USG SECTION 19 WELL NO. 17
COMMUNICATION TEST
AUGUST 30, 1966

Injection Interval:

Top: 2157 = 9-5/8" csg. seat
Base: 3100' = Top of cement behind 7" csg.

Observed Data:

Specific gravity of gas = .700 (est.)
Specific gravity of oil = .788
Measured wellhead pressure = 1157 psia
Wellhead temperature = 60° (520° Rankine)
Reservoir temperature = 150° (610° Rankine)
Gravity of crude = 48°
Injection pressure = 340 psi

Sonolog Results:

Joints to fluid = 23
Depth to fluid = 706'
Average joint = 30.71'

Calculations - Top:

Casing pressure at fluid level = 13 lbs. / 1157 = 1170 psia
H = 2157 (injection depth)
H = 2157 - 706 = 1451'
BHP (csg.) at 2157 = pressure at fluid level / .788 X .433 X 1451 = 1665 psia

Annulus pressure at 2157
Specific gravity = 1.0365 (salt water)
2157 X .433 X 1.0635 = 993 / 340 = 1333 psig

Calculations - Bottom:

Casing pressure at 3100' = 1170 / (3100 - 706)(.788)(.433)
1170 / 817 = 1987 psia

Annulus pressure at 3100 = 3100 X .433 X 1.0635 = 1428 / 340 = 1768 psia

Therefore, pressure on inside of 7" casing at both top and bottom of injection interval is greater than pressure of interval being used for injection.

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