

Morrow: Assume 35%/yr. exponential decline behavior (best engineering estimate).

$$Q_i = 6000 \text{ MCF/Mo.}$$

$$Q_{\text{aban}} = 500 \text{ MCF/Mo.}$$

$$d = 35\%/yr.$$

$$N_{\text{gas}} = 12 \frac{(500-6000)}{\ln(1-35)} = 153,210 \text{ MCF Morrow gas reserves.}$$

Atoka:  $N_{\text{gas}} = 60,000 \text{ MCF}$  from P/Z plot.

- 6> Estimated bottom-hole pressure for each artificially lifted zone. A current (within 30 days) measured bottomhole pressure for each zone capable of flowing.

See Attachment E (BHP reports)

A reasonable estimate of the Morrow BHP is 2720 psig @ 12,579'. A reasonable estimate of the Atoka BHP is 4634 psig @ 11,900'. Please note that the Atoka BHP has fallen 929 psi in one month. The Atoka and Morrow reservoir pressure differential will decrease very rapidly after commingling.

- 7> A description of the fluid characteristics of each zone showing that the fluids will not be incompatible in the well-bore.

Both Atoka and Morrow will produce sweet gas. Don't anticipate any compatibility problems.

- 8> A computation showing that the value of the commingled production will not be less than the sum of the values of the individual streams.

Both Atoka and Morrow will produce sweet gas. The value of the gas will not be affected.

- 9> A formula for the allocation of production to each of the commingled zones and a description of the factors or data used in determining such formula.

$$\text{Gas:} \quad \text{Atoka} - \frac{60,000 \text{ MCF}}{60,000 + 153,210} = .2814 = 28\%$$

$$\text{Morrow} \quad = 72\%$$

$$\text{Condensate:} \quad \text{Atoka} \quad = 28\%$$

$$\text{Morrow} \quad = 72\%$$

- 10> A statement that all offset operators and, in the case of a well on federal land, the US BLM, have been notified in writing of the proposed commingling.

The offset operators for this area and the BLM were notified of the proposed commingling of the Amaranth AMG Federal #1.