GAS DEVIATION FACTORS

Lea (Wolfcamp) Field
Lea County, New Mexico

P (psia)	V[1]	Z_g[2]	L[3]	Z_o[4]	Z-2Φ[5]
3,912	0.9500	.8387	0.0500	1.1262	.8531
2,514	0.8884	.7884	0.1116	0.8143	.7913
2,012	0.8855	.8004	0.1145	0.7054	.7907
1,013	0.8890	.8770	0.1001	0.5838	.8381
512	0.9126	.9315	0.0874	0.7595	.9165
Est. of 5,000	0.9935	.9408	0.0065	1.3645	.9436

1 Mole fraction of vapor Φ.

2 Gas deviation factor from Constant Volume Depletion Study (Table 9).

3 Mole fraction of liquid Φ (Table 10).

4 Compressability factor of oil phase, assumes liquid molecular weight of 97.41 from Separator Liquid Composition (Table 3).

5 $Z\text{-}2\Phi = (V \times Z_g) + (L \times Z_o)$ - *Performance Predictions for Gas Condensate Reservoirs,* SPE 16984, Vo, Jones and Raghavan, 1987. See also Craft & Hawkins, p. 82.

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico

Case No. 10796 (De Novo) Exhibit No. 19

Submitted by: Manzano Oil Corporation

Hearing Date: October 14, 1993

J.R. Butler and Company