

DRILLER LEVEL

BY WELL CONTROL SCHOOL

Example Well Krypton-1L

Hole Dimensions	Depth	14,800 feet (MD)	14,000 feet (TVD)
	9-5/8" Casing Shoe Depth (MD/TVD)		9,500 feet
	Hole Size		8-1/2 inches
	Current Mud Weight		12.4 ppg
Internal Capacities	6-1/2" Drill Collars (length - 200 feet)		0.0061 bbls/foot
	4-1/2" Drill Pipe - Capacity		0.0142 bbls/foot
	4-1/2" Drill Pipe - Metal Displacement		0.0055 bbls/foot
	4-1/2" Drill Pipe - Closed End Displacement		0.0197 bbls/foot
	4-1/2" HWDP (length - 800 feet)		0.0074 bbls/foot
Annular Capacities	Open Hole / Drill Collar		0.0291 bbls/foot
	Open Hole / Drill Pipe		0.0505 bbls/foot
	Casing / Drill Pipe		0.0562 bbls/foot
LOT	Test Mud Weight		11.0 ppg
	Leak Off Pressure		3,650 psi
Pump Details	Pump Output		0.1066 bbls/stk
	SCR at 40 SPM		740 psi
Shut-In Data	SIDPP		700 psi
	SICP		1,150 psi
	Pit Gain		30.0 bbls

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Example Well Mogo-2A

Hole Dimensions	Depth	5,453 feet (MD)	5,453 feet (TVD)
	8-5/8" Casing Shoe Depth (MD/TVD)		3,850 feet
	Hole Size		6-1/2 inches
	Current Mud Weight		8.8 ppg
Internal Capacities	4-3/4" Drill Collars (length - 900 feet)		0.0049 bbls/foot
	4" Drill Pipe - Capacity		0.0108 bbls/foot
	4" Drill Pipe - Metal Displacement		0.0047 bbls/foot
	4" Drill Pipe - Closed End Displacement		0.0155 bbls/foot
	4" HWDP (length - 465 feet)		0.0064 bbls/foot
Annular Capacities	Open Hole / Drill Collar		0.0191 bbls/foot
	Open Hole / Drill Pipe		0.0255 bbls/foot
	Casing / Drill Pipe		0.0454 bbls/foot
Fracture Data	Fracture Gradient		0.6649 psi/foot
Pump Details	Pump Output		0.0698 bbls/stk
	SCR at 40 SPM		450 psi
Shut-In Data	SIDPP		400 psi
	SICP		650 psi
	Pit Gain		7.0 bbls

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Example Well Tamarin-3Y

Hole Dimensions	Depth	12,585 feet (MD)	6,000 feet (TVD)
	8-5/8" Casing Shoe Depth (MD/TVD)		3,000 feet
	Hole Size		6 inches
	Current Mud Weight		10.0 ppg
Internal Capacities	4-3/4" Drill Collars (length - 500 feet)		0.0029 bbls/foot
	4-1/2" Drill Pipe - Capacity		0.0142 bbls/foot
	4-1/2" Drill Pipe - Metal Displacement		0.0055 bbls/foot
	4-1/2" Drill Pipe - Closed End Displacement		0.0197 bbls/foot
	4-1/2" HWDP (length - 200 feet)		0.0074 bbls/foot
Annular Capacities	Open Hole / Drill Collar		0.0131 bbls/foot
	Open Hole / Drill Pipe		0.0153 bbls/foot
	Casing / Drill Pipe		0.0186 bbls/foot
Fracture Data	Fracture Gradient		0.8049 psi/foot
Pump Details	Pump Output		0.0698 bbls/stk
	SCR at 40 SPM		1,150 psi
Shut-In Data	SIDPP		475 psi
	SICP		475 psi
	Pit Gain		6.0 bbls

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Example Well 0a-4L

Hole Dimensions	Depth	14,379 feet (MD)	14,379 feet (TVD)
	7-5/8" Casing Shoe Depth (MD/TVD)		9,831 feet
	Hole Size		6-1/8 inches
	Current Mud Weight		13.4 ppg
Internal Capacities	4-3/4" Drill Collars (length - 200 feet)		0.0049 bbls/foot
	4" Drill Pipe - Capacity		0.0108 bbls/foot
	4" Drill Pipe - Metal Displacement		0.0047 bbls/foot
	4" Drill Pipe - Closed End Displacement		0.0155 bbls/foot
	4" HWDP (length - 800 feet)		0.0064 bbls/foot
Annular Capacities	Open Hole / Drill Collar		0.0145 bbls/foot
	Open Hole / Drill Pipe		0.0209 bbls/foot
	Casing / Drill Pipe		0.0316 bbls/foot
LOT	Test Mud Weight		12.0 ppg
	Leak Off Pressure		2,180 psi
Pump Details	Pump Output		0.0966 bbls/stk
	SCR at 40 SPM		1,100 psi
Shut-In Data	SIDPP		200 psi
	SICP		450 psi
	Pit Gain		8.0 bbls

DRILLER LEVEL

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Example Well Rann-5A

Hole Dimensions	Depth	9,570 feet (MD)	8,750 feet (TVD)
	10-3/4" Casing Shoe Depth (MD/TVD)		4,650 feet
	Hole Size		9-1/2 inches
	Current Mud Weight		11.4 ppg
Internal Capacities	7-1/2" Drill Collars (length - 530 feet)		0.0087 bbls/foot
	5" Drill Pipe - Capacity		0.0178 bbls/foot
	5" Drill Pipe - Metal Displacement		0.0065 bbls/foot
	5" Drill Pipe - Closed End Displacement		0.0243 bbls/foot
Annular Capacities	Open Hole / Drill Collar		0.0330 bbls/foot
	Open Hole / Drill Pipe		0.0634 bbls/foot
	Casing / Drill Pipe		0.0719 bbls/foot
LOT	Test Mud Weight		11.0 ppg
	Leak Off Pressure		1,175 psi
Pump Details	Pump Output		0.1071 bbls/stk
	SCR at 30 SPM		775 psi
Shut-In Data	SIDPP		300 psi
	SICP		550 psi
	Pit Gain		5 bbl

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Example Wells Answer Key for Surface Wells

	Krypton-1A	Mogo-2A	Tamaran-3Y	Oa-4L	Rann-5A
Maximum Allowable Mud Weight	18.3 ppg	12.7 ppg	15.4 ppg	16.2 ppg	15.8 ppg
MAASP Before the Kick	2,914 psi	780 psi	842 psi	1,431 psi	1,063 psi
Strokes from Surface to Bit	1,895 to 1,915 stks	728 to 748 stks	2,450 to 2,470 stks	1,549 to 1,569 stks	1,535 to 1,555 stks
Strokes from Bit to Shoe	2,460 to 2,480 stks	493 to 513 stks	2,075 to 2,095 stks	961 to 981 stks	2,752 to 2,772 stks
Strokes from Bit to Surface	7,469 to 7,489 stks	2,997 to 3,017 stks	2,875 to 2,895 stks	4,177 to 4,197 stks	5,874 to 5,894 stks
Kill Mud Weight	13.4 ppg	10.3 ppg	11.6 ppg	13.7 ppg	12.1 ppg
MAASP After the Well has been Killed	2,420 psi	480 psi	592 psi	1,278 psi	894 psi
Initial Circulating Pressure	1,440 psi	850 psi	1,025 psi	1,300 psi	1,075 psi
Final Circulating Pressure	800 psi	527 psi	638 psi	1,125 psi	823 psi
Pressure Drop per Step (1/10 of Strokes to Bit)	64 psi/step	32 psi/step	38 psi/step	17 psi/step	25 psi/step
Pressure Drop per 100 Strokes	33 psi/100 stks	43 to 44 psi/100 stks	15 psi/100 stks	11 psi/100 stks	16 psi/100 stks