

H.L. Brown JR
 North Bluff (Siluro - Devonian) Field
 Roosevelt Co., New Mexico
 Drainage Radius Calculation
 Federal 28 Com. No. 1

Kh Determination:

$$K_h = \frac{162.6 Q \mu B}{m}$$

$$Q = 105 \text{ STBOPD}$$

$$m = .7 \text{ psi / cycle}$$

$$\mu = .2 \text{ cp}$$

$$B = 1.4 \text{ RB/STB}$$

$$K_h = \frac{162.6 (105) (.2) (1.4)}{.7} = 6829.2 \text{ md-ft}$$

$$K = \frac{K_h}{h}$$

$$h = 38 \text{ Ft}$$

$$K = \frac{6829.2}{38} = 180 \text{ md}$$

Drainage Radius Determination

$$R_e = \sqrt{\frac{(0.00105) K t}{\phi C \mu}}$$

$$K = 180 \text{ md}$$

$$t = 548 \text{ hrs}$$

$$\phi = 14\% = .14$$

$$\mu = .2 \text{ cp}$$

$$C = .0002 \text{ psi}^{-1}$$

$$R_e = 4300 \text{ Ft}$$

$$(R_e)_{\max} = 6082 \text{ Ft for } C = 0.0001 \text{ psi}^{-1}$$

$$(R_e)_{\min} = 1923 \text{ Ft for } C = 0.001 \text{ psi}^{-1}$$

BEFORE EXAMINER CATANACH

OIL CONSERVATION DIVISION

H.L. Brown EXHIBIT NO. 7

CASE NO. 9270