

CORINNE GRACE

No.1 City of Carlsbad
Unit O, Section 25, T-22-S, R-26-E
Eddy County, New Mexico

RESERVE ESTIMATE

Reservoir Factors:

	<u>Zone 1</u>	<u>Zone 2</u>
Net Effective Pay ft.	6	10
Porosity - Fraction	0.092	0.067
Water Saturation Frac.	0.20	0.45

Gas Parameters

Gas Gravity	0.57872	Formation Temp.	187 F
Tc	349	Std. Temp.	60 F
Pc	675	Std. Press.	14.65 psi

Initial B.H.P. 4896 psi (Estimate from S.I.T.P.)

$$Z_i = 1.01$$

$$\begin{aligned} B_{gi} &= 35.495 \times 4896 / 647 \times 1 / 1.01 \\ &= 271 \text{ SCF/CF} \end{aligned}$$

$$\text{Abandonment Pressure } 250 \text{ psi} \quad Z_a = 0.98$$

$$\begin{aligned} B_{ga} &= 35.495 \times 250 / 647 \times 1 / 0.98 \\ &= 14 \text{ SCF/CF} \end{aligned}$$

$$\begin{aligned} \text{Recovery Factor} &= (271 - 14) / 271 \times 100 \\ &= 95\% \end{aligned}$$

Reserves - Zone 1

$$\begin{aligned} G &= 0.043560 \times 0.092 \times (1 - 0.20) \times 271 \\ &= 0.87 \text{ MMCF/AC-FT} \\ &= 0.87 \times 6 \times 240 \\ &= 1,251.12 \text{ MMCF} \end{aligned}$$

Zone 2

$$\begin{aligned} G &= 0.043560 \times 0.067 \times (1 - 0.45) \times 271 \\ &= 0.44 \text{ MMCF/AC-FT} \\ &= 0.44 \times 10 \times 240 \\ &= 1,044 \text{ MMCF} \end{aligned}$$

ESTIMATED ORIGINAL GAS IN PLACE = 2.295 MMCF

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