

Sapient's Bertha Barber #12
Unit A, 330 FNL, 660 FEL, Section 7, T20S, R37E

Volumetrics

Porosity =	6.6% BV
Swi =	28.0% PV
Net H =	26.5 ft
Area =	160 acres
dP =	0.385 psi/ft
Perf Depth =	6394 ft
T =	105 °F = 565 °R
Pi =	2462 psia
Zi =	0.7687
Bgi =	200.48 SCF/ft ³

Initial Gas In Place

IGIP =	43560 * ϕ * NetH * Area * (1-Sw) * Bgi
=	0.4150 MMCF/ Acre-ft
=	1,759.55 MMSCF

Estimated Ultimate Recovery

P[ab] =	250 psia
Z[ab] =	0.9623
Bg[ab] =	16.26 SCF/ft ³
Rec Factor =	(Bgi - Bg[ab]) / Bgi
=	91.9%
Est Ult Rec =	91.9% * 0.4150 MMCF/ Acre-ft
=	0.3813 MMCF/ Acre-ft
=	1,616.84 MMSCF

Decline Calculations

Const Percent Decl (DI) = 30.00%
 Nominal Decline (a) = 35.7%

Proj Oct Rate = 883 MCFPD
 Final Rate = 50 MCFPD

Rem Reserves = 852.4 MMSCF
 Cum Recovery = 818.2 MMSCF As of 9/30/01

Est Ult Recovery = 1670.6 MMSCF

Est Ult Recovery = **0.3813 MMCF/ Acre-ft**

Drainage Area = $\frac{1670.6 \text{ MMCF}}{26.5\text{ft} * 0.3813 \text{ MMCF/Acre-ft}}$
 = 165 acres

Drain Radius (re) = 1513 feet

For 818.2 MMCF Cum production Sept '01

RF = 49%
 Drain Radius: Sept '01 = 741 ft

BEFORE THE OIL CONSERVATION
 COMMISSION

Santa Fe, New Mexico
 Case Nos. 12605/12587 de novo
 Conoco/Chevron Exhibit No. 8 (REVISED)
 Hearing Date: December 4, 2001