

DEVON ENERGY

5

Operator: DEVON ENERGY CORP	Well Name: TODD 26 FEDERAL
Project ID:	Location:

Design Parameters:

Mud weight (9.80 ppg) : 0.509 psi/ft
 Shut in surface pressure : 3596 psi
 Internal gradient (burst) : 0.100 psi/ft
 Annular gradient (burst) : 0.000 psi/ft
 Tensile load is determined using air weight
 Service rating is "Sweet"

Design Factors:

Collapse : 1.125
 Burst : 1.00
 8 Round : 1.80 (J)
 Buttress : 1.60 (J)
 Body Yield : 1.50 (B)
 Overpull : 0 lbs.

	Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	4,000	8-5/8"	32.00	WC-50	ST&C	4,000	7.796	
2	400	8-5/8"	32.00	J-55	ST&C	4,400	7.875	

	Collapse Load (psi)	Strgth (psi)	S.F.	Burst Load (psi)	Min Int Strgth (psi)	Yield S.F.	Tension Load (kips)	Strgth (kips)	S.F.
1	2036	2421	1.189	3596	3600	1.00	140.80	341	2.42 J
2	2240	2530	1.129	3636	3930	1.08	12.80	372	29.06 J

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Date : 08-17-1992

Remarks :

Minimum segment length for the 4,400 foot well is 800 feet.

Surface/Intermediate string:

Next string will set at 8,400 ft. with 9.25 ppg mud (pore pressure of 4,036 psi.) The frac gradient of 1.000 at the casing seat results in an injection pressure of 4,400 psi. Effective BHP (for burst) is 3,636 psi.

The minimum specified drift diameter is 7.875 in.

NOTE: The design factors used in this casing string design are as shown above. As a general guide-line, Lone Star Steel recommends using minimum design factors of 1.125 - Collapse (with evacuated casing), 1.0 - Burst, 1.8 - 8 Round Tension, 1.6 - Buttress Tension, and 1.5 - Body Yield. Collapse strength under axial tension was calculated based on the Westcott, Dunlop and Kemler curve. Engineering responsibility for use of this design will be that of the purchaser. Costs for this design are based on a 1990 pricing model. (Version 1.0G)