

DRAINAGE ESTIMATE
SUN'S NEW MEXICO FEDERAL "N" NO. 6
BASIN DAKOTA FIELD
SEC. 6-30N-12W
SAN JUAN COUNTY
NEW MEXICO

1. VOLUMETRIC*

$$V_b \text{ Ac-Ft} = \frac{G}{43560 (\phi) (1-S_w) (Bg)}$$

$$Bg = 35.35 \frac{P}{(T) (Z)}$$

Where:

$$V_b = \text{Ac-Ft}$$

$$S_w = \text{Water Sat.}, 40\%$$

$$\phi = \text{Porosity}, 15\%$$

$$G = \text{Gas Prod.}, \text{SCF}^{**}$$

$$T_{sc} = \text{BHT } (131 + 460), 591^{\circ}\text{R}$$

$$P/Z = (\text{Initial}), 2824$$

$$H = \text{Avg Net Thickness}, 70 \text{ Ft}$$

$$V_b (\text{Ac-Ft}) = \frac{1.0636 \times 10^9}{43560 (.15) (1-.40) (168.91)}$$

$$Bg = \frac{35.35 (2824)}{591}$$

$$\text{Ac-Ft} = 1606.2$$

$$Bg = 168.91$$

$$\text{Acres Drained} = (1606.2) \div (70) = \underline{22.94}$$

2. EQUIV. DRAINAGE RADIUS

$$\text{Radius, Ft} = \sqrt{\frac{(43560) (\text{Acres})}{\pi}}$$

$$\text{Radius, Ft} = \sqrt{\frac{(43560) (22.94)}{\pi}}$$

$$\text{Radius, Ft} = \underline{564.0 \text{ Ft}}$$

*Applied Petroleum Reservoir Engineering, Craft and Hawkins, Pgs. 24-27

**Natural Gas Well Prod. Hist., Dwigths 7-1-79

*Exhibit 5
Case 6712*

[illegible]