

# D. Rowan vs Boiler No 366

Circumferential beams Plate  $\frac{3.09 - 1.125}{3.09} = 60.3$

Rivets  $\frac{23 \times .99 \times 2}{29 \times 3.09 \times 1.06} = 48.1$

Longitudinal beams Plate  $\frac{8 - 1.125}{8} = \frac{6.875}{8} = 86$

Rivets  $\frac{23 \times .99 \times 5 \times 1.875}{29 \times 8 \times 1.06} = 86.7$

Combined  $= 8 - 2.25 + \frac{86.7}{5} = \frac{5.75}{8} + \frac{86.7}{5} = 72 + 17.3 = 89.3$

Shell  $\frac{32 \times 29 \times 86}{2.75 \times 180} = 162$

Furnaces  $\frac{480 \times 15.5}{46.03} = 161$

Top ends  $\frac{96 \times 1296}{488 + 272.25} = 164$   $\frac{1296 \times 1007}{02 = 700} = 188$

Tube plates from ww space -  $\frac{72 \times 676}{210.25 + 95.06} = 159.3$  Back  $\frac{38 \times 529}{11.25} = 159$

Girders  $\frac{371 \times 60.06 \times 56}{33.6 \times 25.1 \times 9} = 164$

C.C. sides  $\frac{75 \times 400}{115.56 + 72.25} = 160$  | Tops  $\frac{15 \times 400}{81 + 72.25} = 161$  | Back  $\frac{75 \times 400}{110.25 + 76.56} = 161$

Lower back  $\frac{86 \times 484}{76.56 + 182.25} = 160$

Main stays (23/4)  $\frac{65455}{22.25 \times 15.5} = 190$  |  $\frac{65455}{18.75 \times 20.5} = 170$

Screw stays  $1\frac{1}{2}$   $\frac{12542}{76.3} = 164$

$1\frac{5}{8}$   $\frac{15214}{92} = 165$

$1\frac{3}{4}$   $\frac{18144}{105} = 173$

Marginal

Top corners  $1\frac{7}{8}$   $\frac{21332}{138} = 154$

Max<sup>m</sup> vertical pitch of main stays = 17.6... main stays cover 211" past the middle line between main & screw stays. i.e. area supported 113 ins



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