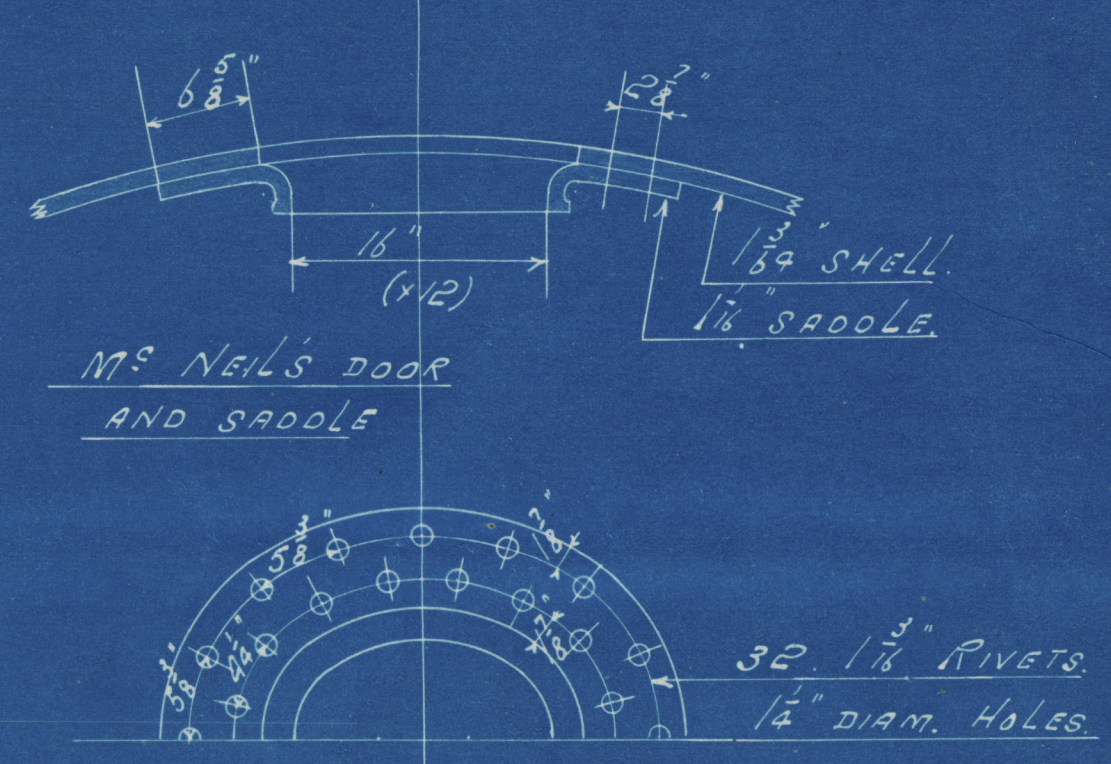


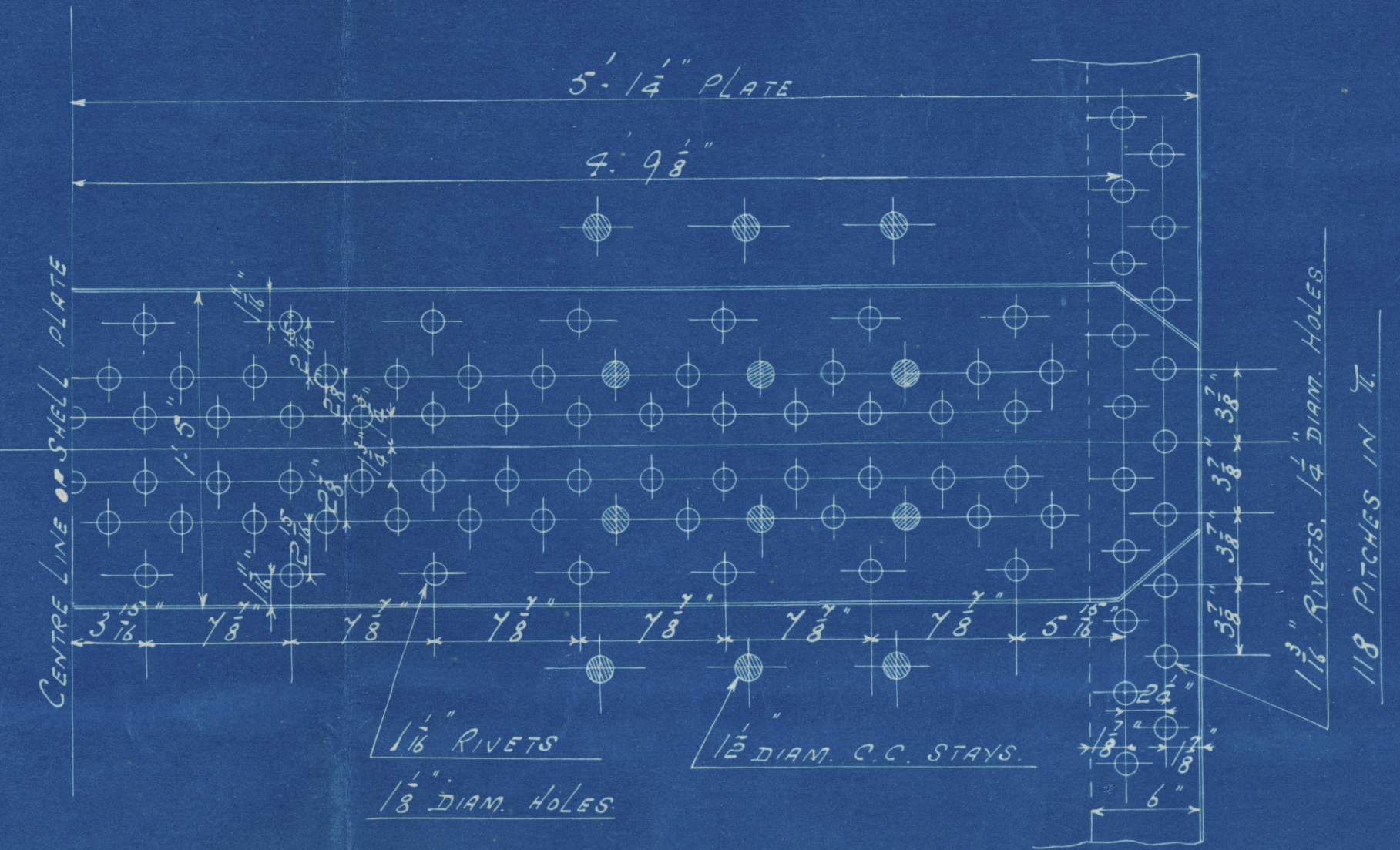
15.9.13



RIVETING AT SHELL MANHOLE.

PARTICULARS

HEATING SURFACE IN 172 TUBES	9546
2 COMB. CHS.	175
2 FURNACES	103
TOTAL	1235
GRATE SURFACE 5' 3" BARS	36.45
AREA THROUGH TUBES	6.23
RATIO HEATING SURFACE GRATE SURFACE	33.6
GRATE SURFACE AREA THROUGH TUBES	5.89
STEAM SPACE CUB. FEET	245



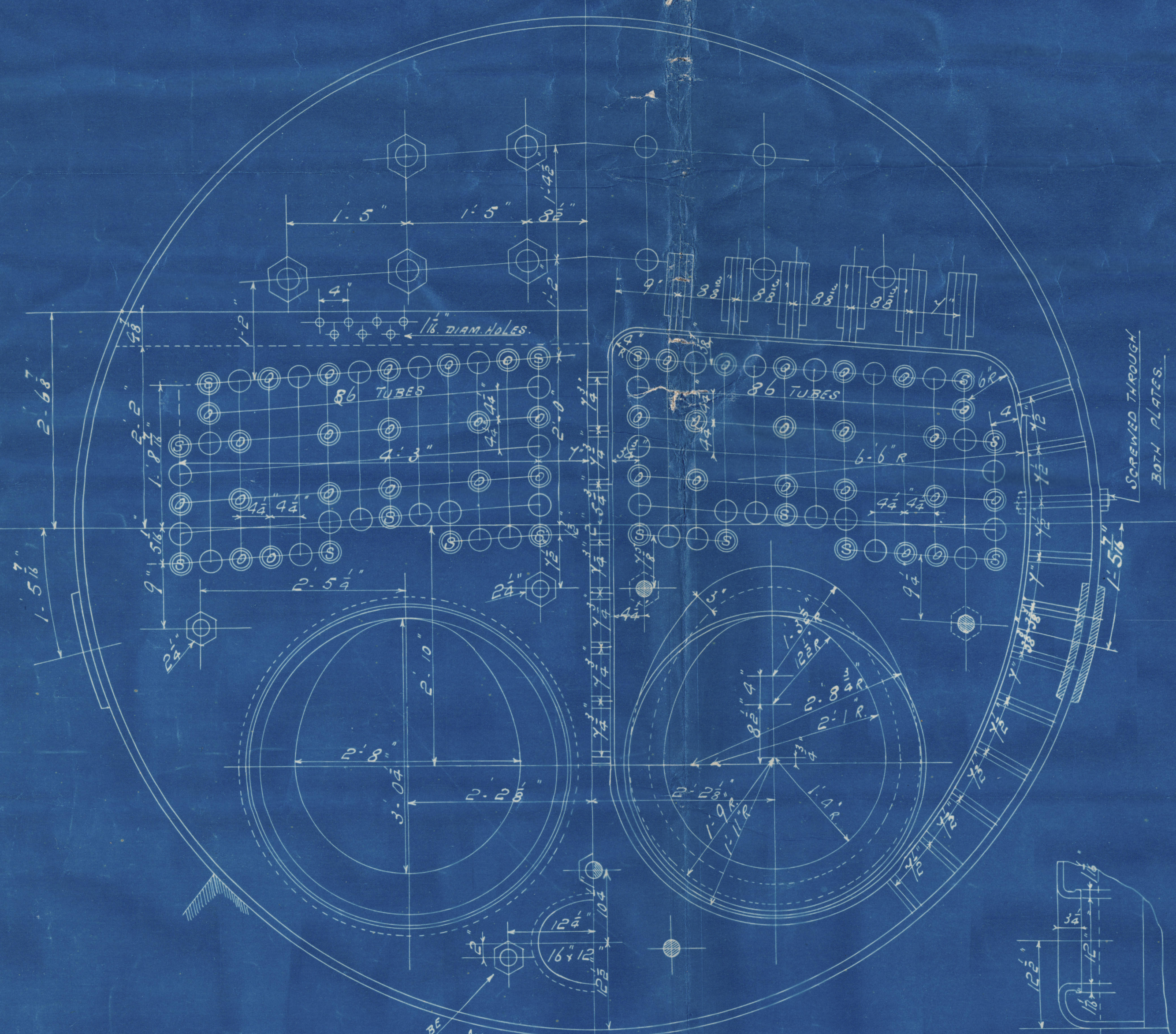
DETAIL OF SHELL RIVETING.
SCALE 1/2"

RIVETING

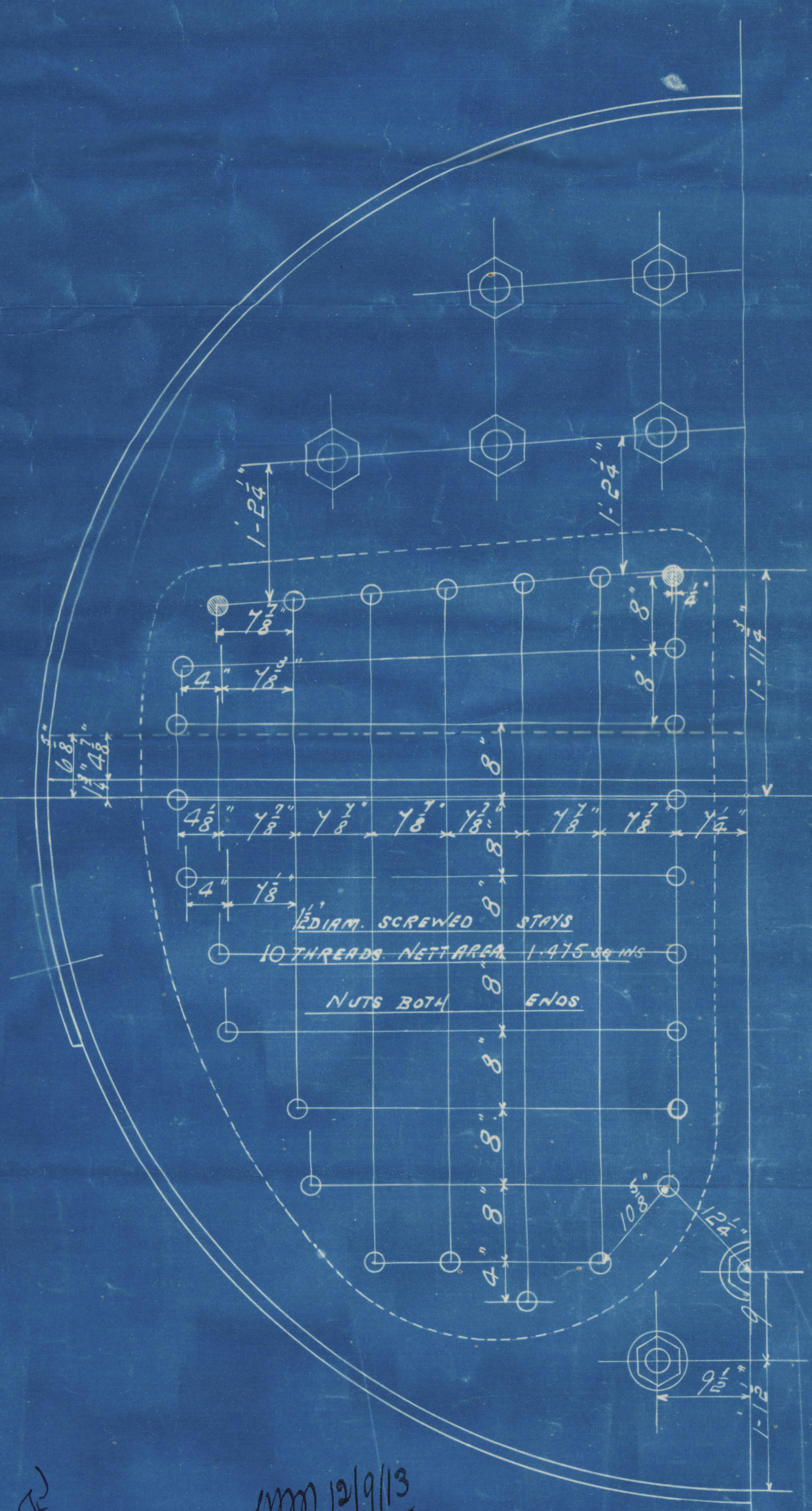
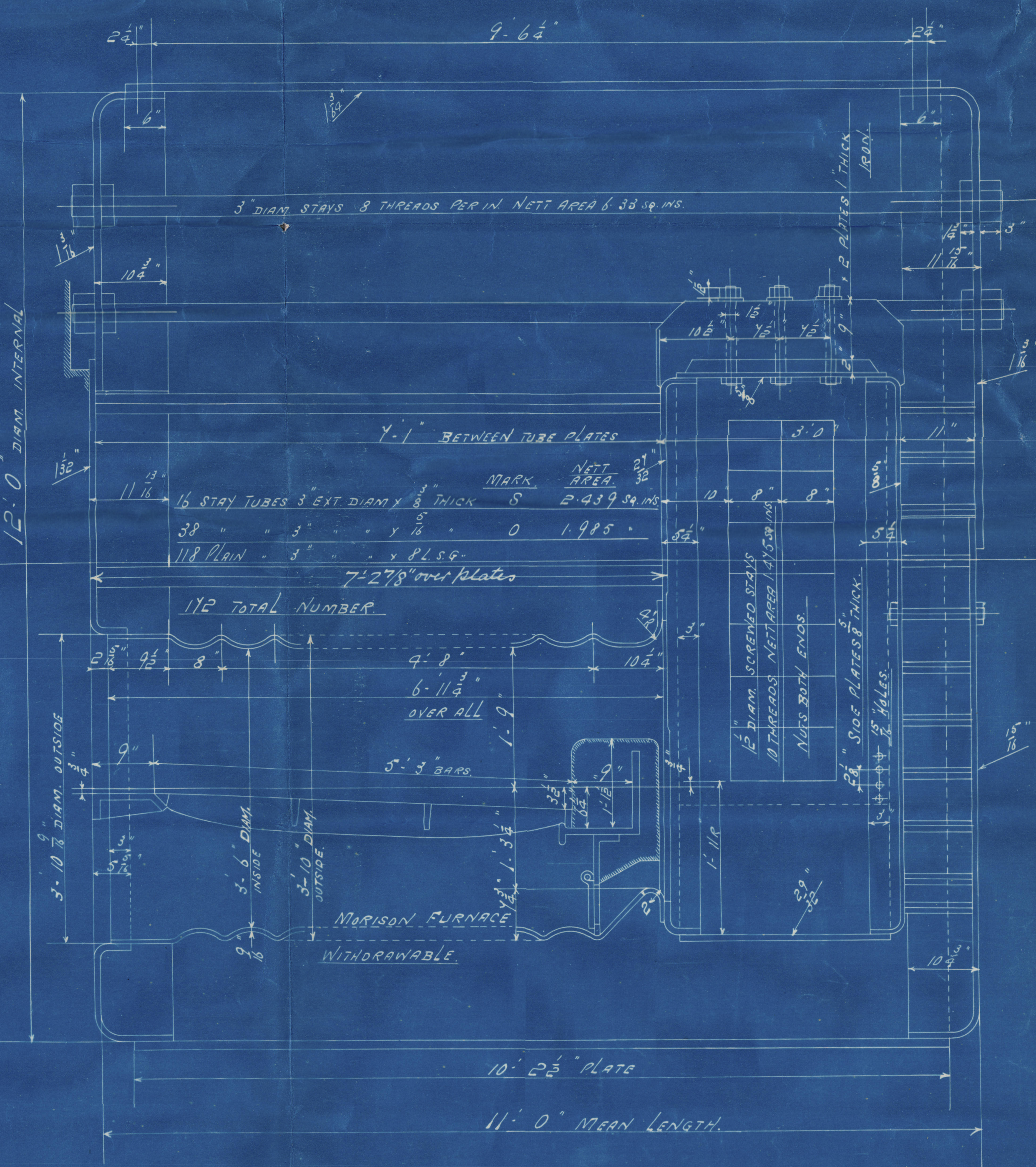
LONGITUDINAL SEAMS.	LLOYDS.
SHELL 1/4" RIVETS 1/2" HOLES 1/2" DIAM. PITCH 7 1/2". PLATE 3/4" RIVETS 3/4" 3/4"	
BUTT STRAPS 1" THICK, SHELL PLATES AND BUTT STRAPS TO HAVE A TENSILE STRENGTH OF 28 TO 32 TONS PER SQ. IN.	
CIRCUMFERENTIAL SEAMS.	LLOYDS.
RIVETS 1/2" HOLES 1/2" DIAM. PITCH 3 1/2". PLATE 3/4" RIVETS 3/4" 3/4"	
ALL HOLES DRILLED IN PLACE AFTER BENDING SHELL BUTT STRAPS HYDRAULIC RIVETTED.	
BOILER STEEL, TUBES AND COMB. GIRDERS OF IRON UNDER LLOYDS SURVEY AND HAMBURG BOARD OF POLICE REGULATIONS FOR A WORKING PRESSURE OF 185 LBS PER SQ. IN.	

TESTS FOR MATERIAL

MATERIAL	POSITION	TENSILE STRENGTH.		ELONGATION PER CENT
		TONS PER SQ. IN.	KILOS PER CM.	
STEEL	SHELL	28 TO 32	49.1 TO 60.4	20 %
"	OTHER PLATES	26 TO 30	40.9 - 41.2	23 %
"	LONGITUDINAL STAYS	26 TO 30	40.9 - 41.2	23 %
"	SCREENED STAYS	26 TO 30	40.9 - 41.2	23 %
"	RIVET BARS	26 TO 30	40.9 - 41.2	25 %



SECTION THROUGH END MANHOLE.



ALL STAYS BELOW TUBES TO BE 2 1/2" DIAM. 8 THREADS PER IN. NUTS ON OUTER END PLATE 2 1/2" DEEP.

15.9.13

12/9/13

MARGINAL STAYS IN COMB. CH. BACKS MARKED 2 1/2" DIAM. 8 THREADS PER IN. NUTS ON BOTH ENDS. ALL TO HAVE NUTS BOTH ENDS.

13.9.13.

Lloyds

ONE DONKEY BOILER FOR N° 445.

SCALE 1" = 1 FOOT

12th AUGUST 1913.



445

RETAI

Dunsmuir Jackson
Doukey Boiler #445
W.P. 18th. W.G.M. 12/9/13
Amended plan

Greenock & Langmuir
Dockyard Co. Greenock
S/S. 87358



GLASGOW REPORT No. 34337

S/S "Guyahoga"



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Lloyd's Register
Foundation