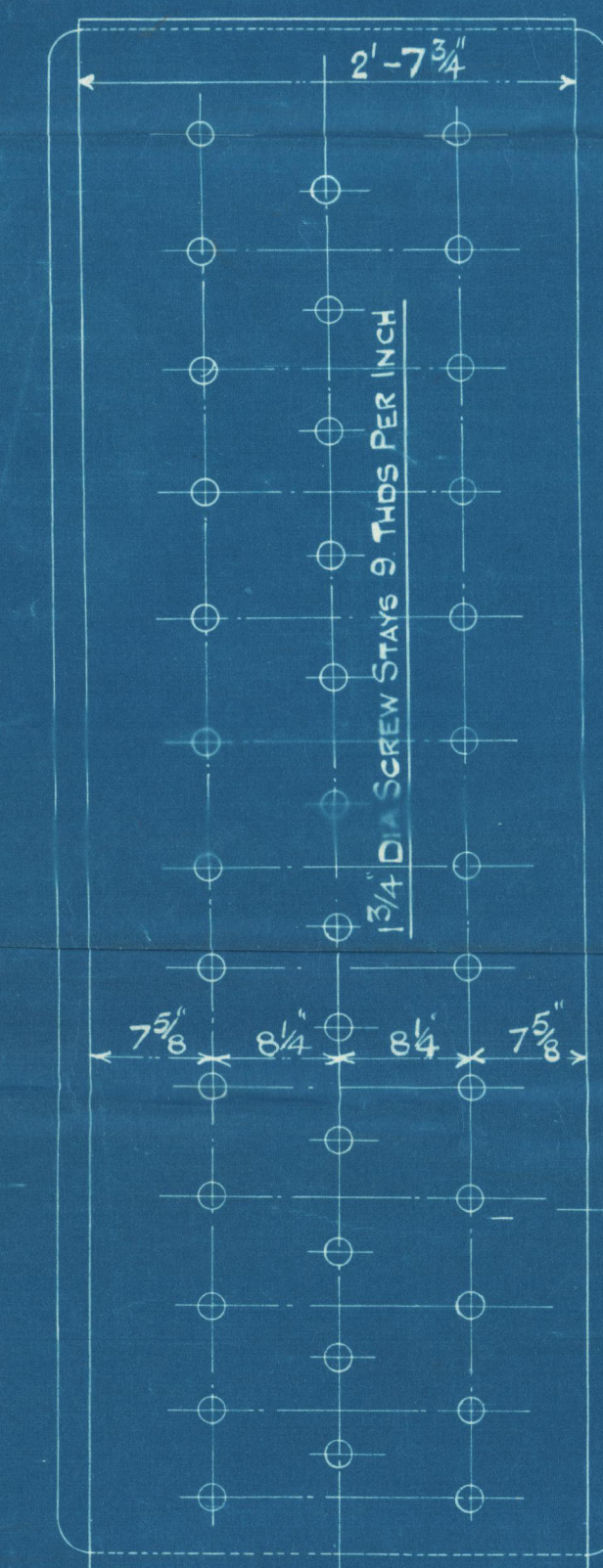


DESCRIPTION OF MATERIAL	MIN. ULTIMATE STRENGTH PER SQ. IN.	MIN. ELONG. PER CENT.
SHELL PLATE 3 BUTT STRAPS	30	25
STEEL RIVETS 1 1/2 DIA. 1 1/2 PITCH	30	25
STEEL RIVETS 1 1/2 DIA. 1 1/2 PITCH	30	25
STEEL RIVETS 1 1/2 DIA. 1 1/2 PITCH	30	25
STEEL RIVETS 1 1/2 DIA. 1 1/2 PITCH	30	25
STEEL RIVETS 1 1/2 DIA. 1 1/2 PITCH	30	25
STEEL RIVETS 1 1/2 DIA. 1 1/2 PITCH	30	25
STEEL RIVETS 1 1/2 DIA. 1 1/2 PITCH	30	25
STEEL RIVETS 1 1/2 DIA. 1 1/2 PITCH	30	25
STEEL RIVETS 1 1/2 DIA. 1 1/2 PITCH	30	25

SHEARING STRENGTH OF RIVETS 24 TONS PER SQ. IN.

HEATING SURFACE	SQ. FEET
Tubes	2162
Furnaces	158
COMBUSTION CHAMBER TOP & SIDES	152
BACK	85
TUBE PLATE	57
TOTAL	2600

GRATE AREA 5775 SQ. FEET 6'-6" LENGTH OF GRATES



ARRANGEMENT OF SCREWED STAYS BETWEEN RING COMBUSTION CHAMBER & SHELL

THESE STAYS TO BE PLACED WITH CENTER OF CURVATURE OF COMBUSTION CHAMBER PLATE TO PREVENT 1/2" COLLAPSE

ALL PLATE EDGES TO BE PLANED & ALL PLATES TO BE DRILLED IN PLACE AFTER BENDING THE WHOLE OF THE WORK TO BE CAULKED INSIDE & OUTSIDE IT TO BE HYDRAULICALLY RIVETED AS FAR AS POSSIBLE

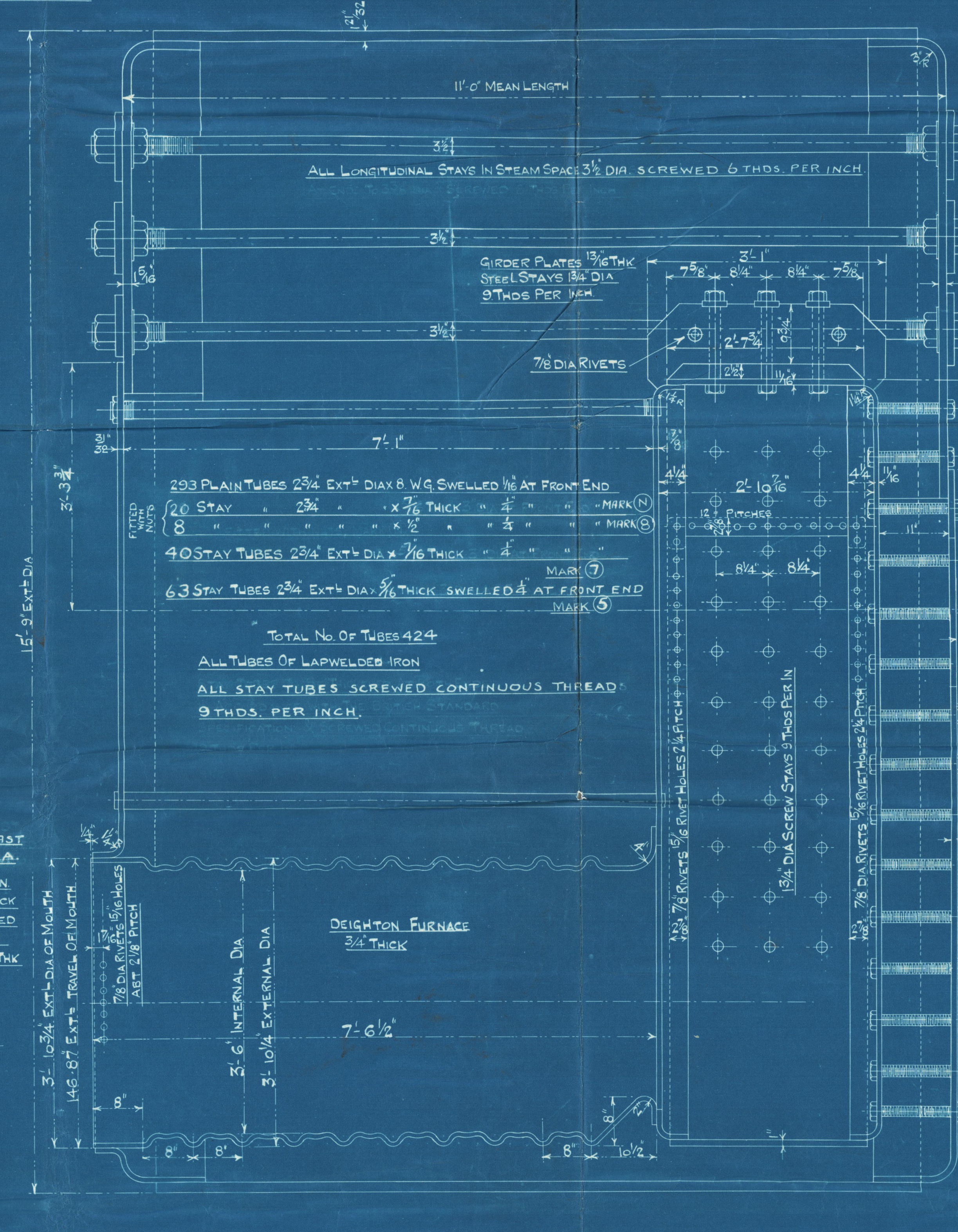
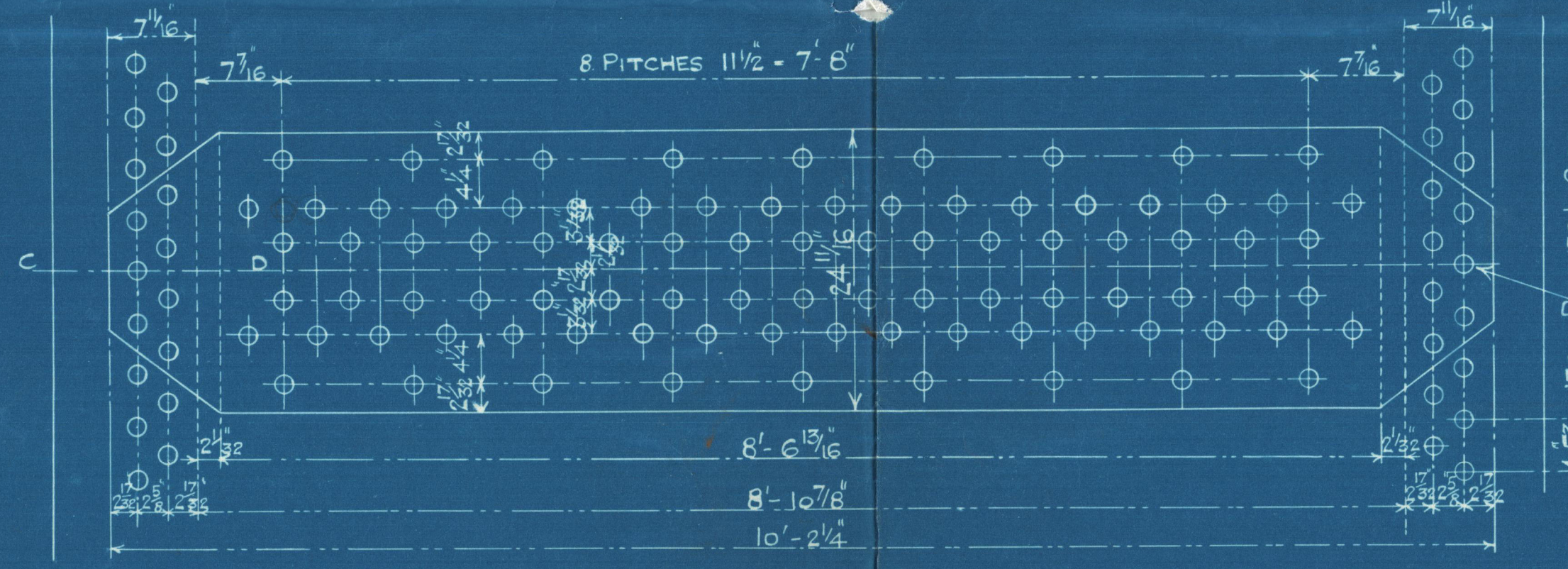
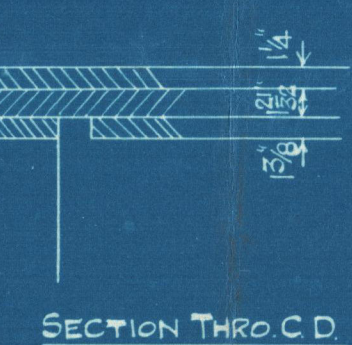
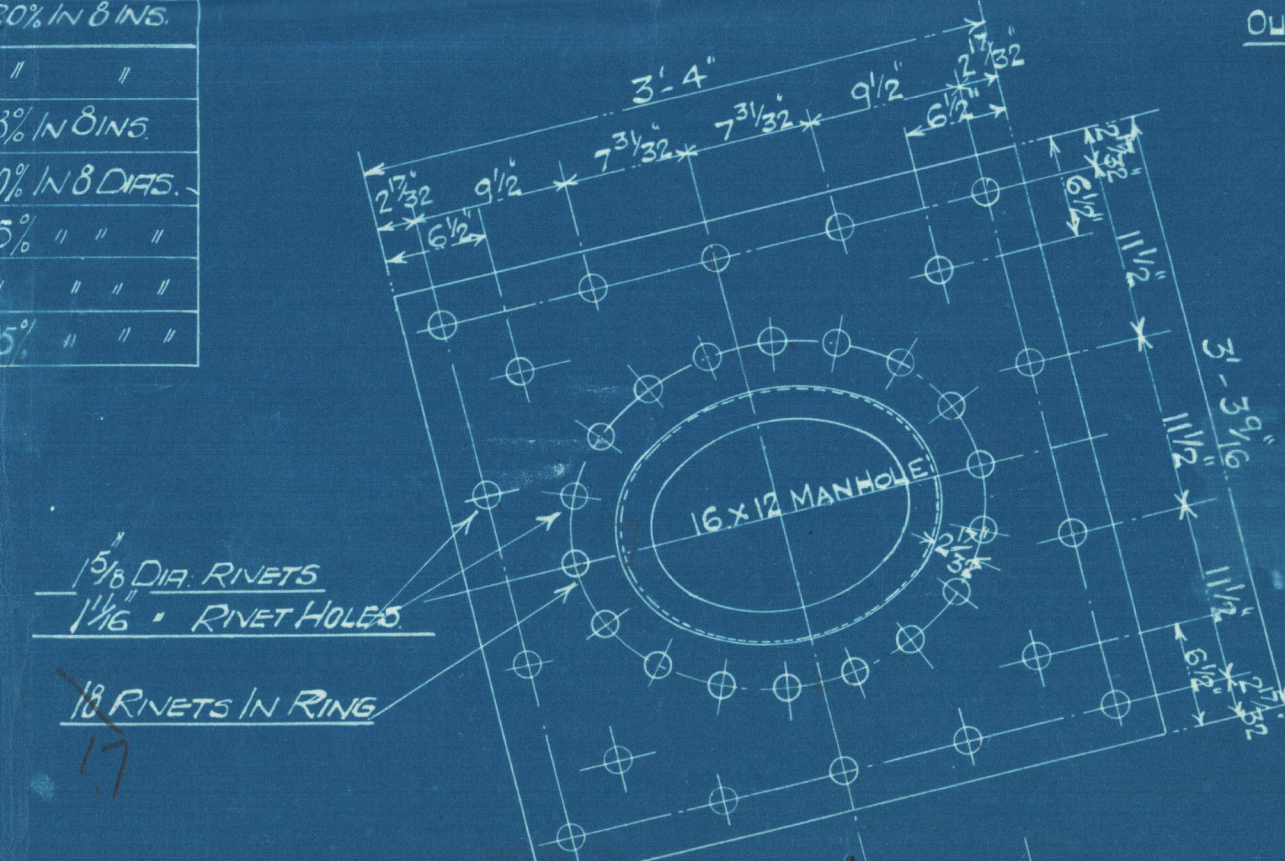
TO BE TESTED TO 425 LBS PER SQ. IN. BY HYDRAULIC PRESSURE & TO BE TO LLOYD'S SURVEY

CHECKED BY

5 ME 1311/D2-6

LONGITUDINAL SEAMS 1 1/2 DIA. RIVETS 1 1/2 DIA. RIVETS 1 1/2 PITCH
CIRCUMFERENTIAL 1 1/2 DIA. RIVETS 1 1/2 DIA. RIVETS 1 1/2 PITCH
OUTER BUTT STRAP 1 1/2 THICK INNER BUTT STRAP 1 1/2 THICK

STRENGTH OF JOINTS
LONGITUDINAL JOINTS
PLATE 85.2%
RIVET 84.3%
CIRCUMFERENTIAL JOINTS
PLATE 82.5%
RIVET 45.8%



ALL COMBUSTION STAYS TO BE MADE OF STEEL COMBUSTION CHAMBER BACK STAYS SCREWED THRO' BOTH PLATES & NUTTED AT EACH END

COMBUSTION CHAMBER BACK STAYS
STAYS 1 1/2 DIA. MARKED 1 1/2 THRO' PER INCH
2 1/4

MARINE MULTITUBULAR BOILER.
15'-9" EXT. DIA. x 11'-0" LONG. WORKING PRESSURE 250 LBS. PER SQ. IN.
SCALE 1/12

SIR W. G. ARMSTRONG & CO. LTD.

QTY	ORDER	SECTION	MARK	DETAIL	NO. PER SET	NO. PER SIDE	QUALITY	PART NO.	DESCRIPTION	ESTIMATED WEIGHTS PER SET.	TO BE	BY
5	1311	D2	1	BOTTOM SHELL PLATE	1	2	STEEL	PLATE 30-34 TONS	30'-5" x 10'-2 1/2" x 1 1/2"	SEE RIVET LIST		
1	"	"	2	TOP SHELL PLATE	1	2	10'-10 1/2" x 10'-2 1/2" x 1 1/2"	"	"	SEE RIVET LIST		
1	"	"	3	OUTER BUTT STRAP	2	4	10'-2 1/2" x 2'-1 1/2" x 1 1/2"	"	"	SEE RIVET LIST		
1	"	"	4	INNER " "	2	4	8'-7 1/2" x 2'-1 1/2" x 1 1/2"	"	"	SEE RIVET LIST		
1	"	"	5	FRONT END TOP PLATE	1	2	"	TO SKETCH	"	SEE RIVET LIST		
1	"	"	6	" " " " " " " "	1	2	"	TO SKETCH	"	SEE RIVET LIST		
1	"	"	7	BACK END TOP PLATE	1	2	"	TO SKETCH	"	SEE RIVET LIST		
1	"	"	8	" " " " " " " "	1	2	"	TO SKETCH	"	SEE RIVET LIST		
1	"	"	9	MANNHOLE COMP. PLATE	1	2	3'-4 1/2" x 3'-4 1/2" x 1 1/2"	"	"	SEE RIVET LIST		
1	"	"	10	COMP. PLATE FOR RIVET MACHINE HOLE	1	2	2'-1 1/2" x 2'-4 1/2" x 1 1/2"	"	"	SEE RIVET LIST		
1	"	"	11	" " " " " " " "	1	2	"	"	"	SEE RIVET LIST		
1	"	"	12	RIVETS FOR SHELL TO FRONT END TOP	83	166	STEEL	SEE RIVET LIST	"	SEE RIVET LIST		
1	"	"	13	" " " " " " " "	172	344	"	"	"	SEE RIVET LIST		
1	"	"	14	BUTT STRAPS TO FRONT END	14	28	"	"	"	SEE RIVET LIST		
1	"	"	15	SHELL TO BACK END TOP	105	210	"	"	"	SEE RIVET LIST		
1	"	"	16	" " " " " " " "	157	314	"	"	"	SEE RIVET LIST		
1	"	"	17	BUTT STRAPS TO BACK END	14	28	"	"	"	SEE RIVET LIST		
1	"	"	18	BUTT STRAPS	183	378	"	"	"	SEE RIVET LIST		
1	"	"	19	JOINT FRONT END	10	20	"	"	"	SEE RIVET LIST		
1	"	"	20	" " " " " " " "	10	20	"	"	"	SEE RIVET LIST		
1	"	"	21	FRONT END CROSS SEAM	120	240	"	"	"	SEE RIVET LIST		
1	"	"	22	BACK END CROSS "	128	256	"	"	"	SEE RIVET LIST		
1	"	"	23	MANNHOLE COMP. RING	36	72	"	"	"	SEE RIVET LIST		
1	"	"	24	COMP. PLATE FOR HOLE FOR RIVETS	36	72	"	"	"	SEE RIVET LIST		
1	"	"	25	" " " " " " " "	36	72	"	"	"	SEE RIVET LIST		
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S.S. Beaverdale
NEWCASTLE ON TYNE.
Report No. 82336.

Amended Plan
Messrs L. S. Armstrong Whitworth & Co
2 S & E Boilers No 1311.
W.P. 250 lb \square "

for
C.P.R. vessel No 1019 & ¹⁰²²~~1021~~
building by
Messrs L. S. Armstrong Whitworth & Co.
Furnaces by Messrs Parsons, ~~Co~~
Marine Steam Turbine Co Ltd.
Ship No 1019 to have 4 Janssen & T. Boilers
Parsons No 241
Ship No 1022 to have 4 B. Wilson & T.
Parsons No 242.

Superheaters valves 1. ^{1 1/2}"
Port steel
Boiler valves 2. ^{2 1/2}" High lift.

The Superheaters
The Superheaters Co Ltd London
S.S. Beaverdale 1019
S.S. Beaverbrook 1022.

T.S.S. "BEAVERDALE"
NWC.RPT.NO.82336



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Foundation