

# PLANS PETROLEUM OPER. CO.

Operator: PPOC	Well Name: E C HILL B FED #12
Project ID:	Location: 985' FSL 550' FEL

## Design Parameters:

Mud Weight ( 8.80 ppg) : 0.457 psi/ft  
 Shut in casing pressure : 4231 psi  
 Internal gradient (burst) : 0.021 psi/ft  
 Annular gradient (burst) : 0.457 psi/ft  
 Tensile load is determined using buoyed weight  
 Service rating is "Sweet"

## Design Factors:

Collapse : 1.125  
 Burst : 1.10  
 8 Round : 1.75 (J)  
 Buttress : 1.60 (J)  
 Other : 1.50 (J)  
 Body Yield : 1.50 (B)

	Length (feet)	Size (in.)	Weight (lb/ft)	Grade	Joint	Depth (feet)	Drift (in.)	Cost
1	1,000	5.500	17.00	K-55	LT&C	1,000	4.767	
2	6,500	5.500	15.50	K-55	LT&C	7,500	4.825	
3	1,900	5.500	17.00	K-55	LT&C	9,400	4.767	
4	300	5.500	17.00	N-80	LT&C	9,700	4.767	

  

	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	457	3890	8.510	4252	5320	1.25	134.27	272	2.03 J
2	3429	3871	1.129	4252	4810	1.13	119.56	239	2.00 J
3	4297	4889	1.138	3703	5320	1.44	32.37	272	8.40 J
4	4434	6280	1.416	2874	7740	2.69	4.41	348	78.84 J

Prepared by : DJB, Midland, Texas

Date : 09-19-1994

Remarks :

LEA COUNTY, NEW MEXICO

Minimum segment length for the 9,700 foot well is 100 feet.

SICP is based on the ideal gas law, a gas gravity of 0.15, and a mean gas temperature of 123°F (Surface 74°F, BHT 171°F & temp. gradient 1.000°/100 ft.)

For burst purposes, lost circulation occurs behind the pipe at 6,000 ft,

above which point, the annular mud weight of 8.800 ppg goes to zero.

The equivalent pore gradient at the seat is 3.36 ppg.

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 1987 pricing model. (Version 1.06)