# International Well Control Forum

## Surface BOP Kill Sheet - Deviated Well (S.I. Units)

DATE : _____

NAME : _____

FORMATION STRENGTH DATA:

SURFACE LEAK -OFF PRESSURE FROM FORMATION STRENGTH TEST (A) kPa

DRILLING FLUID DENS. AT TEST (B) kg/m3

MAX. ALLOWABLE DRILLING FLUID DENSITY =

(B) + (A) x 102 / SHOE T.V. DEPTH = (C) kg/m3

INITIAL MAASP =

((C) - CURR. DENS.) x SHOE T.V. DEPTH / 102 = kPa

| PUMP NO. 1 DISPL. | PUMP NO. 2 DISPL. |
|---|---|
| m3 / stroke | m3 / stroke |

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

CURRENT WELL DATA:

DRILLING FLUID DATA:

DENSITY kg/m3

DEVIATION DATA:

KOP M.D. m

KOP T.V.D. m

EOB M.D. m

EOB T.V.D. m

CASING SHOE DATA:

SIZE mm

M. DEPTH m

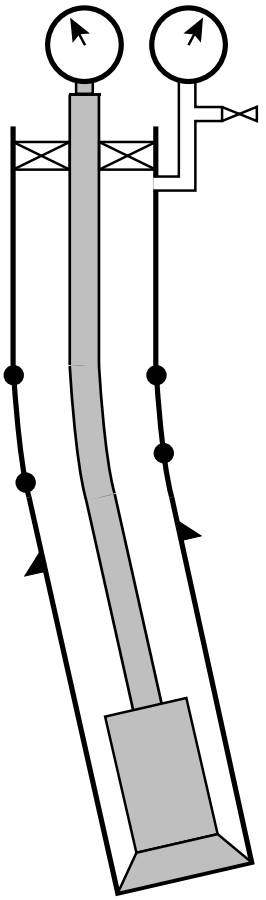
T.V. DEPTH m

HOLE DATA:

SIZE mm

M. DEPTH m

T.V. DEPTH m



| PRE-RECORDED VOLUME DATA: | LENGTH m | CAPACITY m3 / m | VOLUME m3 | 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) | m3 | stks | min |
| DC x OPEN HOLE | x | = | | | |
| DP / HWDP x OPEN HOLE | x | = | + | | |
| OPEN HOLE VOLUME | | (F) | m3 | stks | min |
| DP x CASING | x | = (G) | + | stks | min |
| TOTAL ANNULUS VOLUME | | (F+G) = (H) | m3 | stks | min |
| TOTAL WELL SYSTEM VOLUME | | (D+H) = (I) | m3 | stks | min |
| ACTIVE SURFACE VOLUME | | (J) | m3 | | |
| TOTAL ACTIVE FLUID SYSTEM | | (I+J) | m3 | | |

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KICK DATA :

SIDPP [ ] kPa  SICP [ ] kPa  PIT GAIN [ ] m3

**KILL FLUID DENSITY**

KMD

CURRENT DRILLING FLUID DENSITY + $\frac{102 \times SIDPP}{TVD}$

..... + $\frac{102 \times .....}{.....}$ = ..... kg / m3

**INITIAL CIRC. PRESS.**

ICP

DYNAMIC PRESSURE LOSS + SIDPP

..... + ..... = ..... kPa

**FINAL CIRCULATING PRESSURE**

FCP

$\frac{\text{KILL FLUID DENSITY}}{\text{CURRENT DRILLING FLUID DENSITY}}$ x DYNAMIC PRESSURE LOSS

$\frac{.....}{.....}$ x ..... = ..... kPa

**DYNAMIC PRESSURE LOSS AT KOP (O)**

$PL + \left[(FCP-PL) \times \frac{KOPMD}{TDMD}\right]$ = ..... + $\left[(.....-.....) \times \frac{.....}{.....}\right]$ = ..... kPa

**REMAINING SIDPP AT KOP (P)**

$SIDPP - \left[\frac{(KMD - OMD) \times KOPTVD}{102}\right]$

= ..... - $\left[\frac{(.....-.....) \times .....}{102}\right]$ = ..... kPa

**CIRCULATING PRESS. AT KOP (KOP CP)**

(O) + (P) = ..... + ..... = ..... kPa

**DYNAMIC PRESS. LOSS AT EOB (R)**

$PL + \left[(FCP-PL) \times \frac{EOBMD}{TDMD}\right]$ = ..... + $\left[(.....-.....) \times \frac{.....}{.....}\right]$ = ..... kPa

**REMAINING SIDPP AT EOB (S)**

$SIDPP - \left[\frac{(KMD - OMD) \times EOBTVD}{102}\right]$

= ..... - $\left[\frac{(.....-.....) \times .....}{102}\right]$ = ..... kPa

**CIRCULATING PRESS. AT EOB (EOB CP)**

(R) + (S) = ..... + ..... = ..... kPa

(T) = ICP - KOP CP = ..... - ..... = ..... kPa

$\frac{(T) \times 100}{(L)} = \frac{..... \times 100}{.....} = ..... \frac{kPa}{100 \text{ strokes}}$

(U) = KOP CP - EOB CP = ..... - ..... = ..... kPa

$\frac{(U) \times 100}{(M)} = \frac{..... \times 100}{.....} = ..... \frac{kPa}{100 \text{ strokes}}$

(W) = EOB CP - FCP = ..... - ..... = ..... kPa

$\frac{(W) \times 100}{(N1+N2+N3)} = \frac{..... \times 100}{.....} = ..... \frac{kPa}{100 \text{ strokes}}$

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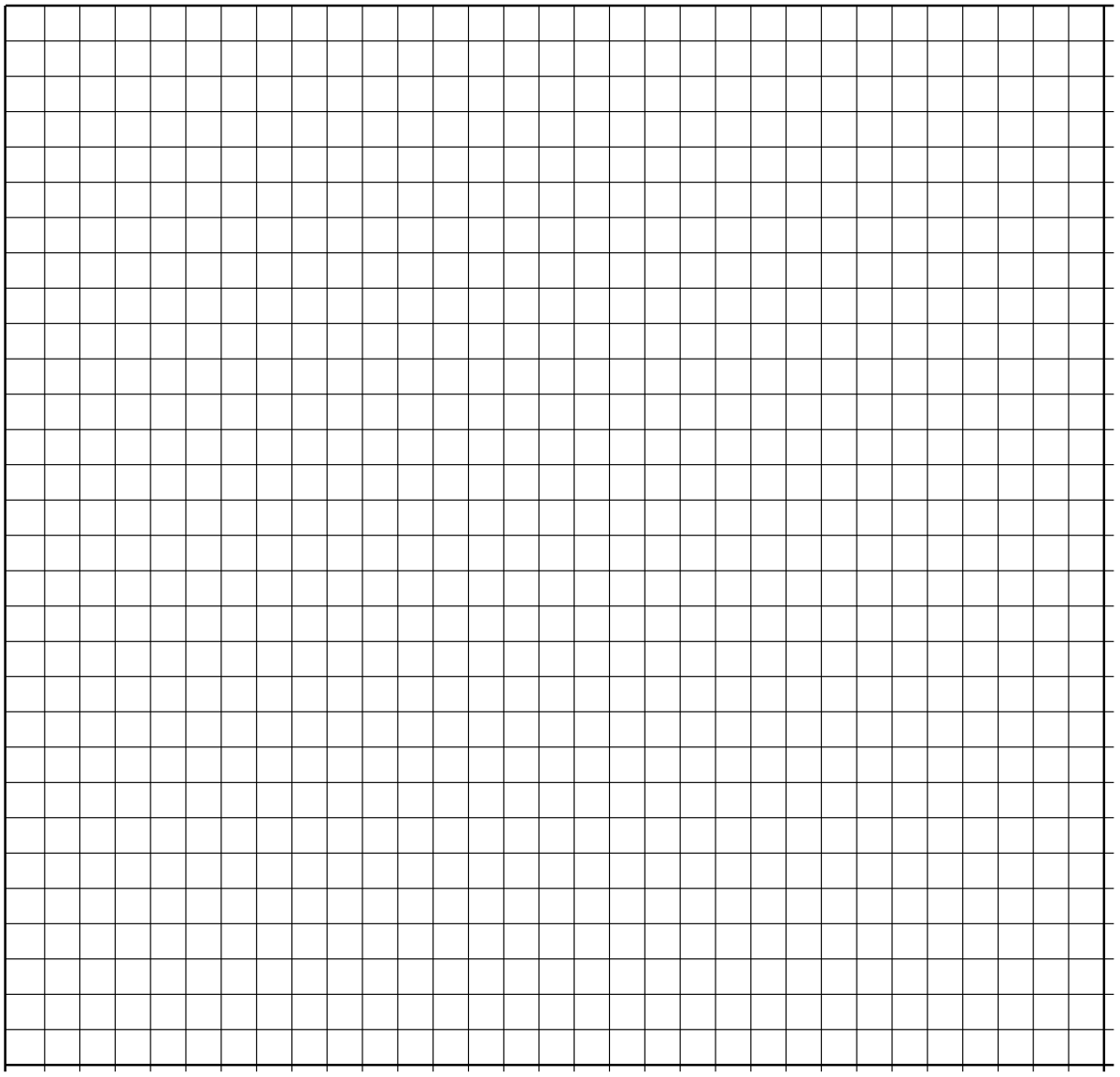
STATIC & DYNAMIC DRILL PIPE PRESSURE [kPa] ⟶



STROKES ⟶

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PRESSURE [kPa] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| STROKES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |