

REPORT ON BOILERS.

No. 66447

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Date of writing Report 19 21.12.42 When handed in at Local Office 21.12.42 Port of GLASGOW

No. in Reg. Book. GLASGOW Date, First Survey 8.12.41 Last Survey 7th Dec. 1942

on the S/S "EMPIRE GERAIN" (Number of Visits) (Gross Tons) (Net Tons)

Master Built at GLASGOW By whom built C. CONNELLY & CO. Yard No. 439 When built 1942

Engines made at GLASGOW By whom made DAVID ROWAN & CO. LD. Engine No. 1097 When made 1942

Boilers made at -DO- By whom made -DO- Boiler No. 1097 When made 1942

Nominal Horse Power 558 Owners MINISTRY OF WAR TRANSPORT Port belonging to GLASGOW

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel (Letter for Record S)

Total Heating Surface of Boilers 2416 sq ft Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers 1 - Single-ended Working Pressure 220 lb.

Tested by hydraulic pressure to 380 lb. Date of test 21-5-42 No. of Certificate 21065 Can each boiler be worked separately -

Area of Firegrate in each Boiler 55 sq ft No. and Description of safety valves to each boiler 1-3" duct

Area of each set of valves per boiler { per Rule 12.80 sq ft as fitted 14.12 sq ft Pressure to which they are adjusted 220 lb. Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler -

Smallest distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-3" Length 11'-6" Shell plates: Material S Tensile strength 29/33 tons

Thickness 1 7/16" Are the shell plates welded or flanged No Description of riveting: circ. seams { end duct inter. - } long. seams DBS TR Diameter of rivet holes in { circ. seams B 1 1/2" F 1 3/8" Pitch of rivets { B 4 1/3" F 3 4/5" long. seams 1 1/2" } 10 1/4"

Percentage of strength of circ. end seams { plate B63.68 F 60 rivets 47.2 } Percentage of strength of circ. intermediate seam { plate 86.36 rivets 89 } combined 88.5 Working pressure of shell by Rules

Thickness of butt straps { outer 1 3/32" inner 1 7/32" } No. and Description of Furnaces in each Boiler 3 Sleighton

Material S Tensile strength 26/30 tons Smallest outside diameter 3'-9 3/8"

Length of plain part { top - bottom - } Thickness of plates { crown 1 1/16" bottom 1 1/16" } Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 22 + 17 3/8

End plates in steam space: Material S Tensile strength 26/30 tons Thickness 1 3/8" Pitch of stays 21" x 16 1/4"

How are stays secured D.N. Working pressure by Rules

Tube plates: Material { front S back S } Tensile strength { 26/30 tons } Thickness { 15/16" } 25/32"

Mean pitch of stay tubes in nests 9.66" Pitch across wide water spaces 14" Working pressure { front 22 + 17 3/8 back 21 + 17 }

Girders to combustion chamber tops: Material S Tensile strength 28/32 tons Depth and thickness of girder at centre 2 @ 8 3/4" x 7/8" Length as per Rule 2'-9 1/2" Distance apart 8" No. and pitch of stays in each 3 @ 8 1/4" Working pressure by Rules

Tensile strength 36/30 tons Thickness: Sides 2 1/32" Back 2 3/32" Top 2 1/32" Bottom 1 3/16"

Pitch of stays to ditto: Sides 8" x 8 1/4" Back 8" x 10" Top 8" x 8 1/4" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules Front plate at bottom: Material S Tensile strength 26/30 tons

Thickness 15/16" Lower back plate: Material S Tensile strength 26/30 tons Thickness 1 3/16"

Pitch of stays at wide water space 13 7/16" Are stays fitted with nuts or riveted over Nuts

Working Pressure Main stays: Material S Tensile strength 28/32 tons

Diameter { At body of stay, 3" + 3 1/4" or Over threads - } No. of threads per inch 6 Area supported by each stay

Working pressure by Rules Screw stays: Material S Tensile strength 26/30 tons

Diameter { At turned off part, 1 5/8" + 1 3/4" or Over threads - } No. of threads per inch 9 Area supported by each stay



