

SD Federal 24-9DL

NE SE 24-T12N-R89W
MOFFAT COUNTY, COLORADO

SURFACE and PRODUCTION CASING DESIGN

Proposed Intermediate Casing Depth	5,500	TVD	8,500
Proposed Depth of Surface Casing	1,250	Feet	(Producing Depth)
Estimated Pressure Gradient	0.450	Psi/ft	
BHP at Producing Depth	2,475	Producing TD x Gradient	
Hydrostatic Head of Gas/Oil/Mud:	1,870	Producing TD x 0.22 psi/ft	
Mud Weight - Production	9.00	#/gal	
Mud Weight - Surface	7.00	#/gal	

SURFACE CASING

MAXIMUM DESIGN SURFACE PRESSURE

Bottom Hole Pressure	minus	Hydrostatic Head	
0.450 PSI/FT x 5,500	minus	0.220 PSI/FT x 8500	
2475 psi	minus	1870 psi	605 psi

CASING STRENGTH

Weight / Type	Collapse (psi)	Burst (psi)	Tension (lbs)
9 5/8" 36# J55 36.00	2020	3520	394,000
9 5/8" 40# J55 40.00	2570	3950	452,000

DESIGN FACTORS

SAFETY FACTORS

Tension (dry)						
9 5/8" 36# J55	45,000	lbs	#/ft x TVD			
9 5/8" 40# J55	50,000	lbs	#/ft x TVD			
9 5/8" 36# J55	Safety Factor	design/actual	8.76	Tension OK	1.800	
9 5/8" 40# J55	Safety Factor	design/actual	9.04	Tension OK	1.800	
Burst						
9 5/8" 36# J55	Safety Factor	design/actual	5.82	Burst OK	1.000	
9 5/8" 40# J55	Safety Factor	design/actual	6.53	Burst OK	1.000	
Collapse						
Hydrostatic =	0.052 x MW Surf x depth	455				
9 5/8" 36# J55	Safety Factor =	design/actual	4.44	Collapse OK	1.125	
9 5/8" 40# J55	Safety Factor =	design/actual	5.65	Collapse OK	1.125	

PRODUCTION CASING

MAXIMUM DESIGN PRODUCING PRESSURE

Bottom Hole Pressure	minus	Hydrostatic Head	
0.450 PSI/FT x 5,500	minus	0.220 PSI/FT x 8500	
2475 psi	minus	1870 psi	605 psi

CASING STRENGTH

Weight / Type	Collapse (psi)	Burst (psi)	Tension (lbs)
7" 23# K55 STC 23.00	3270	4360	284,000
7" 26# J55 STC 26.00	4320	4980	334,000
4 1/2" 10.5# J55 STC 10.50	4010	4790	146,000

UN-CEMENTED SLOTTED LINER

DESIGN FACTORS

SAFETY FACTORS

Tension (dry)						
#/ft x TVD	126,500	lbs	23.00	5,500	ft	
#/ft x TVD	143,000	lbs	26.00	5,500	ft	
#/ft x TVD	32,025	lbs	10.50	3,050	ft	
7" 23# K55 STC	Safety Factor	design/actual	2.245	Tension OK	1.800	
7" 26# J55 STC	Safety Factor	design/actual	2.336	Tension OK	1.800	
4 1/2" 10.5# J55	Safety Factor	design/actual	4.559	Tension OK	1.800	
Burst						
7" 23# K55 STC	Safety Factor	design/actual	7.207	Burst OK	1.000	
7" 26# J55 STC	Safety Factor	design/actual	8.231	Burst OK	1.000	
4 1/2" 10.5# J55 STC	Safety Factor	design/actual	7.917	Burst OK	1.000	
Collapse						
Hydrostatic =	0.052 x mud wt x depth	2574				
7" 23# K55 STC	Safety Factor =	design/actual	1.270	Collapse OK	1.125	
7" 26# J55 STC	Safety Factor =	design/actual	1.678	Collapse OK	1.125	
4 1/2" 10.5# J55 STC	Safety Factor =	design/actual	1.558	Collapse OK	1.125	

WILL HANG 1900 FT 4 1/2
LINER IN BOTTOM OF 7"

NA - LINER WILL BE SLOTTED

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