

E. W. WALDEN #7 DECLINE RATES

(Blinebry)

$$\begin{aligned} q_i &= 8,200 \text{ mcf/mo. @ } 1/1/75 \\ q &= 5,900 \text{ mcf/mo. @ } 1/1/84 \\ t &= 9 \text{ yrs.} \end{aligned}$$

$$a = \frac{\ln \frac{8,200 \text{ mcf/mo.}}{5,900 \text{ mcf/mo.}}}{30 \text{ yrs.}}$$

$$a = 0.036575756/\text{yr.}$$

(Drinkard)

$$\begin{aligned} q_i &= 580 \text{ mcf/mo. @ } 1/1/75 \\ q &= 420 \text{ mcf/mo. @ } 1/1/84 \\ t &= 9 \text{ yrs} \end{aligned}$$

$$a = \frac{\ln \frac{580 \text{ mcf/mo.}}{420 \text{ mcf/mo.}}}{9 \text{ yrs.}}$$

$$a = 0.035863710/\text{yr.}$$

(Combined)

$$\begin{aligned} q_i &= 8,780 \text{ mcf/mo. @ } 1/1/75 \\ q &= 6,320 \text{ mcf/mo. @ } 1/1/84 \\ t &= 9 \text{ yrs.} \end{aligned}$$

$$a = \frac{\ln \frac{8,780 \text{ mcf/mo.}}{6,320 \text{ mcf/mo.}}}{9 \text{ yrs.}}$$

$$A = 0.036528578/\text{yr.}$$

$$X = \text{Blinebry Allocation}$$

$$1-X = \text{Drinkard Allocation}$$

$$\begin{aligned} 0.036528578 &= (X) 0.036575756 + (1-X) 0.035863710 \\ 0.036528578 &= 0.036575756 (X) + 0.035863710 - 0.035863710(X) \\ 0.036528578 - 0.035863710 &= 0.036575756(X) - 0.035863710(X) \\ 0.000664868 &= 0.000712046(X) \end{aligned}$$