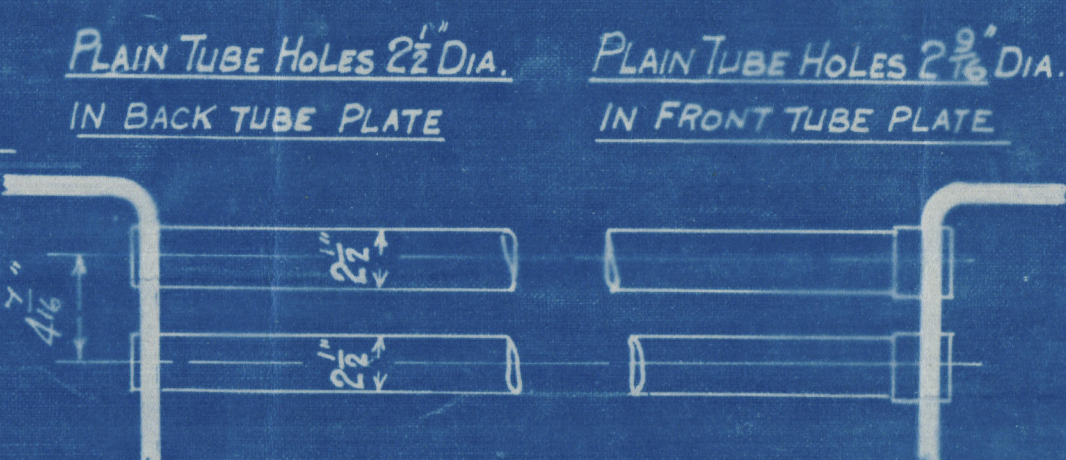


### HORIZONTAL FLUE TUBES



STAY TUBE HOLES SCREWED  
2 1/2" DIA. 11 THREADS PER INCH  
IN BACK TUBE PLATE

STAY TUBE HOLES SCREWED  
2 $\frac{5}{8}$ " DIA 11 THREADS PER INCH.  
IN FRONT TUBE PLATE.

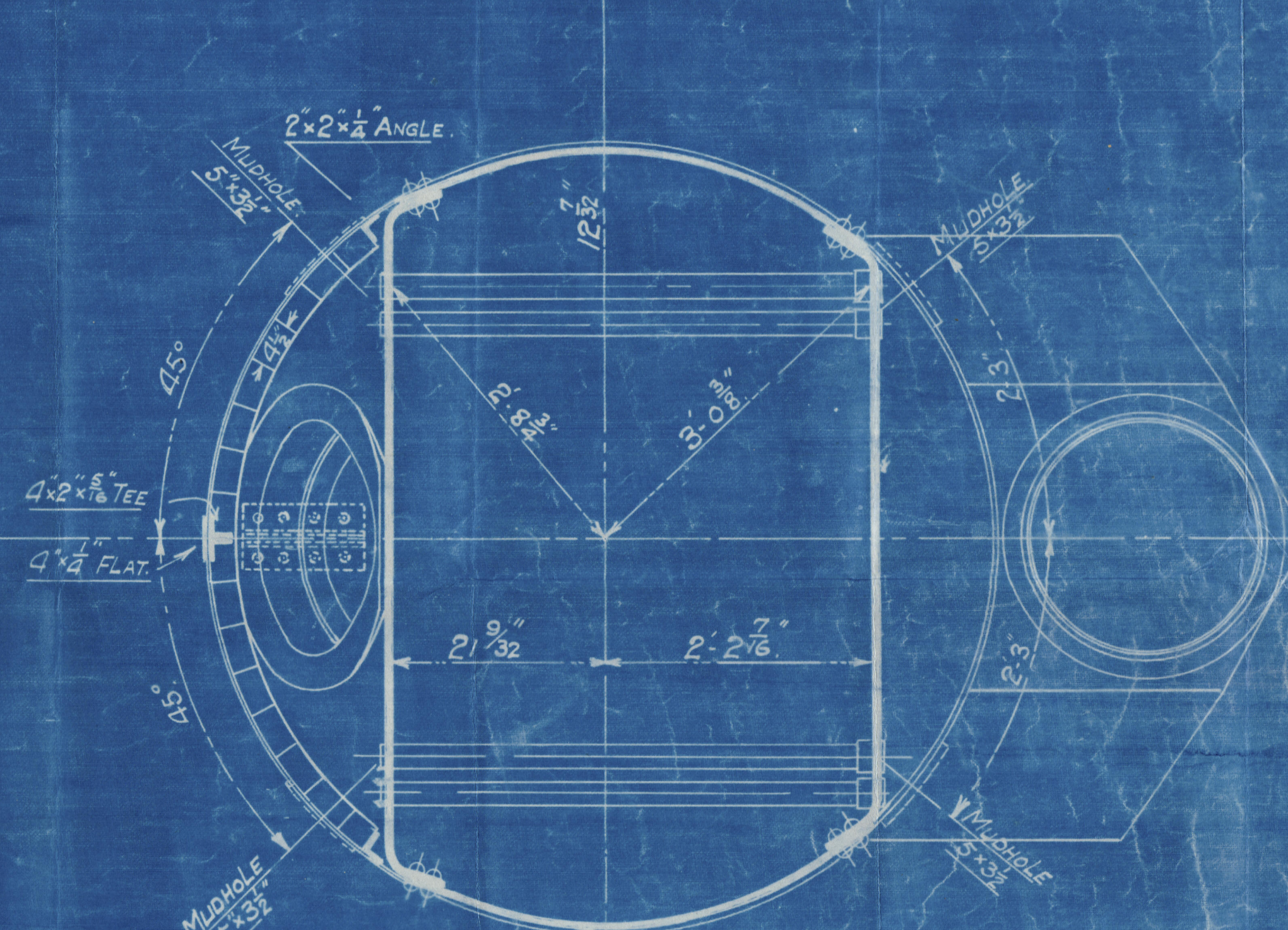
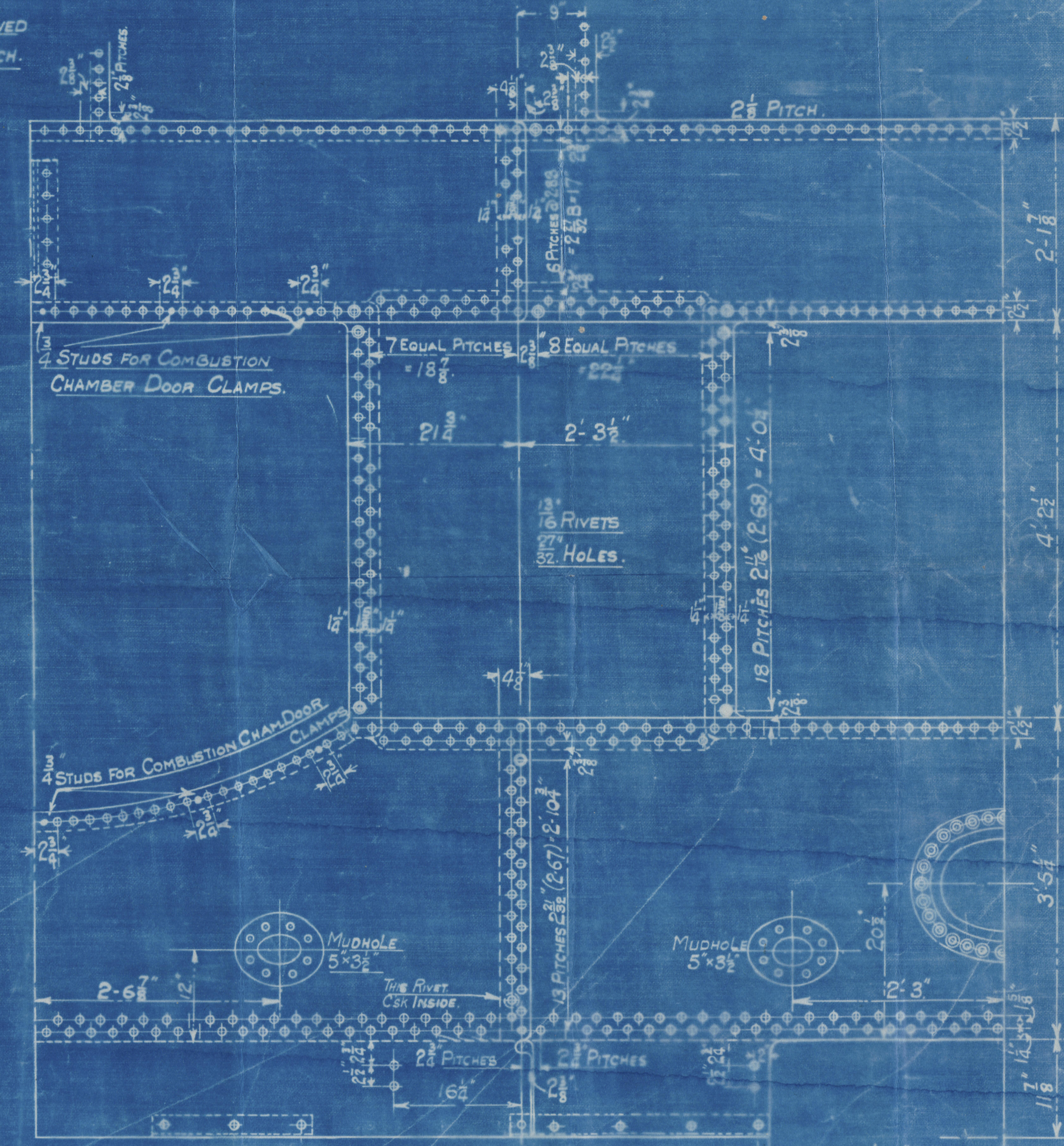
HEATING SURFACE.	
TUBES	373.50 Sq. Ft.
PLATE	77.00 Sq. Ft.
TOTAL	450.50 Sq. Ft.
GRATE AREA.	22.50 Sq. Ft.

LLOYDS

PLATE	$\frac{26.7}{2.5} \times 84875$	$\times 100 = 68.5\%$
RIVETS	$\frac{2 \times 55914}{2.83 \times 5} \times 85$	$= 66.6\%$
FRONT TUBE PLATE	$\frac{4444}{2.5} \times 259375$	$\times 100 = 41.7\%$
BACK TUBE PLATE	$\frac{4444}{2.5} \times 25$	$\times 100 = 43.7\%$
SHELL	$\frac{20.5 \times 6666 \times (8-2)}{78}$	$= 105.185$
FRONT TUBE PLATE	$\frac{80.5 \times 417 \times (13-2) \times 26}{36.75 \times 2}$	$= 120.185$
BACK TUBE PLATE	$\frac{32.75 \times 2 \times 28}{36.75 \times 2}$	$= 120.5185$
FURNACE	$\frac{12500 \times (8-2)}{78}$	$= 115.2645$
ogee ring	$\frac{516 \times 13/32}{76 \times 76 - 66}$	$= 104.47$

BOARD OF TRADE.		
PLATE	$\frac{267}{2 \cdot 57}$ - 84.375	$\times 100 = 68.5\%$
RIVETS	$\frac{2 \times 559.14}{2.83 \times 5.4 \times 5} - 23$ $\frac{4.9 \times 23}{2.83 \times 5.4 \times 5} - 28$	$\times 100 = 70.7\%$
FRONT TUBE PLATE	$\frac{4.499}{4.444} - 2.59375$	$\times 100 = 41.7\%$
BACK TUBE PLATE	$\frac{4.444}{4.444} - 2.5$	$\times 100 = 43.7\%$
SHELL	$\frac{28 \times 2240}{78.9 \times 10.5} - 66.5 \times 5 \times 2$	$= 113 \text{ LBS.}$
FRONT TUBE PLATE	$\frac{26 \times 2240}{26.4375 \times 4.5 \times 100} - 43.7 \times 7.17 \frac{1}{2}$	$= 166 \text{ LBS.}$
BACK TUBE PLATE	$\frac{26 \times 2240}{26.4375 \times 4.5 \times 100} - 43.7 \times 7.17 \frac{1}{2}$	$= 190 \text{ LBS.}$
FURNACE	$\frac{140000}{21.8125} - 4.5$	$= 106 \text{ LBS.}$

BUREAU VERITAS		
PLATE	2x28 x2240 x .685 (5'-04") 78.4	= 127.5 LBS.
RIVETS	2K(2x28 x2240 x .685) 78.4 x 5	= 107.5 LBS
FRONT TUBE PLATE	10400 x 8125 (.4999-.501) 23.86 x 4.444	= 147 LBS
BACK TUBE PLATE	10400 x 7187.5 (.4999-.501) 23.86 x 4.4999	= 136 LBS.
FURNACE	6038 (-2) 6038	= 109 LBS.



JOINT IN TOP & BOTTOM BELT.

Approved 24.2.19

PATENT BOILER N° 8231

6-6" x 14-0" x 450# x 100 LBS.

SIEMENS MARTIN MILD STEEL PLATES.

PLATES NOT EXPOSED TO FLAME OR FLANGED 28 TO 32 TONS

PLATES EXPOSED TO FLAME OR FLANGED EXCEPT FCE CRN. 26 TO 30 TONS

FURNACE CROWN 26 To 29 TON

COCHRAN & CO. ANNAN, LD.

ANNAN, SCOTLAND

DRAWING N° 116441

STANDARD  
SURVEY LLOYDS

8231 11644  
COCHRAN & CO., ANNAN, LD.

Boiler No. 8231

Drawing No. 11644

100 lbs per sq. inch.

Mark on boiler: -

No 15194  
Lloyds Test  
200 lbs  
N.P. 100 lbs  
P.M.C. 26/3/20

GLASGOW REPORT No. 39785

"  
ss Bjornvik"  
"ex. Kildress."  
See Rept No. 10749



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Lloyd's Register  
Foundation

W1124-0147