

DATE

SUBJECT OF EXPT.

9-14-44
Sear Spring (Cont)

$$\frac{P}{F} = \frac{G d^4}{8 D^3 N}$$

$$= \frac{11,500,000 (.000000615)}{4 \times (.00268)} = 36.6 \text{ #/in}$$

FREE LENGTH = 490

$$\begin{array}{r} 490 \\ 252 \\ \hline 238 \end{array}$$

$$90\% = (.168) 36.6 = 6.1 \text{ # } 7.8 \text{ #}$$

$$\text{WT COCKED} = (490 - 380) 36.6 = 4 \text{ # } 2.5 \text{ #}$$

$$\begin{array}{r} 490 \\ 168 \\ \hline 322 \end{array}$$

$$\text{WT FIRED} = (490 - 340) 36.6 = 5.5 \text{ # } 6.2 \text{ #}$$

$$\text{WT STACKED} = (490 - 280) 36.6 = 7.7 \text{ # } 9.8 \text{ #}$$

$$\begin{array}{r} 490 \\ 380 \\ \hline 110 \end{array}$$

$$\frac{P}{d} = 5 \quad \text{WALL } K = 1.31$$

$$S = \frac{P 2.55 (1.31)}{.0000219} \quad K = P 16200 \text{ #/in}$$

$$\text{COCKED } S = 4 (16,200) 1.31 = 85,000 \text{ PSI}$$

$$\text{FIRED } S = 5.5 = 117,000 \text{ PSI}$$

$$80\% S = 6.1 = 130,000 \text{ PSI}$$

$$\text{SOLID } S = 7.7 = 163,000 \text{ PSI}$$

EXPERIMENTER

WITNESS

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