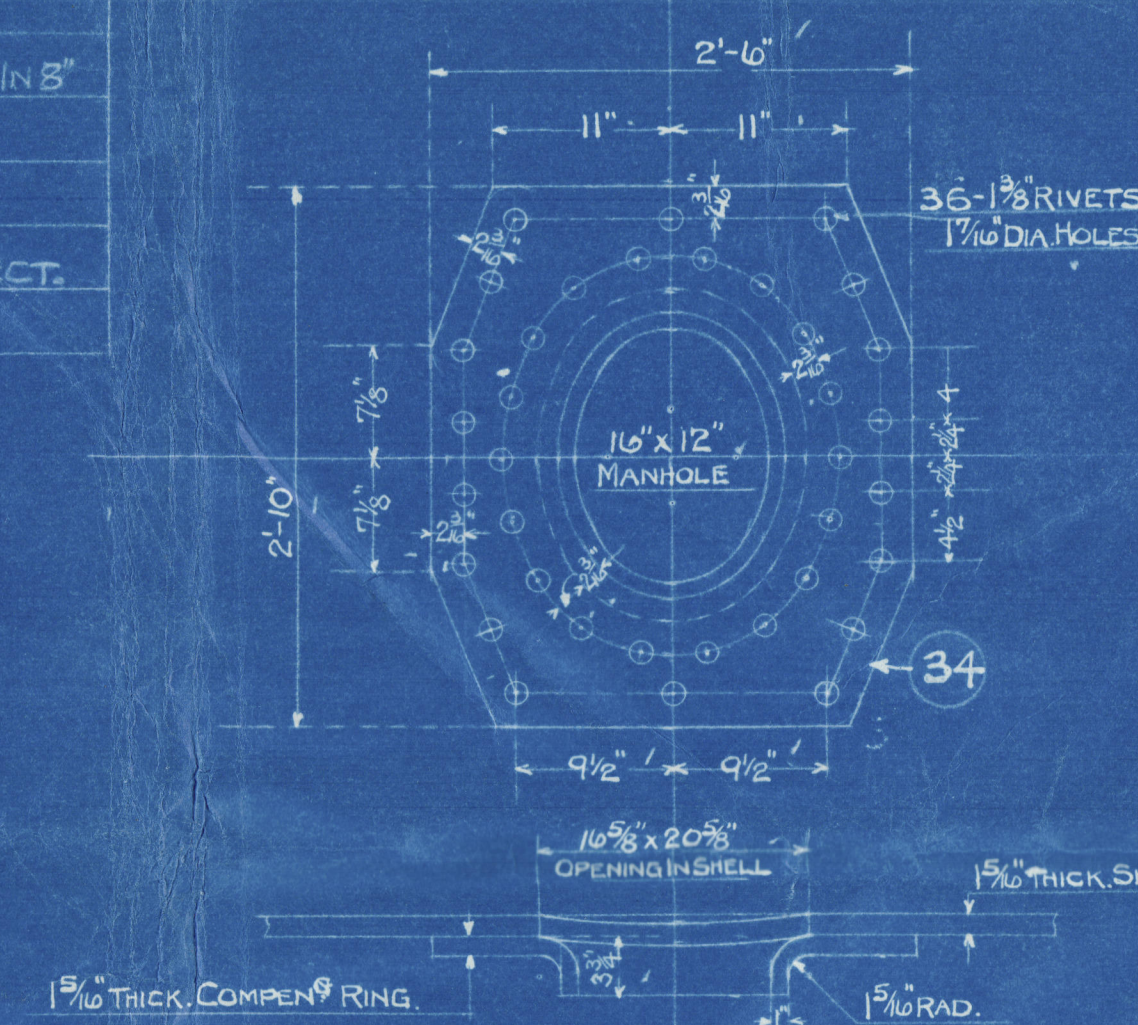


MATERIAL - TENSILE STRENGTHS - TESTS ETC.
 SHELL PLATE, BUTT STRAPS & GIRDERS:- STEEL 28-32 TONS/8" ELONGATION NOT LESS THAN 20% IN 8"
 FURNACES, COMB. CHAMBER PLATES & END PLATES:- STEEL 26-30 TONS/8" " " " 25% IN 8"
 BOILER TUBES:- LAP WELDED IRON- BEST QUALITY
 LONGITUDINAL STAYS:- STEEL 28-34 TONS/8" TENSILE ELONGATION AT LEAST 20% IN 8"
 COMBUSTION CHAMBER SCREWED STAYS:- STEEL 26-30 TONS/8" TENSILE
 RIVET BARS:- STEEL 26 TO 30 TONS/8" TENSILE
 SURVEY:- BOILER TO PASS BOARD OF TRADE & LLOYD'S REQUIREMENTS IN EVERY RESPECT.
 WORKING PRESSURE 180 LBS/8" WATER TEST PRESSURE 320 LBS/8"

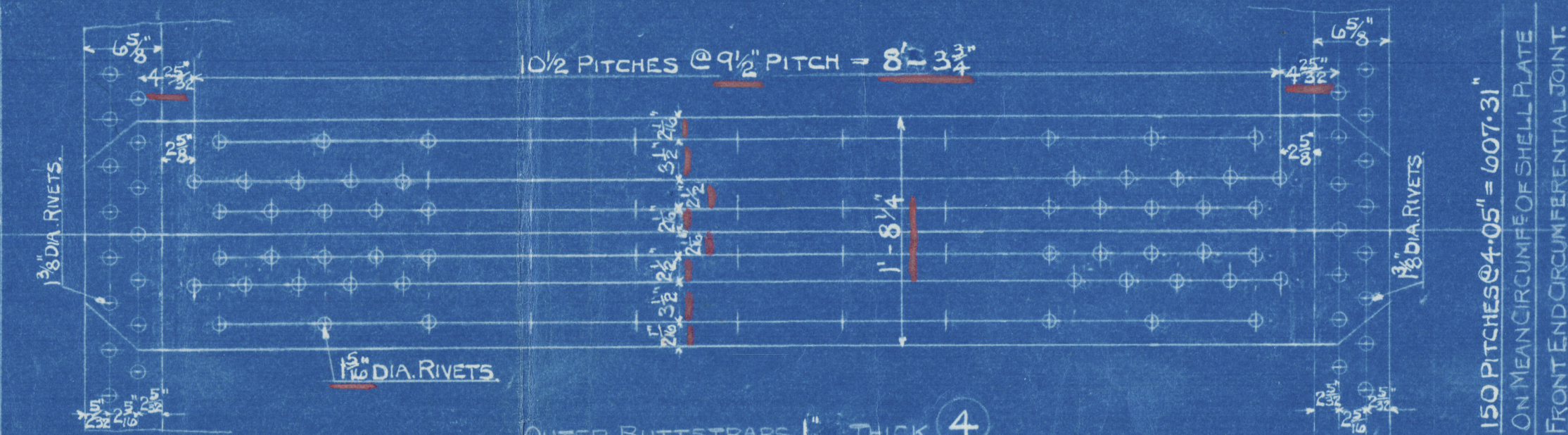
BOILER COAL FIRED UNDER NATURAL DRAUGHT.

ALL HOLES TO BE DRILLED IN PLACE AFTER PLATES ARE BENT.



BOILER SHELL MANHOLE COMPENSATING RING. 34
 FITTED WITH MENEIL'S EMBOSSED TYPE DOOR. 35
 FOR POSITION OF MANHOLE SEE SEPARATE SKETCH.

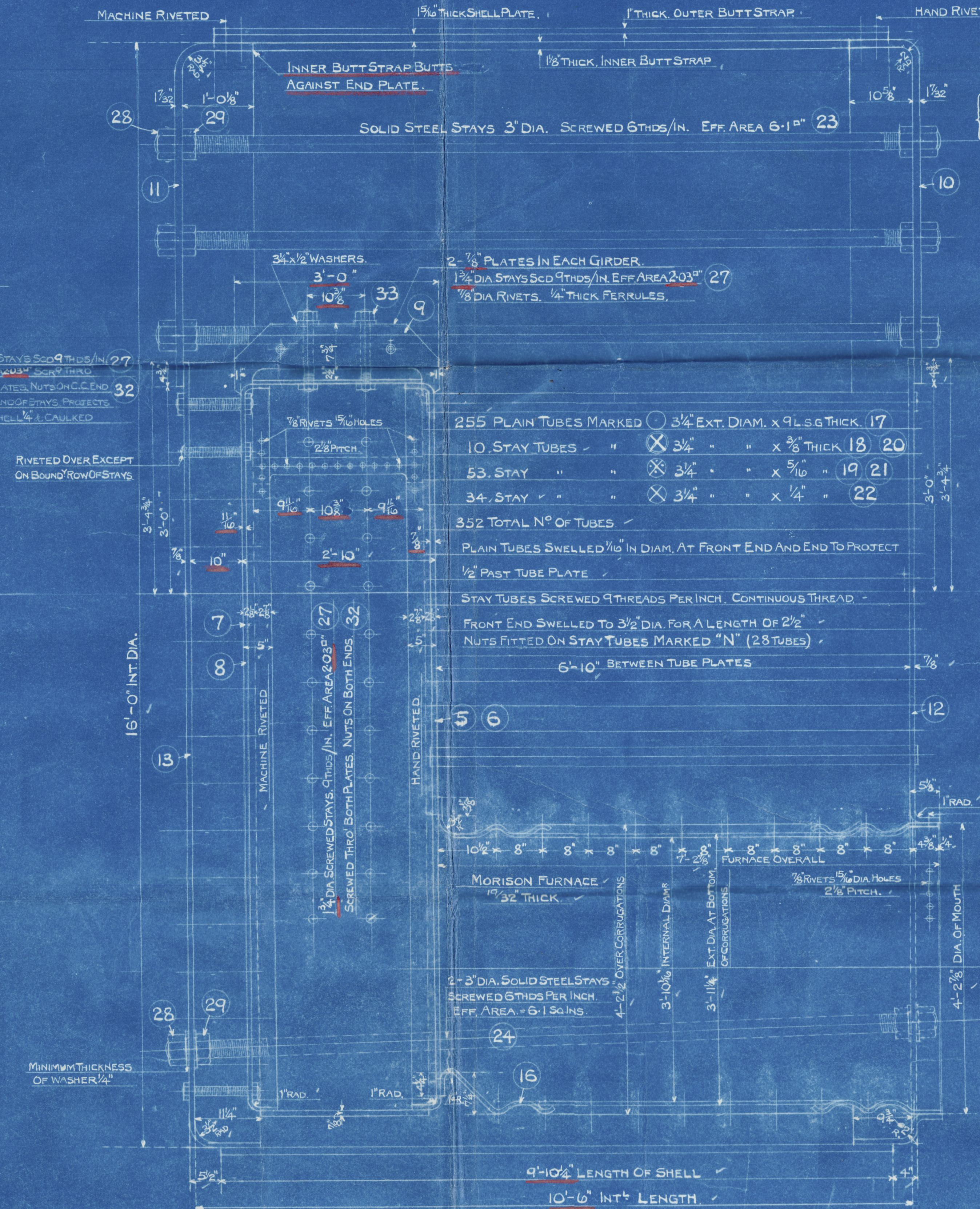
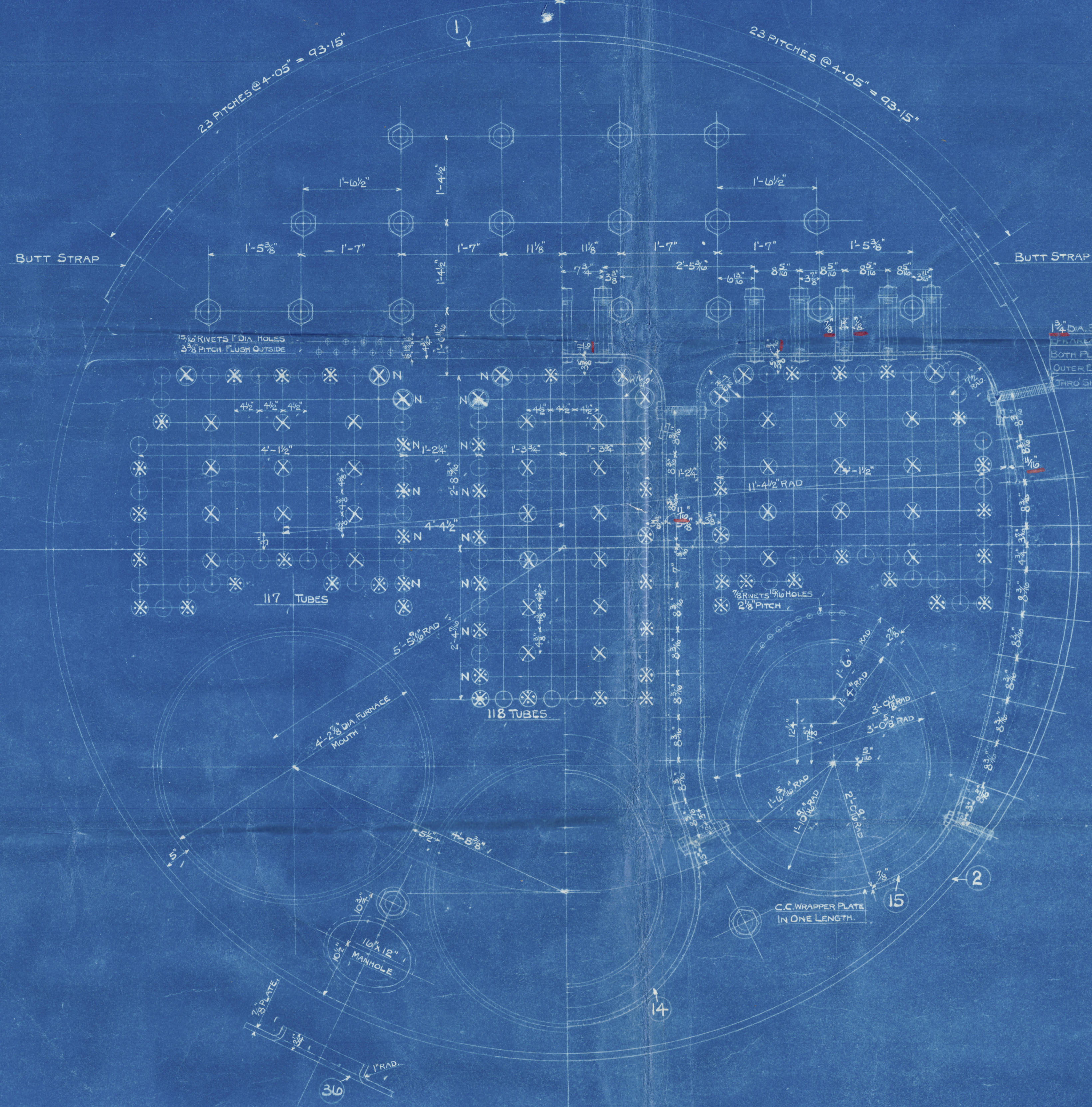
PARTICULARS OF JOINTS			
TYPE	LONGITUDINAL JOINTS	DOUBLE RIVETED	TRANSVERSE JOINTS
DIAM. OF RIVET HOLE	1 3/8"	1 1/2"	1 1/2"
PITCH	9 1/2"	4-05"	9 1/2"
PLATE	85-53	64-5	85-53
BASE RIVET	41-71	50-5	41-71
BASE COMBINED	89-4	—	89-4



OUTER BUTT STRAPS 1" THICK 4
 INNER " 1 1/2" " 3
 SHELL PLATE 1 1/2" "

LONGITUDINAL JOINT.

HEATING SURFACES ETC.		1 BOILER
HEATING SURFACE OF TUBES	SQ. FT.	2040
" " " FURNACES		140
" " " COMBUSTION CHAMBERS		224
TOTAL HEATING SURFACE		2404
GRATE AREA (5-9" LENGTH OF FIREBARS)		65
RATIO HEATING SURFACE GRATE AREA		37
DRAUGHT AREA THRO' TUBES	SQ. FT.	1436

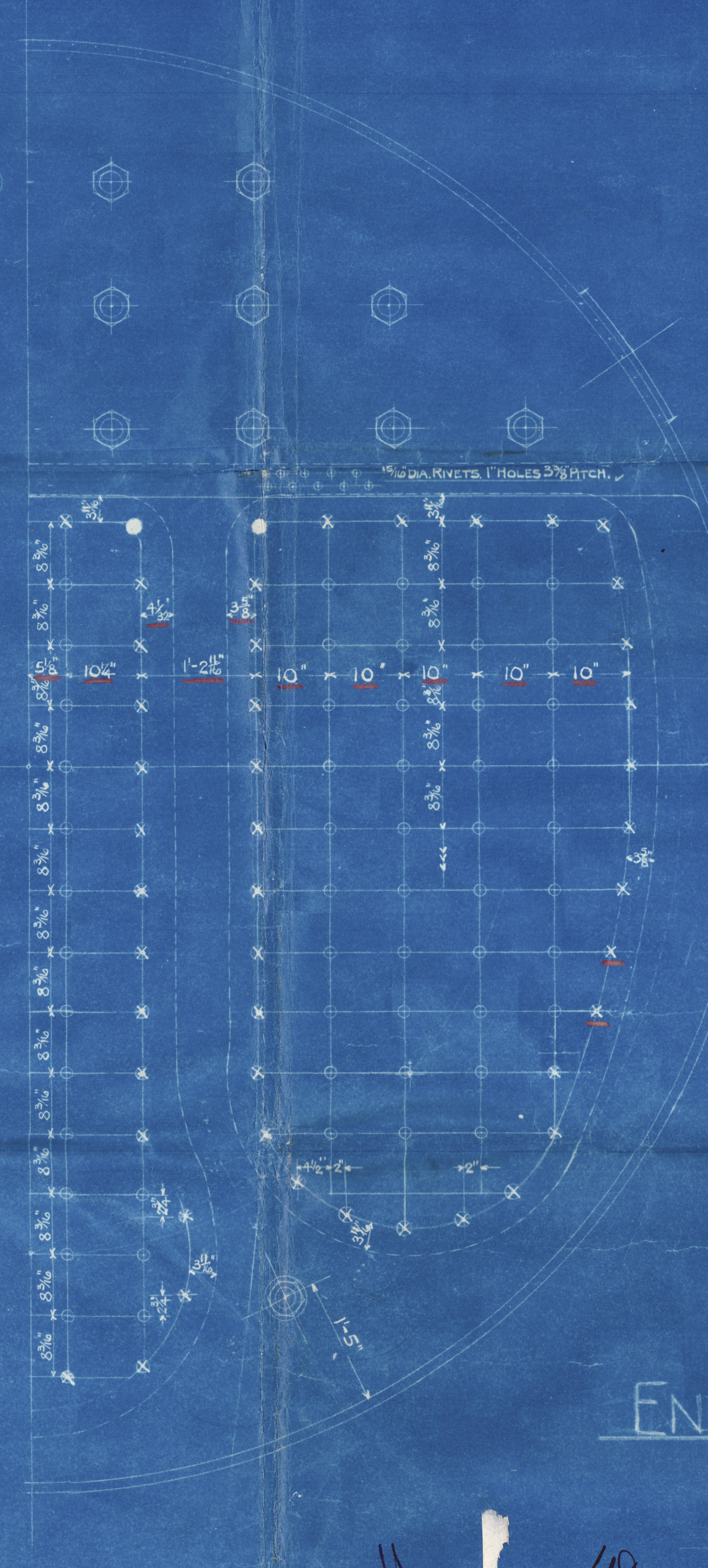


COMBUSTION CHAMBER STAYS
 STAYS MARKED 2" DIA. 25
 9 THDS/IN. EFF. AREA 2-71" 30
 STAYS MARKED X 1 1/2" DIA. 26
 9 THDS/IN. EFF. AREA 2-36" 31
 STAYS MARKED C 1 3/4" DIA. 27
 9 THDS/IN. EFF. AREA 2-03" 32

NOTE:-
 ALL C.C. STAYS TO BE SCREWED
 THRO' BOTH PLATES AND TO HAVE
 NUTS ON C.C. END
 ALL OUTER ENDS TO BE RIVETED
 OVER EXCEPT MARGINAL STAYS.
 THRO' BACK END PLATE WHICH
 ARE TO BE FITTED WITH NUTS.

255 PLAIN TUBES MARKED 3/4" EXT. DIAM. x 9 L.S.G. THICK. 17
 10 STAY TUBES " 3/4" " " x 3/8" THICK 18 20
 53 STAY " " 3/4" " " x 5/16" " 19 21
 34 STAY " " 3/4" " " x 1/4" " 22
 352 TOTAL NO. OF TUBES
 PLAIN TUBES SWELLED 1/16" IN DIAM. AT FRONT END AND END TO PROTECT
 1/2" PAST TUBE PLATE
 STAY TUBES SCREWED 9 THREADS PER INCH. CONTINUOUS THREAD
 FRONT END SWELLED TO 3/8" DIA. FOR A LENGTH OF 2 1/2"
 NUTS FITTED ON STAY TUBES MARKED "N" (28 TUBES)
 6-10" BETWEEN TUBE PLATES

MORISON FURNACE
 1" 32" THICK
 4-2" OVERALL
 3-10" INTERNAL DIA.
 3-10" DIA. AT BACK END
 4-2" OVERALL
 1/2" DIA. HOLES
 2 1/2" PITCH
 4-2" DIA. OF MOUTH
 9-10 1/2" LENGTH OF SHELL
 10-6" INT. LENGTH



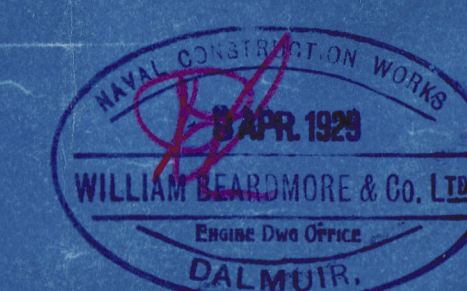
ITEM NO.	DESCRIPTION	NO. OFF.	NO. OFF. SPARE	MATERIAL	ORDERED ON.
1	SHELL PLATE TOP	1	—	STEEL SK. 1.8	
2	" " BOTTOM	1	—	" " " "	
3	INNER BUTT STRAPS	2	—	" " " "	
4	OUTER " "	2	—	" " " "	
5	BACK TUBE PLATE CENTRE C.C.	1	—	" " " "	
6	" " " WING C.C.	2	—	" " " "	
7	C.C. BACK PLATES CENTRE	1	—	" " " "	
8	" " " WINGS	2	—	" " " "	
9	GIRDER PLATES	2	—	" " " "	
10	TOP END PLATE FRONT	1	—	" " " "	2B
11	" " " BACK	1	—	" " " "	
12	BOTTOM END PLATE FRONT	1	—	" " " "	
13	" " " BACK	1	—	" " " "	
14	C.C. WRAPPER PLATE CENTRE	1	—	" " " "	3B
15	" " " WINGS	2	—	" " " "	
16	FURNACES	3	—	" " " "	4B
17	BOILER TUBES PLAIN 9 L.S.G.	255	3	L.W. IRON " 5B	
18	" " " STAY 3/8" THICK (NUTS)	8	—	" " " "	
19	" " " 5/16" " "	20	—	" " " "	
20	" " " 3/8" " "	2	—	" " " "	
21	" " " 5/16" " "	33	—	" " " "	
22	" " " 1/4" " "	34	—	" " " "	
23	STEAM SPACE STAYS	18	—	STEEL " 4B	
24	WATER " "	2	—	" " " "	
25	C.C. STAY MATERIAL 2" DIA.	1	—	" " " "	7B
26	" " " 1 1/2" " "	11	—	" " " "	
27	" " " 1 3/4" " "	27	—	" " " "	
28	NUTS FOR 3" DIA STAYS	40	—	WRO. IRON " 8B	
29	" " " " "	40	—	" " " "	
30	" " " 2" " "	8	—	" " " "	
31	" " " 1 1/2" " "	180	—	" " " "	
32	" " " 1 3/4" " "	285	—	" " " "	
33	" " " 1 1/2" " "	26	—	" " " "	
34	COMPENSATING RING	1	—	STEEL " 9B	
35	MANHOLES FOR SHELL PLATE	1	—	" " " "	
36	" " " END " "	2	—	" " " "	
37	WASHERS FOR STAYS	—	—	SEE SKETCH " 10B	
38	RIVETS	—	—	" " " " 11B	
39	ASBESTOS JOINTS (MANHOLES)	3	—	ASBESTOS STOCK	

OWNERS 8-4-29
 CONTRACTOR 8-4-29
 LLOYDS 8-4-29
 BOILER 8-4-29
 SGT 8-4-29
 OFFICE 8-4-29

ENG. N° 657

MAIN BOILER

SCALE 1" = ONE FOOT.



LLOYDS

16365

COST SECTION	WORKING	SPARE
C.S. 4	657	

BOILER - OFF-TO BOARD OF TRADE & LLOYD'S SURVEY FOR A WORKING PRESSURE OF 180 LBS PER SQ. INCH.

8.7.11
 15/4/29

10/3/29

J. Beardmore & Co
Dalmuir.

Amended Plan of
Boiler No. 657.

W.P. 180 lbs^{II}

No 18386
Troyds Test
320 lbs
W.P. 180 "
J.S.C. 7-8-29

Asperity Gnh. No. 19097.

GLASGOW REPORT No 49636



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