



IADC WellCAP Well Control Worksheet

Subsea Stack - Wait and Weight Method

Well Name: _____ Completed By: _____ Date: ____ / ____ / ____

PRE-RECORDED INFORMATION

TRUE PUMP OUTPUT: _____ X _____ = _____
Liters/Stk @ 100% % Efficiency TPO (Liters/Stk)

Surface : _____ (Liters) ÷ _____ = _____
 Line Surface Line Capacity True Pump Output (Liters/Stk) Strokes to Pump

DRILL STRING CAPACITY:

Drill #1: _____ X _____ = _____ Liters
 Pipe Size (mm) Weight (kg/m) Liters/m Length (m) DP

Drill #2: _____ X _____ = _____ Liters
 Pipe Size (mm) Weight (kg/m) Liters/m Length (m) DP

HWDP : _____ X _____ = _____ Liters
 Size (mm) Weight (kg/m) Liters/m Length (m) HWDP

Drill #1: _____ X _____ = _____ Liters
 Collars Size (mm) Weight (kg/m) Liters/m Length (m) DC

Drill #2: _____ X _____ = _____ Liters
 Collars Size (mm) Weight (kg/m) Liters/m Length (m) DC

STROKES FROM SURFACE TO BIT:

_____ ÷ _____ = _____
 Total Drill String Capacity (Liters) True Pump Output (Liters/Stks) Strokes, Surface to Bit

ANNULAR CAPACITY

Between CSG and DP: _____ Liters/m X _____ m = _____ Liters

Between Liner #1 and DP: _____ Liters/m X _____ m = _____ Liters

Between Liner #2 and DP: _____ Liters/m X _____ m = _____ Liters

Between OH and DP/HWDP: _____ Liters/m X _____ m = _____ Liters

Between OH and DC: _____ Liters/m X _____ m = _____ Liters

Choke line capacity: _____ Liters/m X _____ m = _____ Liters

STROKES FROM BIT TO SHOE:

_____ ÷ _____ = _____
 Open Hole Annular Vol. (Liters) True Pump Output (Liters/Stks) Strokes, Bit to Shoe

STROKES FROM BIT TO SURFACE:

_____ ÷ _____ = _____
 Total Annular Volume (Liters) True Pump Output (Liters/Stks) Strokes, Bit to Surface

ANNULAR VOL. BETWEEN DRILL PIPE & RISER:

(_____ - _____) ÷ 1273 = _____
Riser ID² Drill Pipe OD² Capacity Drill Pipe/Riser (Liters/m)

_____ X _____ m = _____
 Capacity Drill Pipe/Riser (Liters/m) Riser Length Volume between Drill Pipe & Riser (Liters)

STROKES TO DISPLACE RISER:

_____ ÷ _____ = _____
 Volume between Drill Pipe & Riser (Liters) True Pump Output (Liters/Stks) Strokes

CURRENT WELL DATA

PRESENT MUD WEIGHT: _____ kg/l

SLOW CIRCULATION RATE (SCR):

SCR taken @ _____ (m)

	Stks/min	Pressure(bar)	Liter/min	Pressure(bar)
Pump #1				
Pump #2				
Pump #3				

CASING DATA:

CASING _____ size, _____ ID, _____ weight

SHOE DEPTH @ MD / TVD _____ / _____ m

SHOE TEST DATA:

Depth #1 _____ @ Test MW of _____ (kg/l)
 (bar)

Depth #2 _____ @ Test MW of _____ (kg/l)
 (bar)

Depth #3 _____ @ Test MW of _____ (kg/l)
 (bar)

LINER #1 _____ size, _____ ID, _____ weight

LINER #2 _____ size, _____ ID, _____ weight

LINER #1 TOP DEPTH _____ m

LINER #2 TOP DEPTH _____ m

LINER #1 SHOE DEPTH _____ m

LINER #2 SHOE DEPTH _____ m

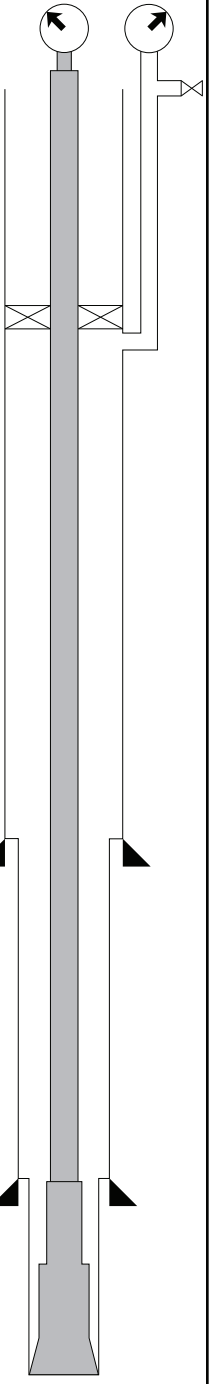
TVD CASING or LINER _____ m

HOLE DATA:

TOTAL DEPTH (MD) _____ m

TOTAL DEPTH (TVD) _____ m

BIT DEPTH @ MD / TVD _____ / _____ m

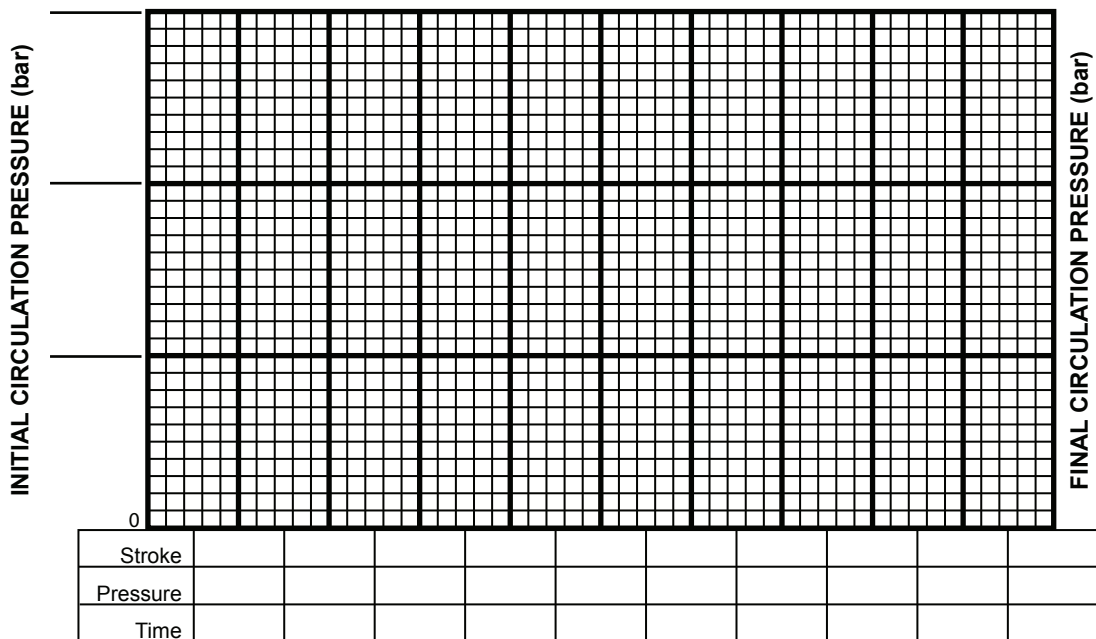


KICK DATA

SIDPP: _____ bar SICP: _____ bar PIT GAIN: _____ Liters Time of Incident: ____ : ____

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GRAPHIC ANALYSIS



FORMULAS

1. Pressure Gradient (bar/m) = Fluid Density (kg/l) ÷ 10.2
2. Hydrostatic Pressure (bar) = Fluid Density (kg/l) x TVD (m) ÷ 10.2
3. Capacity (l/m) = Inside Diameter² (mm) ÷ 1273
4. Annular Capacity(l/m) = (Inside Diameter of Casing² (mm) or Hole Diameter²(mm) - Outside Diameter of Pipe² (mm)) ÷ 1273
5. Pipe Displacement (l/m) = (Outside Diameter of pipe² (mm) - Inside Diameter of pipe² (mm)) ÷ 1273
6. Maximum Allowable Fluid Density (kg/l) = $\frac{\text{Surface LOT Pressure (bar)} \times 10.2}{\text{Shoe TVD (m)}} + \text{LOT Fluid Density (kg/l)}$
7. MAASP (bar) = [(Maximum Allowable Fluid Density (kg/l) - Current Fluid Density (kg/l)) x Shoe TVD (m)] ÷ 10.2
8. Pressure Drop per Metre Tripping Dry Pipe (bar/m) = $\frac{\text{Drilling Fluid Density (kg/l)} \times \text{Metal Displacement (l/m)}}{[\text{Riser/Casing Capacity (l/m)} - \text{Metal Displacement (l/m)}] \times 10.2}$
9. Pressure Drop per Foot Tripping Wet Pipe (bar/m) = $\frac{\text{Drilling Mud Weight (kg/l)} \times 10.2 \times \text{Closed End Displacement (l/m)}}{\text{Casing Capacity (l/m)} - \text{Closed End Displacement (l/m)}}$
10. Formation Pressure (bar) = Hydrostatic Pressure Mud in Hole (bar) + SIDPP (bar)
11. Equivalent Circulating Density (kg/l) = $\frac{\text{Annular Pressure Loss (bar)} \times 10.2}{\text{TVD (m)}} + \text{Fluid Density (kg/l)}$
12. Kg of Barite Needed to Weight-Up Mud = $\frac{\text{Liters of Mud in System} \times 4.25 \times (\text{KMW} - \text{OMW})}{(4.25 - \text{KMW})}$
13. Volume Increase from Adding Barite (l) = $\frac{\text{Kg of Barite Needed to Weight-Up Mud}}{4.25}$
14. Estimated New Pump Pressure at New Pump Rate (bar) = Old Pump Pressure (bar) x $\left[\frac{\text{New Pump Rate (SPM)}}{\text{Old Pump Rate (SPM)}} \right]^2$
15. Estimated New Pump Pressure with New Mud Weight (bar) = Old Pump Pressure (bar) x $\frac{\text{New Mud Weight (kg/l)}}{\text{Old Mud Weight (kg/l)}}$

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