

## International Well Control Forum

### Surface BOP Kill Sheet - Deviated Well (Metric/Bar)

DATE : \_\_\_\_\_

NAME : \_\_\_\_\_

**FORMATION STRENGTH DATA:**

SURFACE LEAK -OFF PRESSURE FROM FORMATION STRENGTH TEST  bar

DRILLING FLUID DENS. AT TEST  kg/l

MAX. ALLOWABLE DRILLING FLUID DENSITY =  
 $(B) + \frac{(A) \times 10.2}{\text{SHOE T.V.D}} = \text{(C)}$  kg/l

INITIAL MAASP =  
 $\frac{((C) - \text{Current Density}) \times \text{Shoe T.V.D}}{10.2} = \text{_____}$  bar

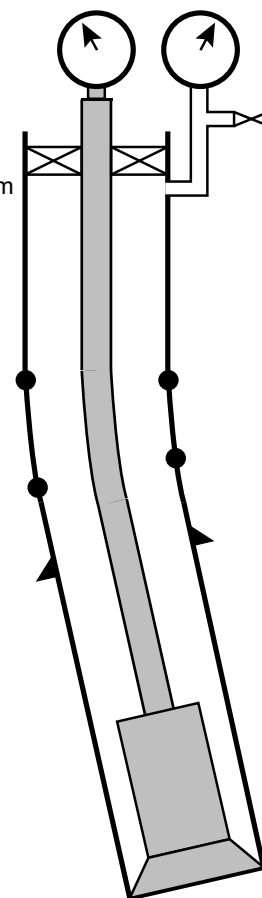
**CURRENT WELL DATA:**

DRILLING FLUID DATA:  
 DENSITY  kg/l  
 GRADIENT  bar/m

DEVIATION DATA:  
 KOP M.D.  m  
 KOP T.V.D.  m  
 EOB M.D.  m  
 EOB T.V.D.  m

CASING SHOE DATA:  
 SIZE  in  
 M. DEPTH  m  
 T.V. DEPTH  m

HOLE DATA:  
 SIZE  in  
 M. DEPTH  m  
 T.V. DEPTH  m



PUMP NO. 1 DISPL.	PUMP NO. 2 DISPL.
l / stroke	l / stroke

SLOW PUMP RATE DATA:	(PL) DYNAMIC PRESSURE LOSS	
	PUMP NO. 1	PUMP NO. 2
SPM	bar	bar
SPM	bar	bar

PRE-RECORDED VOLUME DATA:	LENGTH m	CAPACITY l / m	VOLUME litre	PUMP STROKES stks	TIME minutes
DP - SURFACE TO KOP	x	=		(L) stks	
DP - KOP TO EOB	x	=	+	(M) stks	
DP - EOB TO BHA	x	=	+	(N1) stks	
HEVI WALL DRILL PIPE	x	=	+	(N2) stks	
DRILL COLLAR	x	=	+	(N3) stks	
DRILL STRING VOLUME			(D) l	stks	min
DC x OPEN HOLE	x	=			
DP / HWDP x OPEN HOLE	x	=	+		
OPEN HOLE VOLUME			(F) l	stks	min
DP x CASING	x	=	(G) +	stks	min
TOTAL ANNULUS VOLUME		(F+G) = (H)	l	stks	min
<b>TOTAL WELL SYSTEM VOLUME</b>		<b>(D+H) = (I)</b>	l	<b>stks</b>	<b>min</b>
ACTIVE SURFACE VOLUME		(J)	l		
<b>TOTAL ACTIVE FLUID SYSTEM</b>		<b>(I+J)</b>	l		

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DATE : \_\_\_\_\_

NAME : \_\_\_\_\_

KICK DATA :

SIDPP  bar

SICP  bar

PIT GAIN  litre

KILL FLUID DENSITY KMD	$\text{CURRENT DRILLING FLUID DENSITY} + \frac{\text{SIDPP} \times 10.2}{\text{TVD}}$ ..... + ..... = ..... kg / l
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INITIAL CIRC. PRESS. ICP	$\text{DYNAMIC PRESSURE LOSS} + \text{SIDPP} \quad \dots + \dots = \dots \text{ bar}$
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FINAL CIRCULATING PRESSURE FCP	$\frac{\text{KILL FLUID DENSITY}}{\text{CURRENT DRILLING FLUID DENSITY}} \times \text{DYNAMIC PRESSURE LOSS}$ ..... x ..... = ..... bar
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DYNAMIC PRESSURE LOSS AT KOP (O)	$\text{PL} + \left[ (\text{FCP} - \text{PL}) \times \frac{\text{KOPMD}}{\text{TDMD}} \right] = \dots + \left[ (\dots - \dots) \times \dots \right] = \dots \text{ bar}$
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REMAINING SIDPP AT KOP (P)	$\text{SIDPP} - \left[ \frac{(\text{KMD} - \text{OMD}) \times \text{KOPTVD}}{10.2} \right]$ $= \dots - \left[ \frac{(\dots - \dots) \times \dots}{10.2} \right] = \dots \text{ bar}$
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CIRCULATING PRESS. AT KOP (KOP CP)	$(O) + (P) = \dots + \dots = \dots \text{ bar}$
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DYNAMIC PRESS. LOSS AT EOB (R)	$\text{PL} + \left[ (\text{FCP} - \text{PL}) \times \frac{\text{EOBMD}}{\text{TDMD}} \right] = \dots + \left[ (\dots - \dots) \times \dots \right] = \dots \text{ bar}$
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REMAINING SIDPP AT EOB (S)	$\text{SIDPP} - \left[ \frac{(\text{KMD} - \text{OMD}) \times \text{EOBTV D}}{10.2} \right] = \dots - \left[ \frac{(\dots - \dots) \times \dots}{10.2} \right] = \dots \text{ bar}$
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CIRCULATING PRESS. AT EOB (EOB CP)	$(R) + (S) = \dots + \dots = \dots \text{ bar}$
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(T) = ICP - KOP CP = ..... - ..... = ..... bar	$\frac{(T) \times 100}{(L)} = \dots \times 100 = \dots \frac{\text{bar}}{100 \text{ strokes}}$
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(U) = KOP CP - EOB CP = ..... - ..... = ..... bar	$\frac{(U) \times 100}{(M)} = \dots \times 100 = \dots \frac{\text{bar}}{100 \text{ strokes}}$
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(W) = EOB CP - FCP = ..... - ..... = ..... bar	$\frac{(W) \times 100}{(N1+N2+N3)} = \dots \times 100 = \dots \frac{\text{bar}}{100 \text{ strokes}}$
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