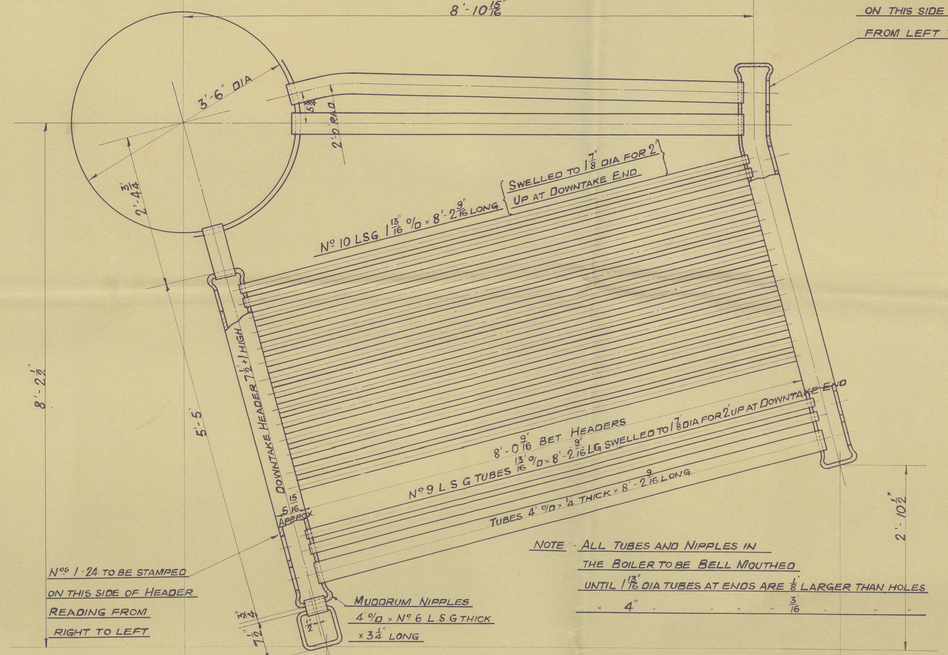
THE TOP RETURN TUBES ARE TO PROJECT BEYOND THE TUBE SEATS IN HEADERS ½" AND THRO' THE TUBE SEATS IN STEAM DRUM NOT LESS THAN ½" OR MORE THAN 3/32". ANY EXCESS LENGTH TO BE CUT OFF WHEN BOILERS ARE ERECTED

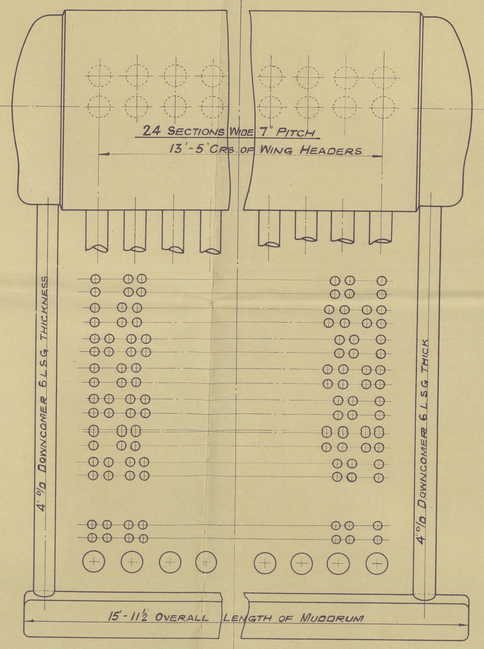
Nos 1-24 TO BE STAMPED ON THIS SIDE READING FROM LEFT TO RIGHT



Nos 1-24 TO BE STAMPED ON THIS SIDE OF HEADER READING FROM RIGHT TO LEFT

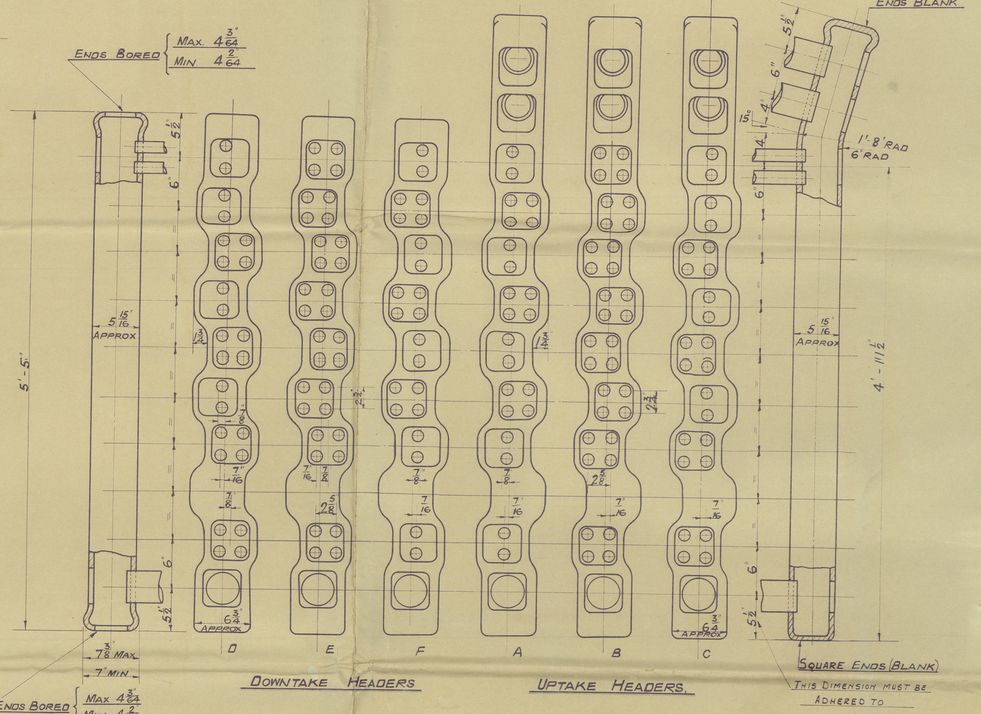
MUDDRUM NIPPLES 4"O/D × No 6 L S G THICK × 3¼ LONG

NOTE - ALL TUBES AND NIPPLES IN THE BOILER TO BE BELL MOUTHED UNTIL 13/16" DIA TUBES AT ENDS ARE 1/8" LARGER THAN HOLES
" 4" " " " 3/16" " "



HEADERS

MINIMUM THICKNESS AT TUBE HOLES 7/16 AFTER MACHINING
" " " HAND " 11/32 " "
" " " LOCAL SPOTS OF AN AREA NOT EXCEEDING ½ SQ INCH = ¼
MINIMUM THICKNESS OF STAGGERED SIDE 11/32 Y/8



DOWNTAKE HEADERS

UPTAKE HEADERS

NOTE - ALL TUBES TO BE HOT FINISHED SEAMLESS STEEL

DETAIL OF HEADERS

SEAMLESS MADE FROM WELDLESS STEEL BLANKS

SCALE :- 1½" = 1 FOOT

D		
24	TUBE HOLE	MAX 1 33/64 MIN 1 32/64
1	TUBE HOLE	MAX 4 3/64 MIN 4 2/64
2	NIPPLE HOLES IN ENDS	MAX 4 3/64 MIN 4 2/64
9	4 11/16 SQUARE HANDHOLES	

E		
32	TUBE HOLES	MAX 1 33/64 MIN 1 32/64
1	TUBE HOLE	MAX 4 3/64 MIN 4 2/64
2	NIPPLE HOLES IN ENDS	MAX 4 3/64 MIN 4 2/64
9	4 11/16 SQUARE HANDHOLES	

A		
22	TUBE HOLES	MAX 1 33/64 MIN 1 32/64
1	TUBE HOLE	MAX 4 3/64 MIN 4 2/64
2	RETURN TUBE HOLES	MAX 4 3/64 MIN 4 2/64
11	4 11/16 SQUARE HANDHOLES	

B		
32	TUBE HOLES	MAX 1 33/64 MIN 1 32/64
1	TUBE HOLE	MAX 4 3/64 MIN 4 2/64
2	RETURN TUBE HOLES	MAX 4 3/64 MIN 4 2/64
11	4 11/16 SQUARE HANDHOLES	

F		
22	TUBE HOLES	MAX 1 33/64 MIN 1 32/64
1	TUBE HOLE	MAX 4 3/64 MIN 4 2/64
2	NIPPLE HOLES IN ENDS	MAX 4 3/64 MIN 4 2/64
9	4 11/16 SQUARE HANDHOLES	

C		
24	TUBE HOLES	MAX 1 33/64 MIN 1 32/64
1	TUBE HOLE	MAX 4 3/64 MIN 4 2/64
2	RETURN TUBE HOLES	MAX 4 3/64 MIN 4 2/64
11	4 11/16 SQUARE HANDHOLES	

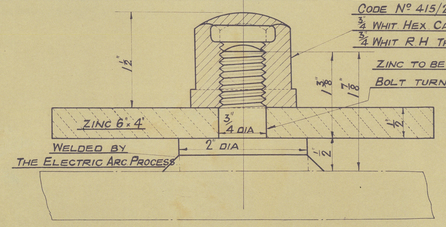
LOAD ON BOILER SAFETY VALVE 200 LBS PER SQ INCH
TEST PRESSURE 350 LBS PER SQ INCH
TO BOARD OF TRADE & LLOYDS SURVEY

DRAWN BY	A Thomson 31-5-35
TRACED BY	M F J 11-6-35
CHECKED BY	
PASSED BY	14/7/35

LIST OF MATERIAL REQUIRED FOR 4 BOILERS 24 WIDE

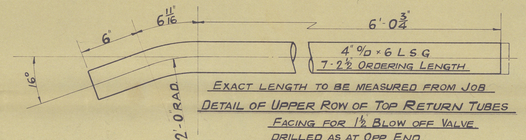
No OFF	DESCRIPTION
1	STEAM & WATER DRUM TO DRG 2259/102
4	MUDDRUM SOLID DRAWN WELDLESS STEEL TO DETAIL
88	UPTAKE CENTRE HEADERS TYPE "B" TO DETAIL
88	DOWNTAKE CENTRE HEADERS TYPE "E" TO DETAIL
8	UPTAKE SIDE HEADERS TYPE A & C TO DETAIL 4 OFF EACH
8	DOWNTAKE SIDE HEADERS TYPE D & F TO DETAIL 4 OFF EACH
96	INCLINED TUBES 4"O/D × ¼ THICK × 8'-2 9/16 LONG
376	" . 1 15/16"O/D × 9 L S G 8'-2 9/16 LONG SWELLED AT I/END 1 7/8" FOR 2" UP
2624	" . 1 15/16"O/D × 10 L S G 8'-2 9/16 LONG SWELLED AT I/END 1 7/8" FOR 2" UP
96	RETURN TUBES 4"O/D × 6 L S G 7'-1½ ORDERING LENGTH (TOP ROW)
96	CIRCULATING NIPPLES 4"O/D × 6 L S G × 10"
96	MUDDRUM " 4"O/D × 6 L S G × 3¼ LONG
8	DOWNCOMER TUBES 4"O/D × 6 L S G × 6'-5½ ORDERING LENGTH
1920	4 11/16 SQUARE HANDHOLE FITTING FOR HEADERS No 89 CLAMP No 77 BRIDGE
32	4 11/16 " " " " MUDDRUM No 89 " No 77 "
8	3¾ DIA HANDHOLE FITTING FOR MUDDRUM No 93 CLAMP 65A BRIDGE
96	RETURN TUBES 4"O/D × 6 L S G 7'-1½ ORDERING LENGTH (BOTTOM ROW)
24	ZINCS & HOLDERS TO DETAIL - ZINCS NOT SUPPLIED BY B & W
8	ANCHOR BRACKETS (WELDED TO MUDDRUM)
8	4"×3"×⅜ TEE FOR ANCHOR BRACKET (UNDRILLED) 6¼" LONG

MALEABLE CAST TO SK 19/3682 A CODE No 415/293
⅝ WHIT HEX CAP NUT SCREWED ⅝ WHIT R H THREAD
ZINC TO BE A GOOD FIT ON BOLT
BOLT TURNED



DETAIL OF ZINC HOLDERS IN MUDDRUM

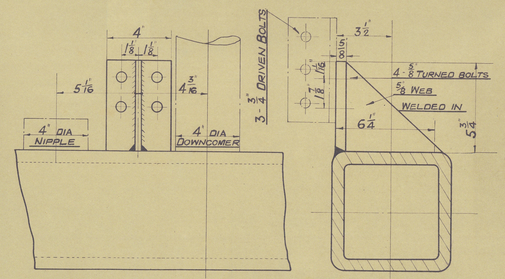
FULL SIZE



EXACT LENGTH TO BE MEASURED FROM JOB
DETAIL OF UPPER ROW OF TOP RETURN TUBES FACING FOR 1½ BLOW OFF VALVE DRILLED AS AT OPP END

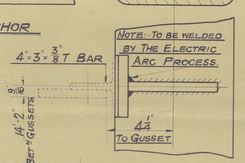
ARRANGEMENT OF PRESSURE PARTS 24 SECTIONS WIDE

SCALE :- 1" = 1 FOOT

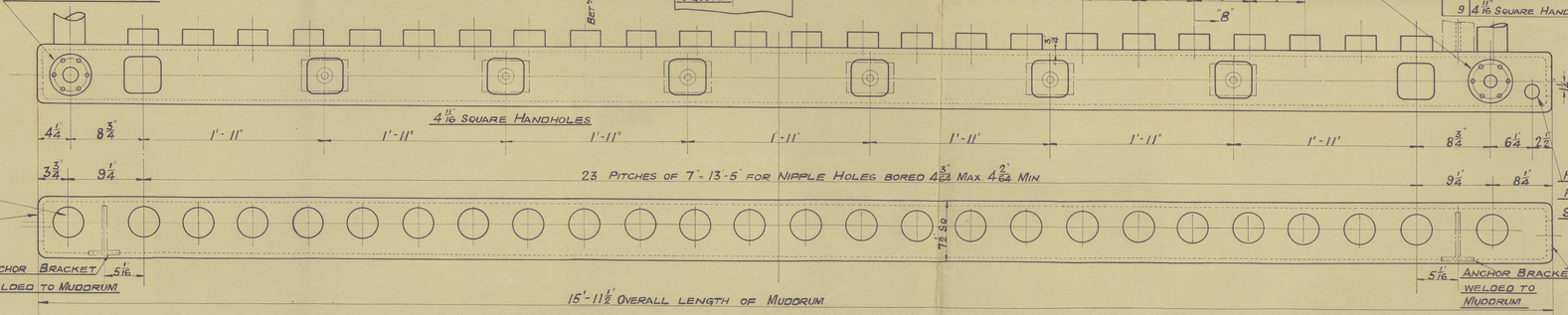


DETAIL OF MUDDRUM ANCHOR

SCALE 3" = 1 FOOT

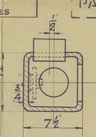


FACING 5⅝ DIA × 1/32 DEEP HOLE BORED
2 1/32 DIA 6-⅝ DIA BOLTS ON 4½ P C D
BOLTS SCREWED THRO' MUDDRUM FROM INSIDE FOR 1½ BLOW-OFF VALVE



DETAIL OF MUDDRUM
SCALE :- 1½ = 1 FOOT

4 - OFF AS DRAWN FOR BOILERS B1 B2 B3 & B4



SECTION THRO "A.B."
HOLE SCREWED 1" B S P T FACED 2" DIA × 1/32 DEEP FOR SALINOMETER COCK

ARRGT OF PRESSURE PARTS & DETAILS OF HEADERS & MUDDRUM ETC.

SCALES AS MARKED

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W.C.J. 21/6/35.

M12225
DRG 2259/101
DATE 4-6-35

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RENFREW

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