$$\frac{dh}{dt} = \frac{R-Q}{A_R}$$

$$\frac{dAc}{dt} = \frac{f\rho_w}{8\rho_i L_f} \frac{P_{wet} Q^3}{A_c^3} - 2\left(\frac{1}{nB}\right)^n A_c (P_i - P_w)\left|P_i - P_w\right|^{(n-1)}$$