**Pump Pressure /Pump Stroke Relationship (Also Called the Roughneck’s Formula)**

Basic formula

Case :

Determine the new circulating pressure (psi) using the

Present circulating pressure = 1800 psi  
Old pump rate = 60 spm  
New pump rate = 30 spm

**Determination of exact factor in above equation**

The above formula is an approximation because the factor ”2” is a rounded-off number. To determine the exact factor, obtain two pressure readings at  
different pump rates and use the following formula :

Case : Pressure 1 = 2500 psi @ 315 gpm  
 Pressure 2 = 450 psi @ 120 gpm

1.7768

Case : Same example as above but with correct factor :