WHAT GOM (MIOCENE) SHALE LOOKED LIKE TO US IN 1960

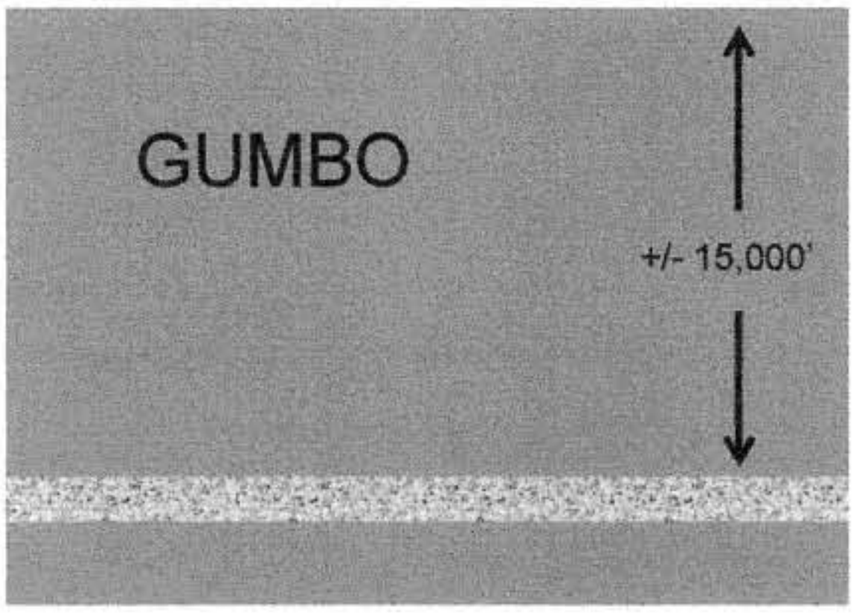

Figure 1

GULF OF MEXICO DRILLING MUD PROGRAM 1950-1970

- 0-12,000' 10-12ppg (1.20-1.45 SpG) **Drilling Fluid Density**
- 12,000' Set Casing
- Change mud system to lime mud
- 12,000' to TD (12-16,000')
  increase density 1ppg (0.12 SpG) every 1,000'
- At a TD of 16,000', the fluid density would be:
  12ppg +4pg=16ppg (1.9SpG)
- Set casing at TD and cement with 16ppg cement
- This worked out pretty well, some of the time

Figure 2

WE LEARNED TO CONTROL SALT WATER AND GAS FLOWS

CONFIDENCE

MINIMUM LOST TIME

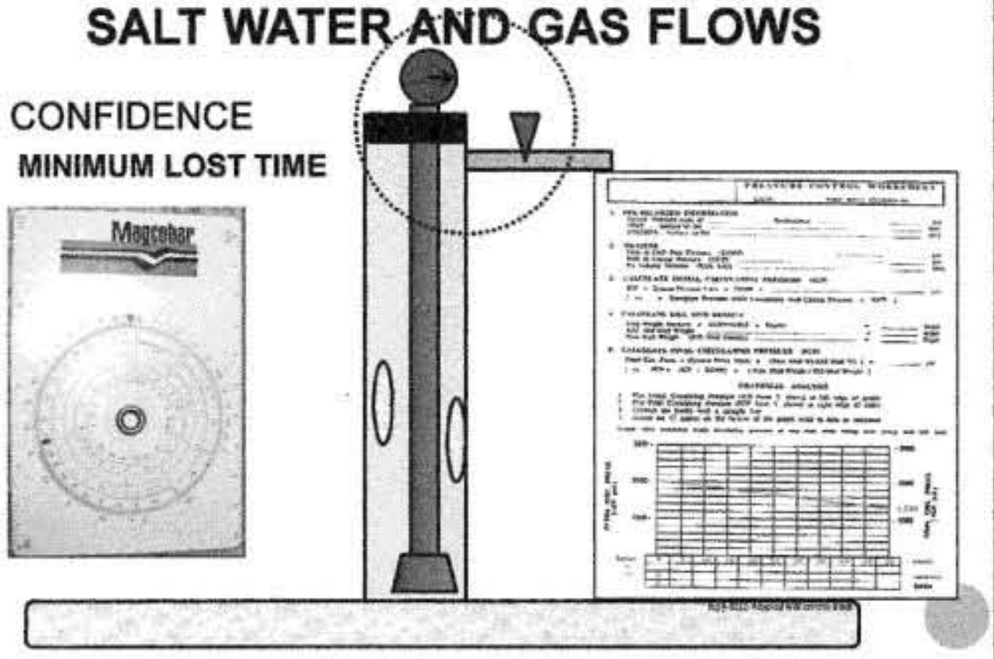

Figure 3

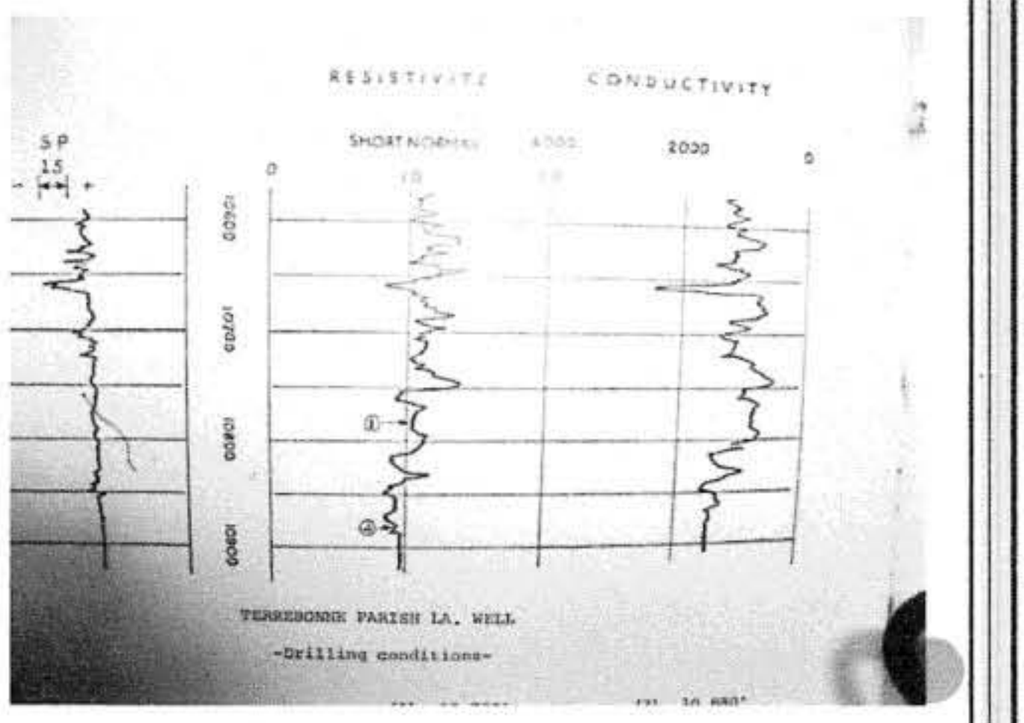

Figure 4
Typical 1960 IES Log

"dc" PLOT OF SEAL AND FOLLOWING PRESSURE INCREASE

After Hebert et al 1972

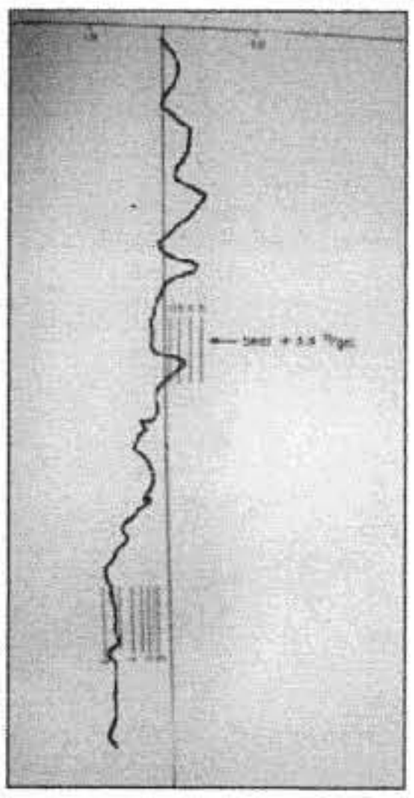

Figure 5
"d" Solution Plot

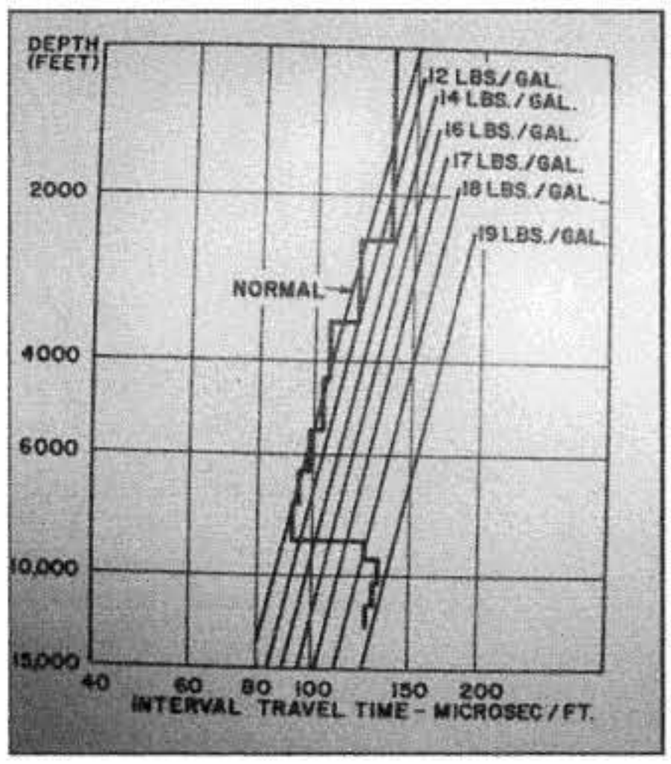

Figure 6
'Sonic' Log Pressure Plot