Lea Wolfcamp Pool
Volumetric Analysis

Volumetric Equation for a Gas Reservoir

$$OGIP = 43{,}560 * A * H * PHI * (1 - Sw) * Bgi$$

Where

$$Bgi = \frac{Pi * Tb}{Pb * T * Zi}$$

Pi =	3,800 psia	(Pressure Buildup)
T =	153 F	
Zi =	0.6759	(PVT Analysis)
Bgi =	324.4 SCF/CU FT	
PHI =	8.00%	(Log Analysis)
Sw =	17.50%	(Log Analysis)
OGIP =	6,381,392 MCF	(P/Z Plot)

Rearranging the Equation

$$A * H = \frac{OGIP}{43{,}560 * PHI * (1-Sw) * Bgi}$$

A * H =	6,842 AC-FT

Based on geologic mapping, the reservoir contains 6,748 acre-feet, which is 1.4% less than calculated by material balance and volumetrics.

Before the
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
Marathon Oil Company
Exhibit No. 12 Case No. 10796
Hearing Date: October 14, 1993