

DRAINAGE CALCULATIONS
CASEY STRAWN FIELD
Lea Co., N.M.

$$\begin{aligned}\text{OSTOIP} &= \frac{7758 \phi (1-S_w)}{B_o} \\ &= \frac{7758 \times .09 \times (1-.20)}{1.53} \\ &= 365 \text{ STB/AF}\end{aligned}$$

Assuming 80-acre drainage

OIP 80 ac. : $365 \times 36 \times 80 = 1,051,437 \text{ STB}$
Ave. Rec. : 187,500 STB/Well
Rec. Eff. : 17.8% of OSTOIP

Assuming 40-acre drainage

OIP 40 ac. : $365 \times 36 \times 40 = 525,719 \text{ STB}$
Ave. Rec. : 187,500 STB/Well
Rec. Eff. : 35.7% of OSTOIP

Ave. Recovery for Soln. Gas Drive Lm. or Dolo. Reservoir with 43° API Gty. Oil and 1000 SCF/BBL GOR is estimated to be 5 BBLS/Acre-Foot per Percent Porosity. (Arps & Roberts, AIME Transaction, 1955).

$$\therefore \text{Drainage Area} = \frac{187,500 \text{ BBLS}}{5 \frac{\text{BBLs}}{\text{AF}} / \% \times 36\text{F} \times 9\%} = 116 \text{ acres}$$

Recovery Factor for Soln. Gas Drive Reservoirs (E.T. Guerrero, Oil and Gas Journal, Aug. 28, 1961)

Ave. 18% of OSTOIP
Range 12% to 25% of OSTOIP

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
C+K	EXHIBIT NO. 7
CASE NO.	5446