AVERAGE RESERVOIR AND FLUID PROPERTIES
LOVINGTON NORTHEAST PENN FIELD
LEA COUNTY, NEW MEXICO



| | |
|---|---|
| Depth | 11,300 |
| Net Pay | 23 feet |
| Porosity | 8.5% |
| Permeability | 1-100 md. |
| Connate Water | 30% |
| Bottom Hole Pressure, Original | 4000 psig |
| Bubble Point Pressure | 3000 psig |
| Bottom Hole Temperature | 155° F |
| Oil Gravity | 44° API |
| Formation Volume Factor | 1.45 RB/STB |
| Reservoir Energy | Solution-Gas Drive |
| Areal Extent | 1320 acres |

RESERVOIR CALCULATIONS

Reservoir Volume (Planimetered from Isopach map)
= 29,821 ac.-ft.

Ultimate Recovery (Estimated from decline curves)
= 2,637,800 barrels oil

Original Oil in Place

$$= \frac{(7758)\ (29{,}821)\ (.085)\ (1-.30)}{1.45}$$

= 9,493,400 barrels oil

Recovery Factor

$$= \frac{2{,}637{,}800}{9{,}493{,}400} \times 100$$

= 27.8%

Average Drainage Area $= \frac{1320}{10}$ = 132 acres per well

NORMAL RECOVERY FACTOR FOR SOLUTION-GAS DRIVE RESERVOIR: 17-20%

By: B. C. Sinclair

Date: 8-17-70

10 wells in NE

EXHIBIT 4