

Maximum Allowable Mud Weight (with Leak Off Pressure)

$$\boxed{\text{Surface Leak Off Pressure}} \text{ psi} \div 0.052 \div \boxed{\text{Casing Shoe TVD}} \text{ ft} + \boxed{\text{Test Mud Weight}} \text{ ppg} = \boxed{\text{MAMW}} \text{ ppg}$$

Maintain

OR =

Maximum Allowable Mud Weight (with Fracture Gradient)

$$\boxed{\text{Fracture Gradient}} \text{ psi/ft} \div 0.052 = \boxed{\text{MAMW}} \text{ ppg}$$

Maintain

Maximum Allowable Annular Surface Pressure (Before the Kick)

$$\boxed{\text{MAMW}} \text{ ppg} - \boxed{\text{Current Mud Weight}} \text{ ppg} \times 0.052 \times \boxed{\text{Casing Shoe TVD}} \text{ ft} = \boxed{\text{MAASP before Kick}} \text{ psi}$$

Kill Weight Mud

$$\boxed{\text{SIDPP}} \text{ psi} \div 0.052 \div \boxed{\text{TVD of Well}} \text{ ft} + \boxed{\text{Current Mud Weight}} \text{ ppg} = \boxed{\text{Kill Weight Mud}} \text{ ppg}$$

ROUND UP

Initial Circulation Pressure

$$\boxed{\text{SCR Pressure}} \text{ psi} + \boxed{\text{SIDPP}} \text{ psi} = \boxed{\text{ICP}} \text{ psi}$$

Final Circulating Pressure

$$\boxed{\text{SCR Pressure}} \text{ psi} \times \boxed{\text{Kill Weight Mud}} \text{ ppg} \div \boxed{\text{Current Mud Weight}} \text{ ppg} = \boxed{\text{FCP}} \text{ psi}$$

Maximum Allowable Annular Surface Pressure (After Well has been Killed)

$$\boxed{\text{MAMW}} \text{ ppg} - \boxed{\text{Kill Weight Mud}} \text{ ppg} \times 0.052 \times \boxed{\text{Casing Shoe TVD}} \text{ ft} = \boxed{\text{MAASP After Kill}} \text{ psi}$$

Strokes From Surface To Bit

Strokes From Bit To Shoe And Strokes From Bit To Surface

Length	x	Capacity	=	Volume	÷	Pump Output	=	Strokes
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Pressure Drop				
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Drill Pipe Pressure Schedule	Strokes	Pressure
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Instructions:

To calculate stroke reduction, take the strokes to bit and put it in the yellow box at the bottom of the strokes column. Take the strokes to bit and divide that number by 10. Drop the decimal place and write the whole number under the 0 which is the first box. Then add that number to itself until you have reach Strokes to Bit. Your number will be off due to rounding as required by IADC. **IE: STB = 1500 so the box reduction would be $1500 / 10 = 150$. So the first box would be 150 under 0, 2nd box would be 300 etc...**

In the Pressure column write in your ICP and FCP in the named boxes. Then find PSI/Step from above math. Take psi/step and subtract that from the ICP. The number from the psi/step will continue to be subtracted until FCP is reached and or the boxes are full. IE: ICP = 500, psi/step = 50, First box under icp would be 450, next box 400 etc...

10. *Journal of the American Medical Association*, 2000; 283: 2689-2696.