Petroleum College International Killsheet

W & W or Drillers Method

Name: | Well Information | Well Name:

Pump Info Output	1 bbls/ stks	stks/min =	2 SCRP psi	3 Current mud	Well Depth:		MD	4 TVD
Surface line volume barrels =				6 Test mud	CSG Depth: Shoe		MD	5 TVD
DP capacity	bbls/ft X length MD =		Barrels in DP	7 Surface test pressure FIT/LOT				
HWDP capacity	bbls/ft X length MD =		Barrels /HWDP					
DC capacity	bbls/ft X length MD =		Barrels in DC					

Various names used: Current mud = Original or Present mud.
Slow circulating rate pressure (SCRP) = Kill rate pressure or slow pump pressure. Slow pump rate = Kill rate speed.

Total Barrels in Drill String			1	=				
Annular capacity between:			÷ Pump Output bbls/stk	=	**Total Strokes Surface to Bit**			
DP & Csg Volume	bbls/ft X length DP/Csg =		Barrels					
DP & OH Volume	bbls/ft X length DP/OH =		8 Barrels	**Strokes bit to casing shoe**				
HWDP & OH Volume	bbls/ft X length DP/OH =		9 Barrels	8 bbls between DP & OH	+ 9 bbls between HWDP & OH	+ 10 bbls between DC & OH	= 11 Volume Bit to Csg shoe	
DC & OH Volume	bbls/ft X length DC/OH =		10 Barrels					
Choke line vol. (Subsea only)	bbls/ft X length MD =		Barrels	11 Volume Bit to Csg shoe	÷ 1 Pump output bbls/stk	=	Strokes Bit to Csg shoe	

Formulas:	**Total Barrels in Annulus**		1	=				
Pipe capacity = $ID^2 \div 1029.4$ = bbls/ft			÷ Pump output bbls/stk	=	**Total Stroke Bit to Surface**			
Annular capacity = $(ID^2 - OD^2) \div 1029.4$ = bbls/ft								
Total Well Volume Drill String & Annulus			**Total Strokes Surface to Surface**				**String & Annulus**	

Well Kill Calculations & Pressure Considerations

SIDPP	12	SICP		KICK SIZE		(Subsea only)	Slowly reduce	
Kill Weight Mud:	12	0.052	4	3	13	CLFP off casing		
(SIDPP ÷ 0.052 ÷ Well depth TVD) + Current mud = KWM						bringing pump		
Initial Circulating Pressure:	12	2	=	14	on line to SCR.			
SIDPP + SCRP = ICP (Initial Circulating Pressure)								
Final Circulating Pressure:	2	13	3	15				
SCRP X KWM ÷ Current mud = FCP (Final Circulating Pressure)								
Max. Allowable Mud Wt:	7	0.052	5	6	16	MAMW		
MAMW: LOT/FIT (Surface test pressure ÷ 0.052 ÷ Csg shoe TVD) + Test mud =								
Or given a Fracture Gradient : Fracture Gradient ÷ 0.052 = MAMW								
Max. Allowable Annular Surface Pressure MAASP:	16	3	0.052	5				
(MAMW - Current mud) X 0.052 X CSG shoe TVD = MAASP								
New Max. Allowable Annular Surface Pressure after Kill:	16	13	0.052	5				
(MAMW - KWM) X 0.052 X CSG shoe TVD = New MAASP Kill Fluid								

ICP to FCP Pressure Reduction Schedule Surface to Bit

Stks surf to bit	0										Bit
DP calculated	14 ICP										15 FCP
mins or bbls or gals											

Pump schedule: Strokes to bit ÷ 10 = Strokes increase per step (ICP - FCP) ÷ 10 = Pressure reduction per step