

REPORT ON BOILERS.

No. 77784

Received at London Office THU. APR. 17 1924

Date of writing Report 102 When handed in at Local Office 10/4/1924 Port of NEWCASTLE-ON-TYNE.

No. in Survey held at Newcastle Date, First Survey 21. Dec 1923 Last Survey 10 April 1924

40970 on the Steel S.S. "SALMO" (Number of Visits) (Gross Tons) (Net Tons)

Master Built at Newcastle By whom built Swan Hunter & Wigham Richardson Ltd. Yard No. 1235 When built 1924

Engines made at Newcastle By whom made Walkend Slipway & Eng. Co. Ltd. Engine No. 854 When made 1924

Boilers made at Newcastle By whom made Walkend Slipway & Eng. Co. Ltd. Boiler No. 854 When made 1924

Nominal Horse Power 214 Owners Ellerman's Wilson Line Ltd. Port belonging to Hull.

MULTITUBULAR BOILERS - MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel D. Colville & Co. Spence's Steam Ltd. (Letter for Record S)

Total Heating Surface of Boilers 3328 sq ft Is forced draught fitted Yes Coal or Oil fired Coal

No. and Description of Boilers Two Single-ended 2.5B Cylindrical Working Pressure 225 lbs

Tested by hydraulic pressure to 388 lbs Date of test 20. 2. 24 No. of Certificate 9809 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 41.3 sq ft No. and Description of safety valves to each boiler Two Spring-loaded

Area of each set of valves per boiler per Rule 6.28 sq ft Pressure to which they are adjusted 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 on uptakes and bunkers on woodwork 53" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 25 1/2" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12'-1 1/16" Length 12'-0" Shell plates: Material Steel Tensile strength 30-34 Tons

Thickness 1 3/16" Are the shell plates welded or flanged No Description of riveting: circ. seams Double inter. 3.724" Pitch of rivets 8 3/8"

long. seams Triple Ra. D.B.S. Diameter of rivet holes in circ. seams 1 1/4" long. seams 1 1/4" Pitch of rivets 8 3/8"

Percentage of strength of circ. end seams plate 66.4 rivets 43.3 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85 rivets 88.2 combined 110 Working pressure of shell by Rules 227 lbs

Thickness of butt straps outer 1 3/16" inner 1 3/16" No. and Description of Furnaces in each Boiler Two Right-angled 2 Cf.

Material Steel Tensile strength 26/30 Tons Smallest outside diameter 44 1/8"

Length of plain part top bottom Thickness of plates crown 3/4" bottom 1/4" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 247 lbs

End plates in steam space: Material Steel Tensile strength 26/30 Tons Thickness 1 1/4" Pitch of stays 17 1/2" x 16"

How are stays secured Double nuts Working pressure by Rules 236 lbs

Tube plates: Material front Steel back Steel Tensile strength 26/30 Tons Thickness 1 1/16"

Mean pitch of stay tubes in nests 7 1/2" Pitch across wide water spaces 13" x 7 1/2" Working pressure front 245 lbs back 585 lbs

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 Tons Depth and thickness of girder

at centre 9 7/8" x 1 1/2" Length as per Rule 34 1/4" Distance apart 8 1/4" No. and pitch of stays

in each Three 8 1/16" Working pressure by Rules 234 lbs Combustion chamber plates: Material Steel

Tensile strength 26/30 Tons Thickness: Sides 3/32" Back 1/16" Top 3/32" Bottom 1"

Pitch of stays to ditto: Sides 8 1/4" x 8 1/16" Back 8 7/8" x 8 3/8" Top 8 1/4" x 8 1/16" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 227 lbs Front plate at bottom: Material Steel Tensile strength 26/30 Tons Thickness 7/8"

Thickness 1" Lower back plate: Material Steel Tensile strength 26/30 Tons Thickness 7/8"

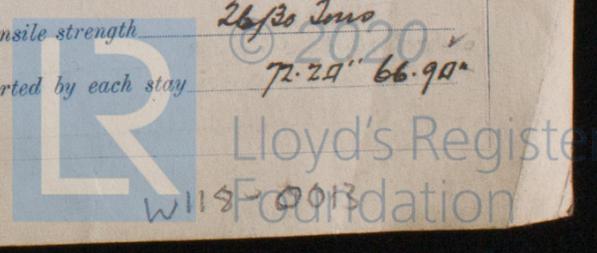
Pitch of stays at wide water space 13 7/8" x 8 3/8" Are stays fitted with nuts or riveted over Nuts

Working Pressure 238 lbs Main stays: Material Steel Tensile strength 28/32 Tons

Diameter At body of stay, or Over threads 3" No. of threads per inch Six Area supported by each stay 280 sq in

Working pressure by Rules 240 lbs Screw stays: Material Steel Tensile strength 26/30 Tons

Diameter At turned off part, or Over threads 1 3/4" + 1 7/8" No. of threads per inch Nine Area supported by each stay 72.29" x 66.90"



Working pressure by Rules 225 1/2 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads } 17 3/8"
 No. of threads per inch nine Area supported by each stay 9440" Working pressure by Rules 226 1/2
 Tubes: Material Steel External diameter { Plain 2 1/2" Stay 2 1/2" Thickness 3/8" 5/16" No. of threads per inch nine
 Pitch of tubes 3 3/4" Working pressure by Rules plain 300 lbs Stay Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring 40" x 30" x 1 3/16" No. of rivets and diameter of rivet holes 40 - 1 1/4"
 Outer row rivet pitch at ends 8 3/8" Depth of flange if manhole flanged not flanged Steam Dome: Material _____
 Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____
 Diameter of rivet holes _____ Pitch of rivets _____ Percentage of strength of joint { Plate Rivets } _____
 Internal diameter _____ Working pressure by Rules _____ Thickness of crown _____ No. and diameter of stays _____
 How connected to shell _____ Inner radius of crown _____ Working pressure by Rules _____
 Size of doubling plate under dome _____ Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell _____

Type of Superheater _____ Manufacturers of { Tubes _____ Steel castings _____ }
 Number of elements _____ Material of tubes _____ Internal diameter and thickness of tubes _____
 Material of headers _____ Tensile strength _____ Thickness _____ Can the superheater be shut off and the boiler be worked separately _____
 Is a safety valve fitted to every part of the superheater which can be shut off from the boiler _____
 Area of each safety valve _____ Are the safety valves fitted with easing gear _____ Working pressure as per Rules _____
 Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: tubes _____, castings _____ and after assembly in place _____ Are drain cocks or valves fitted to free the superheater from water where necessary _____

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes FOR THE WALLSEND SLIPWAY & ENGINEERING CO., LIMITED.
 The foregoing is a correct description, W. J. [Signature] Manufacturer. DIRECTOR.

Dates of Survey { During progress of work in shops - - } See Machinery Report. Are the approved plans of boiler and superheater forwarded herewith _____ (If not state date of approval.)
 while building { During erection on board vessel - - } _____ Total No. of visits _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
 These boilers were constructed under Special Survey. The materials and workmanship are sound and good. They were tested by hydraulic pressure with satisfactory results, were efficiently installed on board the Steamer "Salmo" and the safety valves were adjusted under steam. The vessel is eligible, in my opinion, for notation "L.M.C. 4. 24"

Survey Fee ... £ See Machinery Rpt When applied for, 192
 Travelling Expenses (if any) See Machinery Rpt When received, 192
W. J. [Signature]
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute WFD. 23 APR. 1924
 Assigned See other Rpt
NWC 77784