

BASS ENTERPRISES

Operator: BASS ENTERPRISES	Well Name: JRU #70
Project ID:	Location: EDDY ., CO

Design Parameters:

Mud weight (9.00 ppg) : 0.468 psi/ft
 Shut in surface pressure : 700 psi
 Internal gradient (burst) : 0.000 psi/ft
 Annular gradient (burst) : 0.468 psi/ft
 Tensile load is determined using air weight
 Service rating is "Sweet"

Design Factors:

Collapse : 1.000
 Burst : 1.00
 8 Round : 1.60 (J)
 Buttress : 1.60 (J)
 Other : 1.60 (J)
 Body Yield : 1.60 (B)

Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost		
1	700	13.375	48.00	H-40	ST&C	700	12.559		
	Collapse			Burst Load (psi)	Min Int Strgth (psi)	Yield S.F.	Tension		
	Load (psi)	Strgth (psi)	S.F.				Load (kips)	Strgth (kips)	S.F.
1	327	740	2.261	700	1730	2.47	33.60	322	9.58 J

Prepared by : BJL, Midland, TX

Date : 04-07-1994

Remarks :

Minimum segment length for the 700 foot well is 100 feet.

Surface string:

Next string will set at 3,800 ft. with 10.00 ppg mud (pore pressure of 1,974 psi.) The frac gradient of 1.000 psi/ft at 700 feet results in an injection pressure of 700 psi Effective BHP (for burst) is 700 psi, the BHP load is 373 psi (using an annular mud of 9.00 ppg) and the differential gradient is -0.470 psi/ft.

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, 1.3 - 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 1987 pricing model. (Version 1.06)