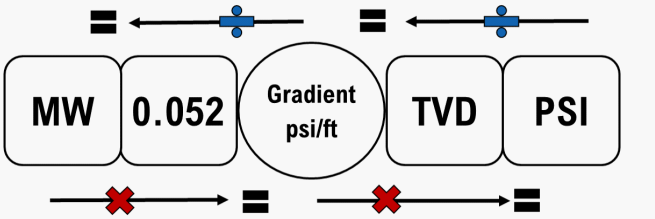
Well Control School
16770 Imperial Valley Dr. Suite 290
Houston, TX 77060-3400

http://wellcontrol.com/

Drilling Killsheet

Vertical Wells
Subsea Stack



ROUNDING RULE # 1

Kill Weight Mud should **ALWAYS ROUND UP** to the next tenth of a pound-per-gallon.

ROUNDING RULE # 2

Maximum Allowable Mud Weight should **ALWAYS ROUND DOWN** to the tenth of a pound-per-gallon.

ROUNDING RULE # 3

Pressure Reduction Schedules should **ALWAYS ROUND DOWN** to the whole number.

Maximum Allowable Mud Weight (with Leak Off Pressure) ***REFERENCE ROUNDING RULE #2***

(____ psi ÷ ____ ft ÷ 0.052) + ____ ppg = ____ ppg

Surface Leak Off Pressure | TVD of Casing Shoe | Test Mud Weight | MAMW

Maximum Allowable Mud Weight (with Fracture Gradient) ***REFERENCE ROUNDING RULE #2***

____ psi/ft ÷ 0.052 = ____ ppg

Fracture Gradient | MAMW

Maximum Allowable Annular Surface Pressure (Before the Kick)

(____ ppg − ____ ppg) × 0.052 × ____ ft = ____ psi

MAMW | Current Mud Weight | TVD of Casing Shoe | MAASP Before Kick

Kill Weight Mud ***REFERENCE ROUNDING RULE #1***

(____ psi ÷ ____ ft ÷ 0.052) + ____ ppg = ____ ppg

SIDPP | TVD of Well | Current Mud Weight | Kill Weight Mud

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

(____ ppg − ____ ppg) × 0.052 × ____ ft = ____ psi

MAMW | Kill Weight Mud | TVD of Casing Shoe | MAASP After Kill

Initial Circulating Pressure

____ psi + ____ psi = ____ psi

SCR Pressure (Riser) | SIDPP | ICP

Final Circulating Pressure

____ psi × ____ ppg ÷ ____ ppg = ____ psi

SCR Pressure (Riser) | Kill Weight Mud | Current Mud Weight | FCP

Dynamic Casing Pressure

____ psi − ____ psi = ____ psi

SICP | Choke Line Friction Pressure | Dynamic Casing Pressure

Volume Calculations in Drill String

bbl/ft × ft = bbl

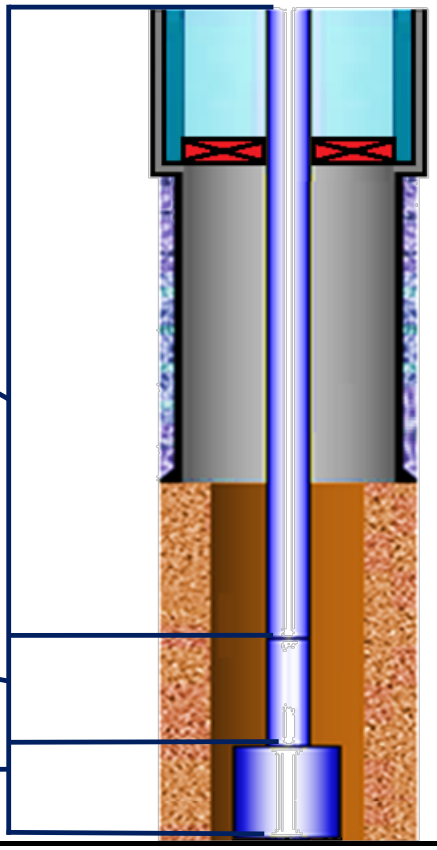
Internal Capacity of Drill Pipe × Length of Drill Pipe = Internal Volume of Drill Pipe

bbl/ft × ft = bbl

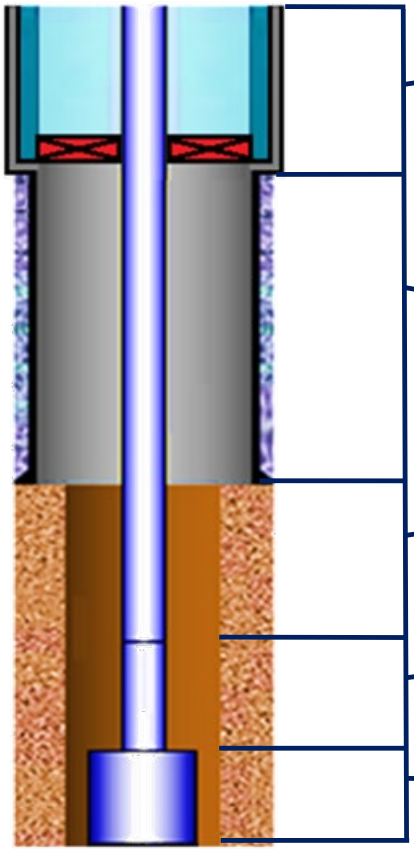
Internal Capacity of HWDP × Length of HWDP = Internal Volume of HWDP

bbl/ft × ft = bbl

Internal Capacity of Drill Collars × Length of Drill Collars = Internal Volume of Drill Collars



Volume Calculations in Annulus



bbl/ft × ft = bbl

Internal Capacity of Choke Line × Length of Choke Line = Internal Volume of Choke Line

bbl/ft × ft = bbl

Annular Capacity Casing/Drill Pipe × Length of Casing = Annular Volume Casing/Drill Pipe

bbl/ft × ft = bbl

Annular Capacity Open Hole/Drill Pipe × Length of Drill Pipe in Open Hole = Annular Volume Open Hole/Drill Pipe

bbl/ft × ft = bbl

Annular Capacity Open Hole/HWDP × Length of HWDP in Open Hole = Annular Volume Open Hole/HWDP

bbl/ft × ft = bbl

Annular Capacity Open Hole/Drill Collars × Length of Drill Collars in Open Hole = Annular Volume Open Hole/Drill Collars

Total Strokes from Surface to Bit

(____ bbl + ____ bbl + ____ bbl) ÷ ____ bbl/stk = ____ stks

Internal Volume of Drill Pipe | Internal Volume of HWDP | Internal Volume of Drill Collars | Pump Output | Strokes from Surface to Bit

Total Strokes from Bit to Shoe

(____ bbl + ____ bbl + ____ bbl) ÷ ____ bbl/stk = ____ stks

Annular Volume Open Hole/Drill Collars | Annular Volume Open Hole/HWDP | Annular Volume Open Hole/Drill Pipe | Pump Output | Strokes from Bit to Shoe

Total Strokes from Casing Shoe to Choke Line

____ bbl ÷ ____ bbl/stk = ____ stks

Annular Volume Casing/Drill Pipe | Pump Output | Strokes from Shoe to Choke Line

Total Strokes to Pump through the Choke Line

____ bbl ÷ ____ bbl/stk = ____ stks

Internal Volume Choke Line | Pump Output | Strokes through Choke Line

Total Strokes from Bit to Surface, through the Choke Line

____ stks + ____ stks + ____ stks = ____ stks

Strokes from Bit to Shoe | Strokes from Shoe to Choke Line | Strokes through Choke Line | Strokes from Bit to Surface, through Choke Line

Pressure Drop per Step (One Tenth of Strokes to Bit) ***REFERENCE ROUNDING RULE #3***

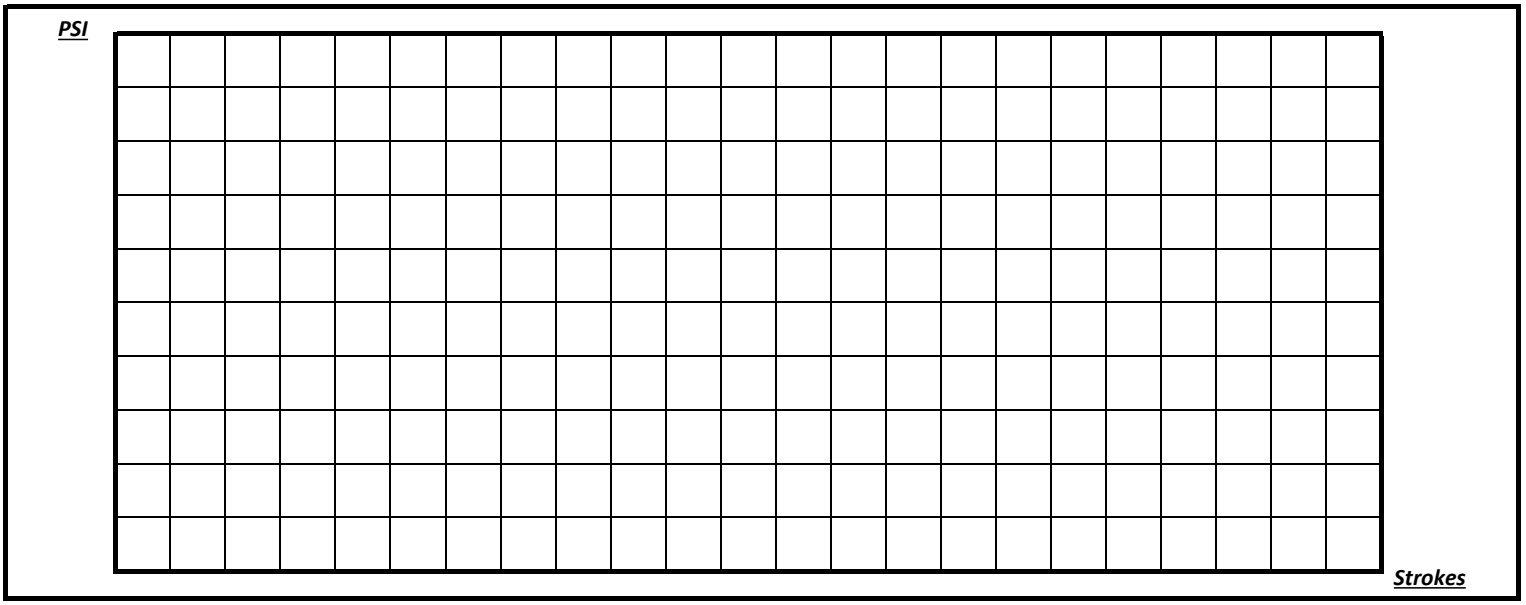
(____ psi − ____ psi) ÷ 10 = ____ psi/step

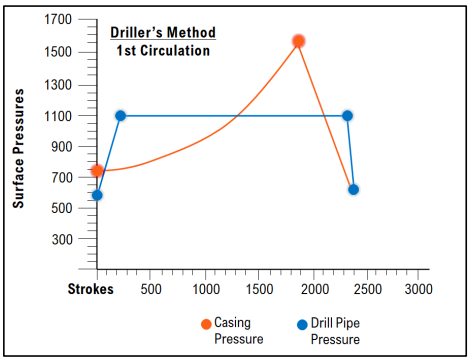
ICP | FCP | Pressure Drop per Step

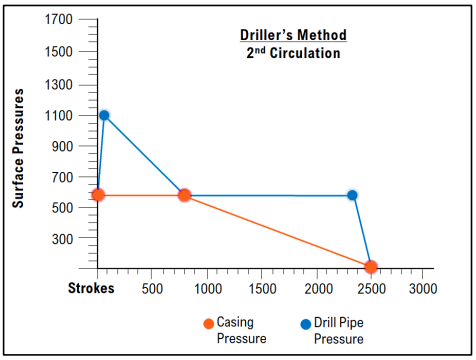
Pressure Drop per 100 Strokes ***REFERENCE ROUNDING RULE #3***

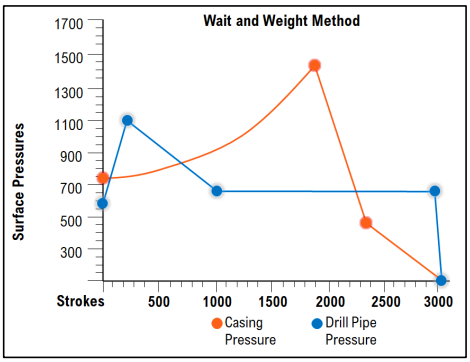
(____ psi − ____ psi) ÷ ____ stks × 100 = ____ psi/100 stks

ICP | FCP | Strokes from Surface to Bit | Pressure Drop per 100 stks









Riser Depth

	ft	+		ft	=	ft
Water Depth			Air Gap			Riser Depth

Hydrostatic Pressure of Mud in the Riser

	ppg	×	0.052	×		ft	=	psi
Current Mud Weight					Riser Depth			HP of Mud in Riser

Hydrostatic Pressure of Seawater (with Seawater Weight)

	ppg	×	0.052	×		ft	=	psi
Seawater Weight					Water Depth			HP of Seawater

Hydrostatic Pressure of Seawater (with Seawater Gradient)

	psi/ft	×		ft	=	psi
Seawater Gradient			Water Depth			HP of Seawater

Depth below Mud Line

	ft	−		ft	=	ft
TVD of Well			Riser Depth			Depth Below Mud Line

Margin to Add to Current Mud Weight ***REFERENCE ROUNDING RULE #1***

(		psi	−		psi	) ÷		ft	÷	0.052	=	ppg
	HP of Mud in Riser			HP of Seawater			Depth Below Mud Line					Margin to Add to CMW

Riser Margin

	ppg	+		ppg	=	ppg
Margin to Add to CMW			Current Mud Weight			Riser Margin