Pan American

FRED PEASEL "H" NO. 1 BOTTOM HOLE CHOKE CALCULATIONS

H-23

Solve for P_f:

$$P_f = \frac{1486}{1.3309 \times 0.9233 \times 0.9100 \times 1.094}$$

$$P_f = 1214 \text{ psia}$$

using $P_f = 1214$, find a new F_{pv}

$$F_{pv} = 1.087$$

and $\underline{P_f = 1223 \text{ psia}}$

Pressure Drop Across Choke:

$$dP_{ch} = P_f - (P_t + dP_{fr} + dP_h)$$

Where:

dP_{ch} = Pressure drop across choke
P_f = Pressure upstream of choke
P_t = Flowing surface pressure, psia
dP_{fr} = Friction loss in flow string
dP_h = Gas column pressure

Data:

P_f = 1223 psia
P_t = 314 psia
dP_{fr} = 393 - 314 = 79 psi
dP_h = 51 psi

and $dP_{ch} = 1223 - (314 + 79 + 51)$

$\underline{dP_{ch} = 779}$

This pressure drop across the choke must be added to the calculated P_w in order to obtain a true value of P_w.

$$P_w = 393 + 779$$

$\underline{P_w = 1172 \text{ psia}}$