INDEX

* All graphs show data for constant pressure at boundary. Item 2 also has data for closed reservoir.

For oil:

$$m = \frac{1.151\ \Delta P}{P_D}$$

$$P_D = \frac{1.151\ \Delta P}{m}$$

$$= \frac{7.08\ \Delta P}{q\ \mu\ B}\ Kh$$

$$Kh = \frac{q\ \mu\ B}{7.08}\ \frac{P_D}{\Delta P}$$

$$\frac{Kh}{\mu} = \frac{q\ B}{7.08}\ \frac{P_D}{\Delta P}$$

$$\eta = \frac{6.328\ K}{c\ \mu\ \phi}$$

$$m = \frac{q\ \mu\ b}{6.15\ Kh}$$

q = BOPD

μ = c p

B = RB/STB

K = darcys

h = feet

C = $\Delta V/V/psi$

X_f = fracture half-length

X_e = distance to outer boundary

t = days

For gas:

Q = MCF/D at 14.7 psia P.B.

μ = cp

K = darcys

T = ^{o}R

h = feet

μ_i = cp at 14.7 psia and reservoir temp.

$$m = \frac{1.151 \Delta P}{P_D}$$

P_e = external pressure

P_w = well pressure

$$Kh = \frac{1.637\, Q\, \mu_i\, T}{m}$$

$$= \frac{1000\, Q\, \mu_i \left(\frac{T}{610.9}\right)}{m}$$

Where ΔP is: $P_e^2 - P_w^2$

and P_e and P_w are psia

or pseudo-pressures where pseudo-pressure is:

$$\left[2\int_0^P \left(\frac{P}{z\frac{\mu}{\mu_i}}\right) dP\right]^{1/2}$$

or

$$Kh = \frac{1.637\, Q\, T}{m}$$

if pseudo pressure is $\psi \left(\frac{\text{psia}^2}{\text{cp}}\right)$