

Nearburg Producing Company

**Exploration and Production
Midland, Texas**

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September 3, 2002

**Nearburg Grama Ridge East 34 State #1 Well
34H- 21S-34E
1548 FNL & 990 FEL
Lea County, New Mexico**

P/Z Data, Reservoir and Physical Properties

Perfs: 13134-13156 (22 feet)
Mid Point of Perfs: 13145 (-9339 feet subsea)
KB: 3706 feet
Reservoir Temperature: 184°F
SG_{gas}: 0.63
SG_{cond}: 57°API
Avg porosity: 11%
Avg water saturation: 20%
B_{gi}(7100 psi): $(35.35 \times (7100)) / (1.1691 \times (184 + 460)) = 333 \text{ Scf/ft}^3$
B_{gi}(7922 psi): $(35.35 \times (7922)) / (1.2405 \times (184 + 460)) = 351 \text{ Scf/ft}^3$
B_{ga}(1000 psi): $(35.35 \times (1000)) / (0.9274 \times (184 + 460)) = 59 \text{ Scf/ft}^3$
Gas recovery_(7100 psi): $333 - 59 = 274 \text{ Scf/ft}^3$ (82%)
Gas recovery_(7922 psi): $351 - 59 = 292 \text{ Scf/ft}^3$ (83%)
P_i (flowing): 6955 psi (calculated using Ryder-Scott consultants PC program and initial rate and surface flowing tubing pressure)
P_i (static): 7100 psi to 7922 psi
(lower limit based on personal experience with similar Morrow wells, upper limit from RFT data on the GRM Unit #2 Well)
P₍₁₁₋₃₋₀₀₎: 3057 psi @13145 feet (70 hour shut-in)
P₍₂₋₆₋₀₂₎: 1562 psi @13145 feet (4560 hour shut-in)
Z_(7100 psi): 1.1691
Z_(7922 psi): 1.2405
Z_(3057 psi): 0.8896
Z_(1562 psi): 0.8964
Z_(1000 psi): 0.9274
P/Z_(7100 psi): $7100 / 1.1691 = 6073 \text{ psi}$
P/Z_(7922 psi): $7922 / 1.2405 = 6386 \text{ psi}$
P/Z_(3057 psi): $3057 / 0.8896 = 3436 \text{ psi}$
P/Z_(1562 psi): $1562 / 0.8964 = 1743 \text{ psi}$
P/Z_(1000 psi): $1000 / 0.9274 = 1078 \text{ psi}$
Cum Gas to 11-3-2000: 555 MMcf
Cum Gas to 2-6-2002: 1060 MMcf

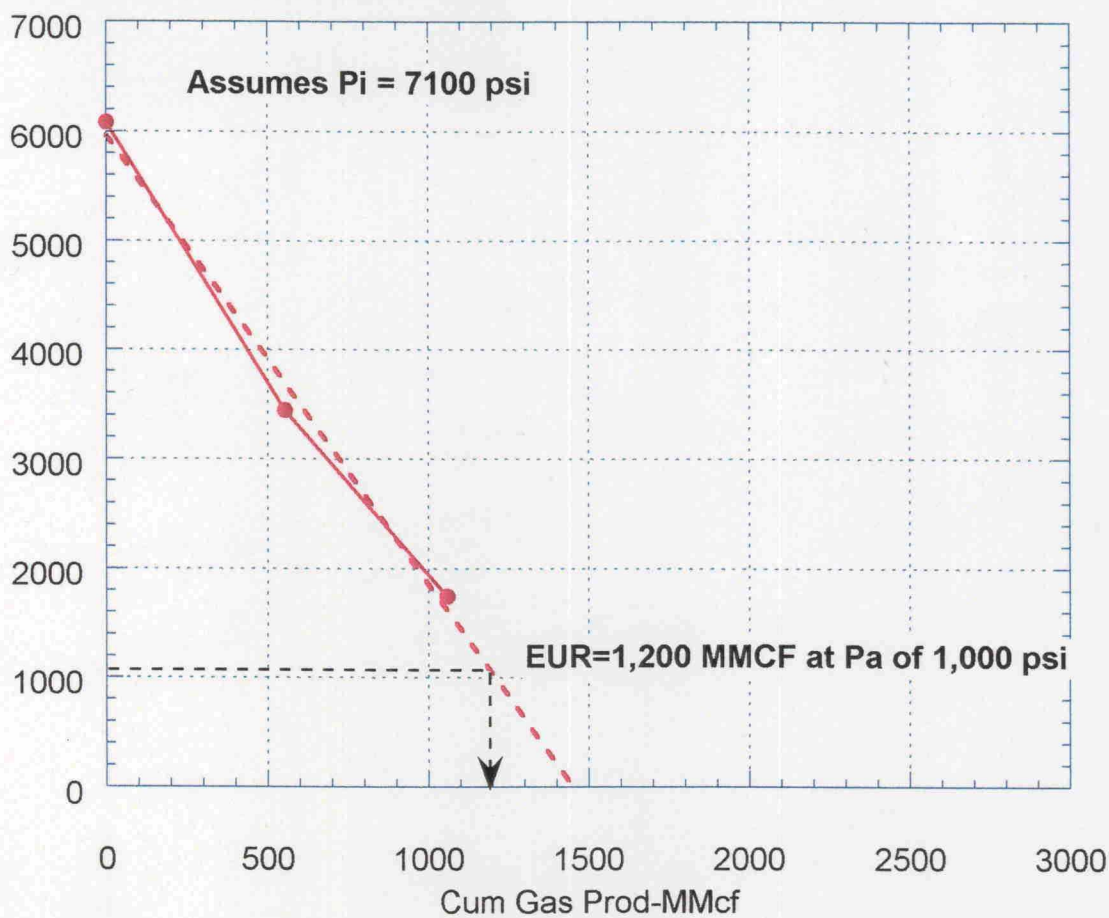
Volumetric Gas Reserves

Reservoir volume: 1134 ac-ft
OGIP_(7100 psi): $(43560 \times 1134 \times 0.11 \times (1.0 - 0.20) \times 333) / 1000 = 1447531 \text{ Mcf} = 1447 \text{ MMcf}$
OGIP_(7922 psi): $(43560 \times 1134 \times 0.11 \times (1.0 - 0.20) \times 351) / 1000 = 1525776 \text{ Mcf} = 1526 \text{ MMcf}$
RGIP_(7100 psi): $1447 \times .82 = 1187 \text{ MMcf}$
RGIP_(7900 psi): $1526 \times .83 = 1267 \text{ MMcf}$

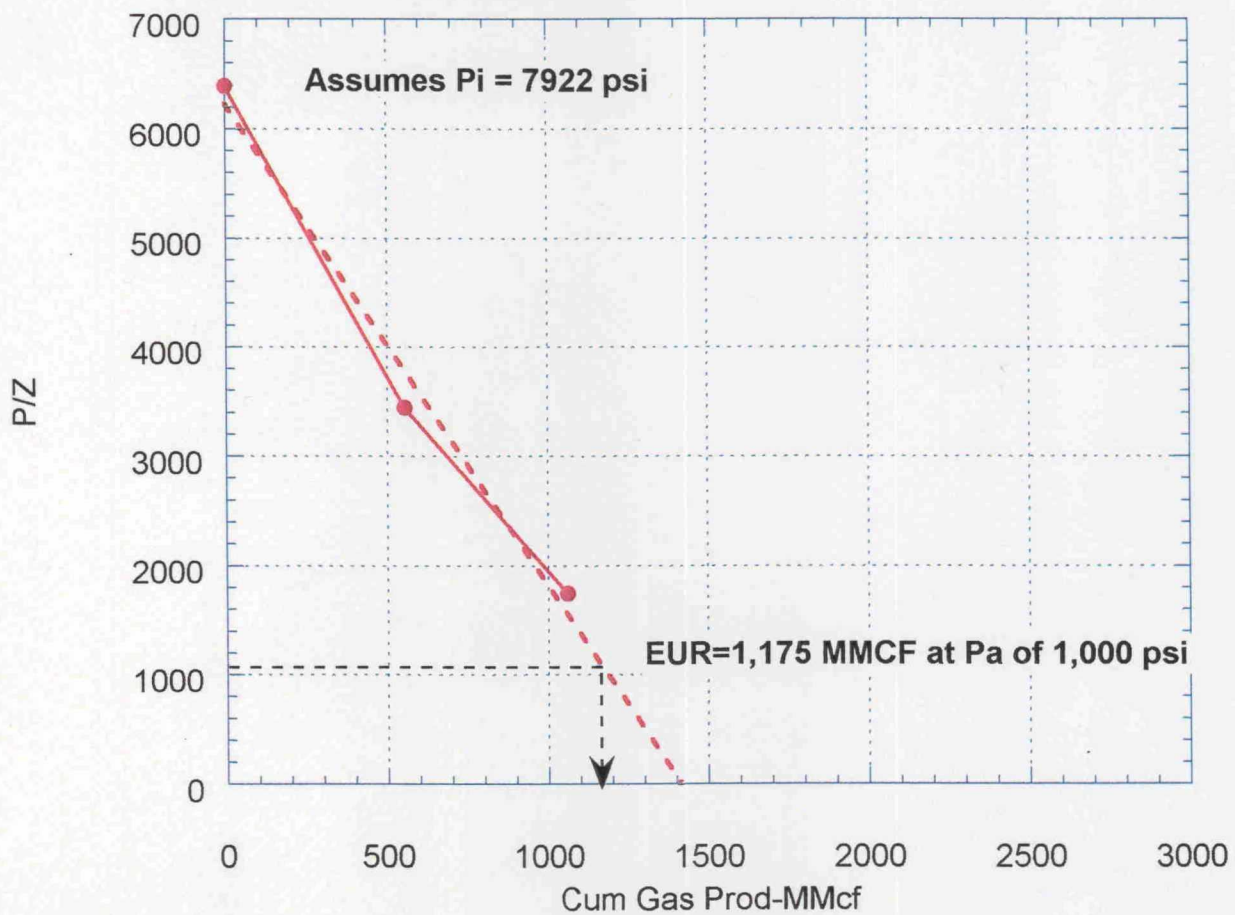
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Nearburg Grama Ridge East 34 State #1 **Cum Gas Prod vs. P/Z**

P/Z



Nearburg Grama Ridge East 34 State #1
Cum Gas Prod vs. P/Z



Grama Ridge 34 #1
Tubing Pressure and Flow Rate vs Time

