MAXIMUM POTENTIAL CROSS FLOW EXPOSURE

Exposure can be Quantified by the Quotient of Reserves "Lost" to Reserves Produced.

$$\text{Quotient} = \frac{\text{Reserves "Lost"}}{\text{Reserves Produced}} = \frac{\text{(\% Time Shut In)}}{\text{(1-\% Time Shut In)}} \times \frac{\text{Cross Flow Rate}}{\text{Producing Rate}} \times \frac{\text{\% of Cross Flow "Lost"}}{(100)}$$

*Quotient Table

	% of Cross Flow "Lost" (Not Produced Back)		
% Time Shut In	0%	30%	100%
5%	0	.0063	.0211
10%	0	.0133	.0444
15%	0	.0212	.0706
20%	0	(.0300)	.1000
25%	0	.0400	.1333

$$* \text{ For } \frac{\text{(Cross Flow Rate)}}{\text{(Producing Rate)}} = 0.4$$

EXAMPLE CALCULATION

Using 20% shut in time and 30% Cross Flow "Lost" from above Quotient Table:

$$\text{Quotient} = \frac{\text{Reserves Lost}}{\text{Reserves Produced}} = .0300$$

From Exhibit # __15__, summary of all 4 wells:

Continued Operations Reserves   = 149,772 Bbls
Proposed Commingled Reserves   = 208,602 Bbls (Assumes no Cross Flow)

The reserves for proposed commingling, adjusted for Potential Cross Flow, are:

$$\text{Produced Reserves} = \frac{208,602 \text{ Bbls}}{(1 + .0300)} = 202,526 \text{ Bbls}$$

● Recovery under proposed operations significantly exceeds recovery under continued operations, even when adjusted for potential cross flow.