

# STEEL BOILER 314.

FOR GRANGEMOUTH DOCKYARD COY S.S. "M 279"  
TO PASS LLOYDS

180. LBS. WORKING PRESSURE.

SCALE 1" = 1 FOOT

10-5-05.

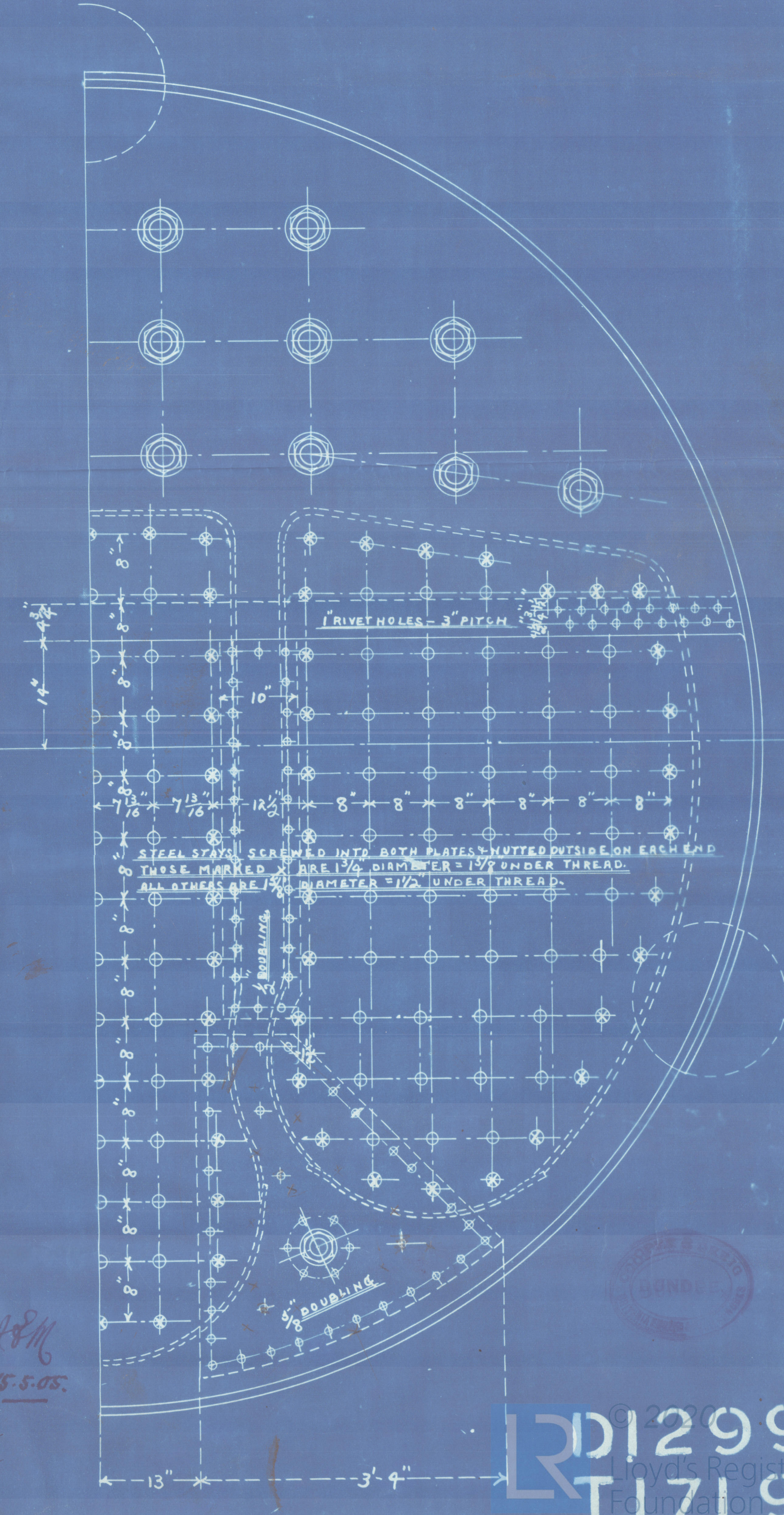
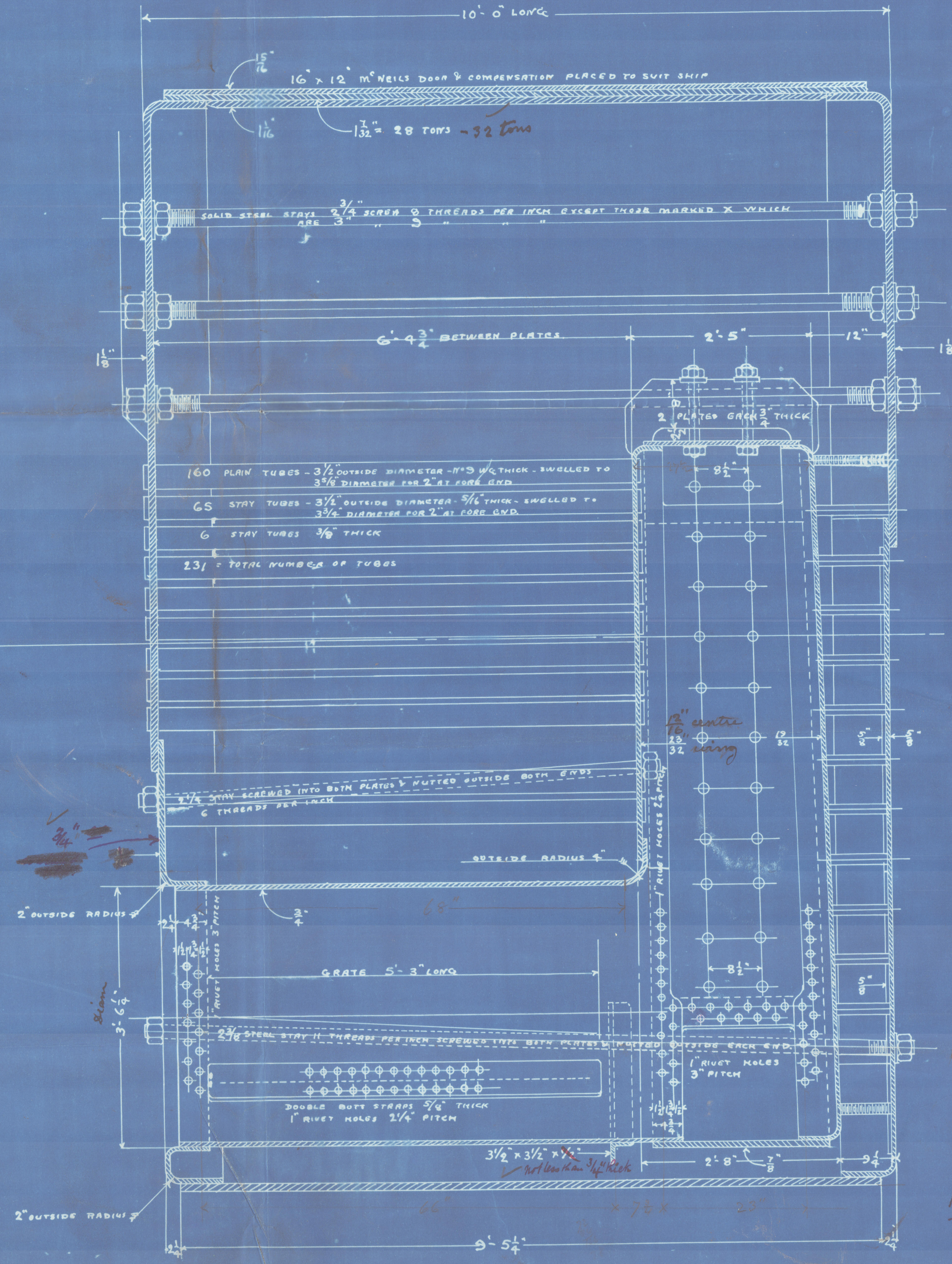
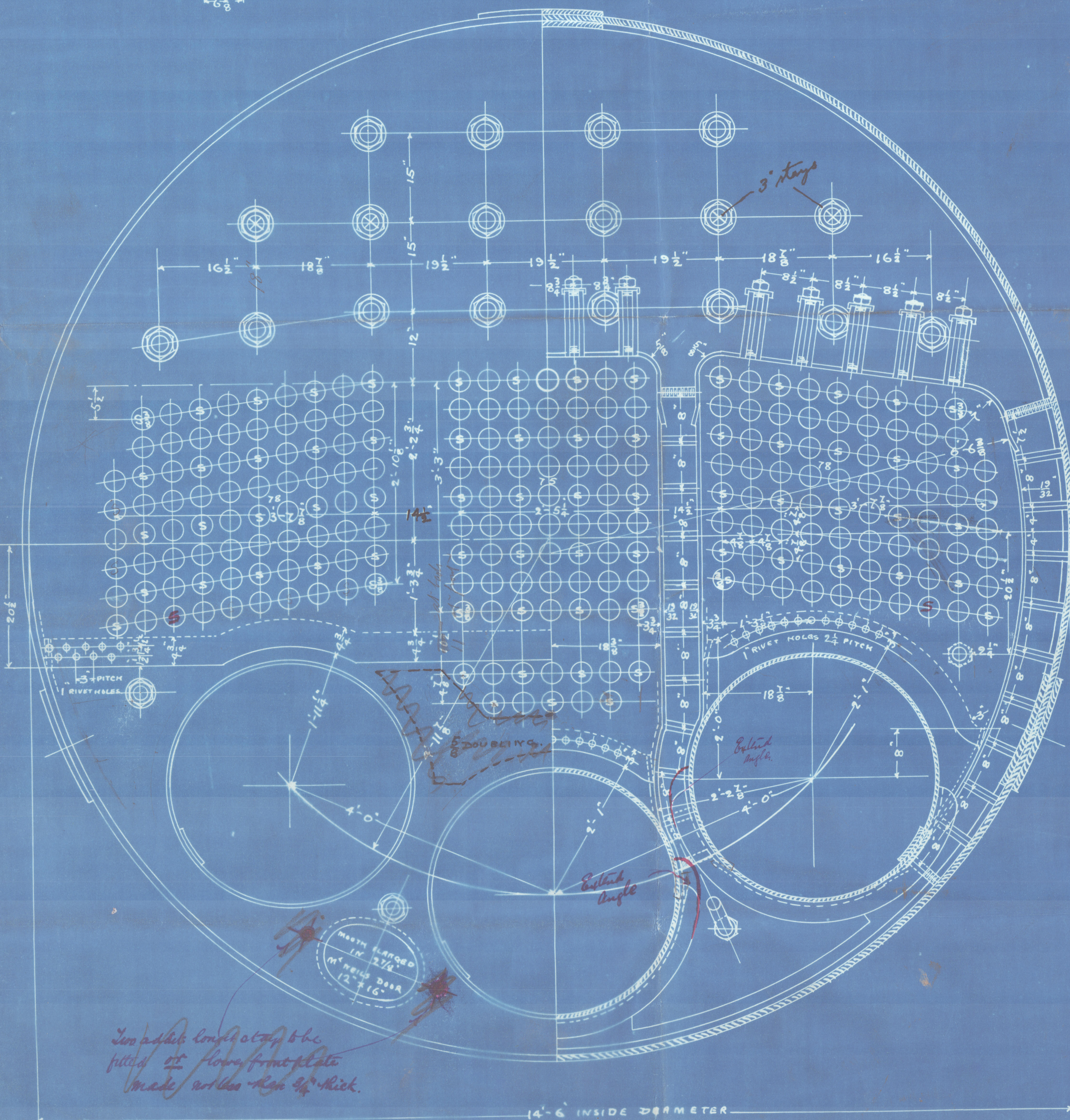
SHELL RIVETING

RIVET HOLES  $1\frac{1}{8}$ " DIAMETER  $\times$   $8\frac{3}{4}$ " PITCH  
PLATES STEEL 28 TONS MINIMUM TENSILE STRENGTH  $1\frac{1}{32}$ " THICK  
OUTER BUTT STRAP  $1\frac{1}{16}$ " THICK - INNER BUTT STRAP  $1\frac{1}{8}$ " THICK  
9-54

not less than  $1\frac{1}{8}$ "

15-5-05

PLATES	THICK	LLOYD'S RULES	PRESSURE	SURFACES	SQ FT
Shell	$1\frac{1}{32}$ "	$21.77 \times (0.85 \times 1) \times 95 =$	184 lb	231 Tubes	1350
Ends top	$1\frac{1}{8}$ "	$\frac{1}{2} \times (18.11 \times 16.5) =$	180 lb	3 Fire boxes	241
Front tube plate	$1\frac{1}{8}$ "	$\frac{1}{2} \times (18.11 \times 16.5) =$	215 lb	3 Furnaces	84.25
Front bottom	$1\frac{1}{8}$ "	$\frac{1}{2} \times (18.11 \times 16.5) =$	180 lb	Front tube plate	34
Back end bottom	$1\frac{1}{8}$ "	$175 \times (10 \times 10) =$	187 lb	Total surface	1709.25
Back tube plate	$1\frac{1}{8}$ "	$\frac{1}{2} \times (18.11 \times 16.5) =$	181 lb	Water surface	
Fire box top	$1\frac{1}{8}$ "	$\frac{1}{2} \times (18.11 \times 16.5) =$	182 lb	Grate surface 5'3" long	53.6 ft
Fire box sides	$1\frac{1}{8}$ "	$\frac{1}{2} \times (18.11 \times 16.5) =$	181 lb	Area thro' tubes	12.178 ft
Fire box bottom	$1\frac{1}{8}$ "	$\frac{1}{2} \times (18.11 \times 16.5) =$	180 lb	Area thro' tubes	
Fire box back	$1\frac{1}{8}$ "	$\frac{1}{2} \times (18.11 \times 16.5) =$	180 lb	Grate surface	= 224
Furnaces	$1\frac{1}{8}$ "	$50 \times (200 \times 75 - 65 \times 75) =$	182.8 lb		
Fire box girders	$1\frac{1}{8}$ "	$200 \times 18 \times 15 =$	182 lb		
Steam pipes 8" dia	$1\frac{1}{8}$ "	$10 \times 2 \times 15 =$	180 lb		
do do 4" dia	$1\frac{1}{8}$ "	$10 \times 2 \times 15 =$	180 lb		
Water pipes 11" dia	$1\frac{1}{8}$ "	$2 \times 10 \times 15 =$	187 lb		
do do 6" dia	$1\frac{1}{8}$ "	$2 \times 10 \times 15 =$	184 lb		
do do 11" dia	$1\frac{1}{8}$ "	$2 \times 10 \times 15 =$	211 lb		
do do 11" dia	$1\frac{1}{8}$ "	$2 \times 10 \times 15 =$	189 lb		





Main Boiler,

Cooper & Greig. N° 314

Grangemouth & Greenock  
Greenock & Grangemouth SS N° 249

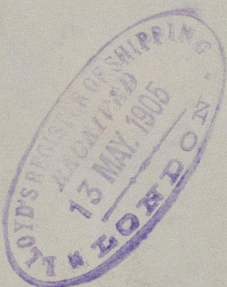
S. S.

" MARTHA "

Dundee

4090

Rt J. J. O'Neil



N° 844  
Lloyd's Test  
360 lbs  
WM-29.8.05  
N° 844

Lloyd's Test  
360 lbs.

RETAIN



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Lloyd's Register  
Foundation

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