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	

	Load (psi)	Collapse Strgth (psi)	S.F.	Burst Load (psi)	Min Int Strgth (psi)	Yield S.F.	Load (kips)	Tension 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

Prepared by : C. W. HORSMAN, Oklahoma City, OK
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)