ESTIMATES OF OIL RESERVES
(Volumetric Method)
E. Saunders Permo-Penn Pool
Lea County, New Mexico

BASIC DATA:

Porosity	8.1% (Average of cores in #2 well)
Net Pay	19.5 ft. (Average of pay in #1 and #2 well)
Water Saturation	33.4% (Average of cores in #2 well)
Formation Volume Factor	1.527 bbl. of reservoir oil/bbl. of stock-tank oil (reservoir fluid analysis)
Recovery Factor	25.2% (Material balance - Schilthius Method)

CALCULATIONS:

$$\text{Ultimate Oil Recovery} = \frac{(7758)\ (\emptyset)\ (1-Sw)\ (R)}{Boi}$$

$$\text{Ultimate Oil Recovery} = \frac{(7758)\ (0.081)\ (0.666)\ (0.252)}{1.527}$$

Ultimate Oil Recovery = 69 bbl/acre foot

Where:
- 7758 bbl = equivalent of 1 acre foot
- $\emptyset$ = porosity as a fraction of bulk volume
- Sw = water saturation as a fraction of pore volume
- R = recovery factor as a fraction of original oil in place
- Boi = formation volume factor

For a net thickness of 19.5 feet

Ultimate Oil Recovery = (69 bbl/acre foot) (19.5 feet) = 1346 bbl/acre

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
EXHIBIT NO. _____
CASE NO. _____

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