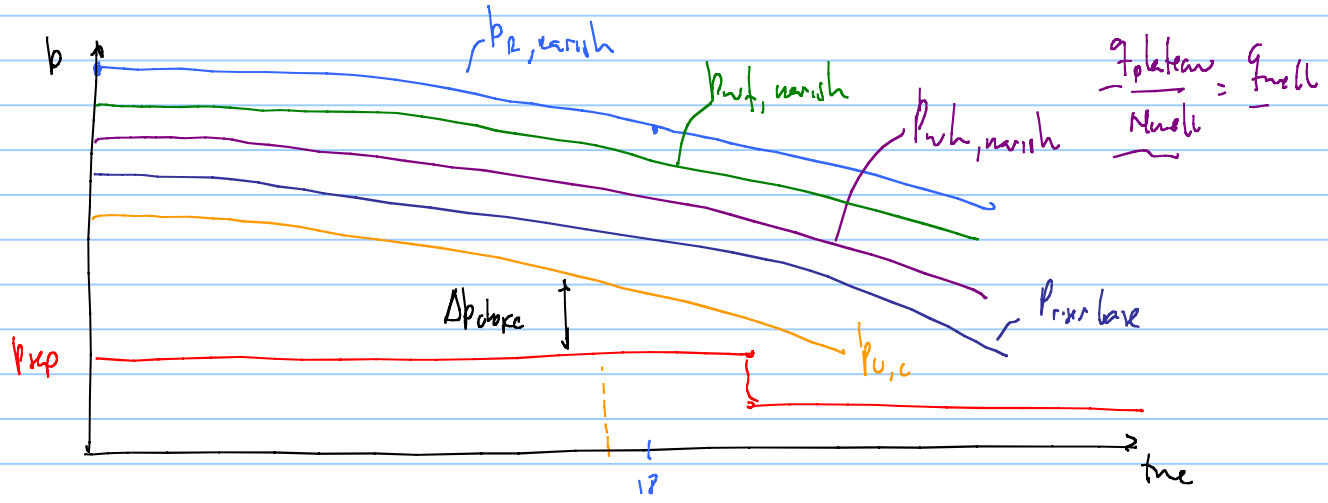
$$C = f(p_1, p_2, T_1, T_2)$$

assume C → solve for p_1, p_2, q_s → recalculate C

We are neglecting this dependency in the course, we assume constant pipeline flow and elevation coefficients

Evolution of pressures in system

$$q_{well} = C\left(\bar{p}_R^2 - p_{wf}^2\right)^n$$



$$\frac{q_{plateau}}{N_{wells}} = q_{well}$$

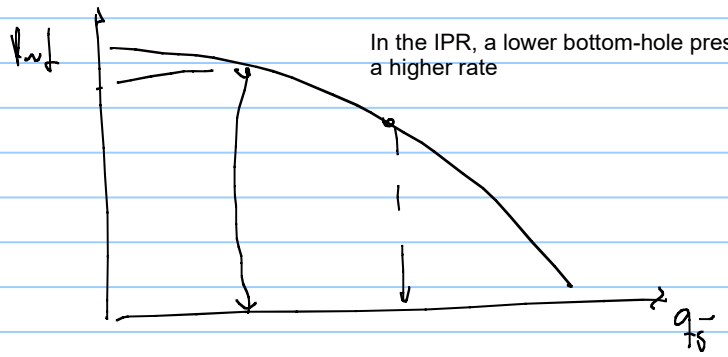
end of plateau

$$\Delta p_{choke} = 0$$

$$q_{well} = C_T\left(\frac{p_{wf}^3}{e^5} - p_{wh}^2\right)^{0.5}$$

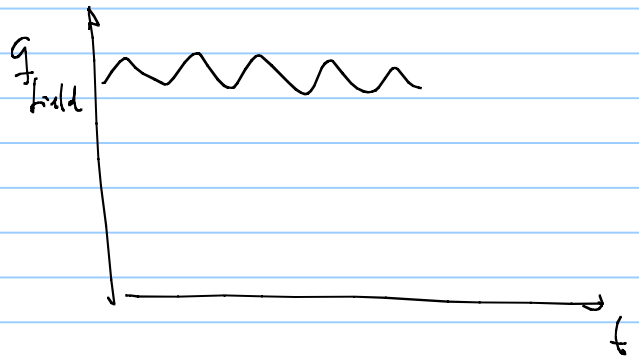
$$\frac{q_{marginal}}{2} = C_{PL}\left(p_{wh}^2 - p_{riserbase}^2\right)^{0.5}$$

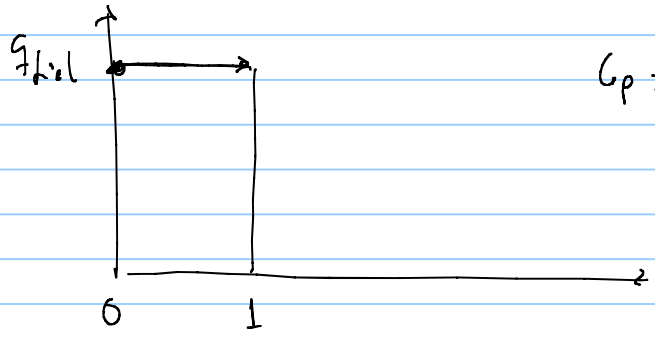
$$\frac{q_{marginal}}{2} = C_{riser}\left(\frac{p_{riserbase}^2}{e^5} - p_{uchoke}^2\right)^{0.5}$$



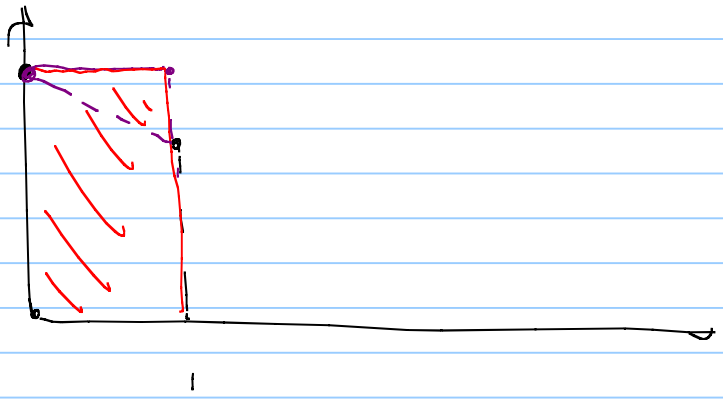
In the IPR, a lower bottom-hole pressure gives a higher rate

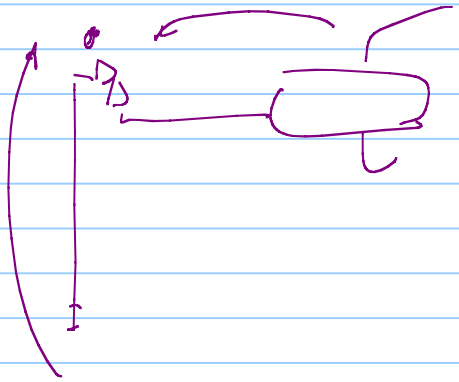
$$G_p = \int_0^t q_{field}\, dt$$

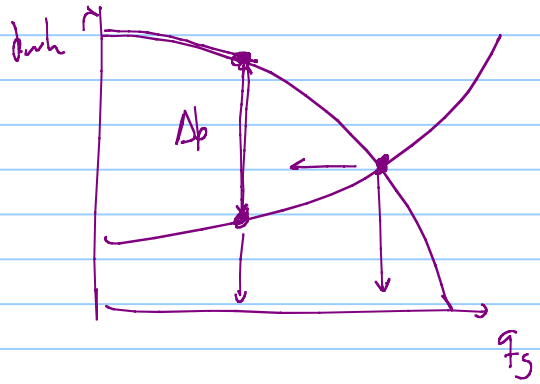




$$G_p = q_{field} \cdot t_{day/year}$$






Δp