

REPORT ON BOILERS.

No. 77045
FRI. 21 SEP. 1923

Received at London Office

Date of writing Report 17th Sept 1923 When handed in at Local Office 17th Sept 1923 Port of NEWCASTLE-ON-TYNE

No. in Survey held at St. Peter's & Hebburn on Tyne Date, First Survey 28th Sept. 1922 Last Survey 13th Sept 1923

Reg. Book.

41104 on the S.S. Talma.

(Number of Visits —)
Gross 10250
Net

Master Built at Hebburn By whom built R. H. Hawthorn Leslie & Co. Ltd. Ward No. 527 When built 1923

Engines made at St. Peter's, Newcastle By whom made R. H. Hawthorn Leslie & Co. Ltd. Engine No. 3511 When made 1923

Boilers made at do By whom made do do Boiler No. 3511 When made 1923

Nominal Horse Power Owners British India Steam Nav Co. Ltd. Port belonging to Glasgow.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel John Spencer & Sons Ltd. (Letter for Record S)

Total Heating Surface of Boilers 13900 sq ft Is forced draught fitted yes Coal or Oil fired Coal

No. and Description of Boilers 4 Single Ended Multitubular Working Pressure 215 lb per sq in

Tested by hydraulic pressure to 373 lb Date of test 20/12/22 No. of Certificate 9708

Area of Firegrate in each Boiler 82 1/2 sq ft No. and Description of safety valves to each boiler Two direct spring

Area of each set of valves per boiler per Rule 18.99 sq in 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 No D.B.

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 30" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 17'-6" Length 12'-0" Shell plates: Material Steel Tensile strength 30/34 tons

Thickness 1 1/32" Are the shell plates welded or flanged No Description of riveting: circ. seams end 2 R Lap

long. seams 5 R. No straps Diameter of rivet holes in circ. seams 1 1/32" Pitch of rivets 4 1/4"

Percentage of strength of circ. end seams plate 61.0 rivets 45.5 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 84.5 rivets 90.0 combined 87.1 Working pressure of shell by Rules 215 lb per sq in

Thickness of butt straps outer 1 1/4" inner 1 3/8" No. and Description of Furnaces in each Boiler Four Deighton's

Material Steel Tensile strength 26/30 tons per sq in Smallest outside diameter 46.41"

Length of plain part top bottom Thickness of plates crown 45/64" Description of longitudinal joint Welded

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 220 lb per sq in

End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 1 1/32" Pitch of stays 22 1/4" x 17"

How are stays secured Double nuts & washers Working pressure by Rules 217 lb per sq in

Tube plates: Material front back steel Tensile strength 26/30 tons per sq in Thickness 31/32" 15/16"

Mean pitch of stay tubes in nests 11 3/4" x 8" Pitch across wide water spaces 13 3/4" Working pressure front 224 lb per sq in back 264 lb per sq in

Girders to combustion chamber tops: Material Steel Tensile strength 28/32 tons per sq in Depth and thickness of girder

at centre 19" x 1 5/8" Length as per Rule 36" 34 Distance apart 8 5/8" No. and pitch of stays

in each Three, 8" Working pressure by Rules 222 lb per sq in Combustion chamber plates: Material Steel

Tensile strength 26 to 32 tons per sq in Thickness: Sides 21/32" Centre 11/16" Back Kings 21/32" Top 21/32" Bottom 1"

Pitch of stays to ditto: Sides 8 1/2" x 8" Back 9 1/2" x 7 1/8" Top 8 5/8" x 8" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 216 lb per sq in Front plate at bottom: Material Steel Tensile strength 26/30 tons per sq in

Thickness 1" Lower back plate: Material Steel Tensile strength 26/30 tons per sq in Thickness 29/32"

Pitch of stays at wide water space 14 3/4" x 7 1/8" Are stays fitted with nuts or riveted over Nuts 7/8"

Working Pressure 224 lb per sq in Main stays: Material Steel Tensile strength 28/32 tons per sq in

Diameter At body of stay, 3 5/8" No. of threads per inch 6 Area supported by each stay 380 sq in

Over threads Working pressure by Rules 225 lb per sq in Screw stays: Material Steel Tensile strength 26/30 tons per sq in

Diameter At turned off part, 1 5/8" x 1 3/4" No. of threads per inch 9 Area supported by each stay 69 and 75 sq in

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Working pressure by Rules 220 lb Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part. 1 7/8" or Over threads

No. of threads per inch 9 Area supported by each stay 95.40" Working pressure by Rules 221 lb per sq in

Tubes: Material Iron External diameter { Plain 2 3/4" Stay 2 3/4" Thickness { 3/16" 3/8" 5/16" No. of threads per inch 9

Pitch of tubes 4" x 4" Working pressure by Rules 215 lb per sq in Manhole compensation: Size of opening in shell plate 17" x 13" Section of compensating ring 3 1/2" x 3 1/2" x 7/8" No. of rivets and diameter of rivet holes 15 each side 1 9/16"

Outer row rivet pitch at ends 10 1/2" Depth of flange if manhole flanged ✓ Steam Dome: Material None

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 ✓ Inner radius of crown ✓ Working pressure by Rules ✓

How connected to shell ✓ 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 None 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 ✓

Area of each safety valve ✓ Is a safety valve fitted to every part of the superheater which can be shut off from the boiler ✓

Rules ✓ 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

The foregoing is a correct description,
J. Lindall per R. & R. A. Thomsen Manufacturer.

Dates of Survey { During progress of work in shops - - } See Machinery Report Are the approved plans of boiler and superheater forwarded herewith yes (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 have been constructed under special survey. The materials and workmanship are of good quality. They have been securely fitted on board and safety valves adjusted.

For recommendations, please see attached machinery report.

Survey Fee ... £ ✓ : : When applied for, 192

Travelling Expenses (if any) £ ✓ : : When received, 192

George Murdoch Mamie Nelson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. SEP. 28 1923

Assigned