

REPORT ON BOILERS.

No. 77617

Received at London Office TUE. 4 MAR. 1924

Date of writing Report

192

When handed in at Local Office

1/3/

1924

Port of

NEWCASTLE-ON-TYNE.

No. in
eg. Book.Survey held at NewcastleDate, First Survey 24th April 1923 Last Survey 22nd Feb. 192440371 on the Steel Sc. OVERSTONE

(Number of Visits —)

Gross 5205Tons { Net 3247Master Built at NewcastleBy whom built Northumberland Sh. Co. Ltd. Yard No. 384 When built 1924Engines made at NewcastleBy whom made North Eastern Marine Eng. Co. Ltd. Engine No. 2545 When made 1924Boilers made at NewcastleBy whom made North Eastern Marine Eng. Co. Ltd. Boiler No. 2545 When made 1924Nominal Horse Power 381Owners (C. Radcliffe & Co. Imps.) Port belonging to Cardiff.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Spencer & Sons Ltd. (Letter for Record S.)Total Heating Surface of Boilers 6330 sq ft Is forced draught fitted No. Coal or Oil fired CoalNo. and Description of Boilers 3 Single-End. Cylindrical Working Pressure 180 lbsTested by hydraulic pressure to 320 lbs Date of test 5.12.23 No. of Certificate 9797 Can each boiler be worked separately YesArea of Firegrate in each Boiler 50 sq ft No. and Description of safety valves to each boiler Two Spring LoadedArea of each set of valves per boiler { per Rule 13.50 as fitted 14.12 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear YesIn case of donkey boilers, state whether steam from main boilers can enter the donkey boiler YesSmallest distance between boiler uptakes and bunkers 30" Is oil fuel carried in the double bottom under boilers NoSmallest distance between shell of boiler and tank top plating 33 1/2" Is the bottom of the boiler insulated NoLargest internal dia. of boilers 14'-3 1/16" Length 11'-0" Shell plates: Material Steel Tensile strength 28 1/2 - 32 1/2Thickness 1 7/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end Double inter. YesLong. seams Double Diameter of rivet holes in { circ. seams 1 7/16" Pitch of rivets { 3 3/8" inter. 8 9/16"Percentage of strength of circ. end seams { plate 61 rivets 43 Percentage of strength of circ. intermediate seam { plate 85.7 rivets 89.1Percentage of strength of longitudinal joint { plate 85.7 rivets 89.1 combined 89.3 Working pressure of shell by Rules 181 lbsThickness of butt straps { outer 7/8" inner 1" No. and Description of Furnaces in each Boiler Three DeightonMaterial Steel Tensile strength 26/30 Tons Smallest outside diameter 39 3/4"Length of plain part { top 1 1/2" bottom 1 1/2" Thickness of plates { crown 1/2" bottom 1/2" Description of longitudinal joint WeldDimensions of stiffening rings on furnace or c.c. bottom Yes Working pressure of furnace by Rules 181 lbsEnd plates in steam space: Material Steel Tensile strength 26/30 Tons Thickness 1 1/2" Pitch of stays 20 1/2" x 25"How are stays secured Double nuts & washers Working pressure by Rules 181 lbsTube plates: Material { front Steel back Steel Tensile strength { 26/30 Tons Thickness { 3/4"Lean pitch of stay tubes in nests 98" Pitch across wide water spaces 14 1/2" Working pressure { front 182 lbs back 241 lbsGirders to combustion chamber tops: Material Steel Tensile strength 28/32 Tons Depth and thickness of girderAt centre 9" x 1 1/2" Length as per Rule 32" Distance apart 10 3/4" No. and pitch of staysAt each Two 9" Working pressure by Rules 182 Combustion chamber plates: Material SteelTensile strength 26/30 Tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 15/16"Pitch of stays to ditto: Sides 10 1/2" x 9" Back 10 1/2" x 9 1/2" Top 10 3/4" x 9" Are stays fitted with nuts or riveted over NutsWorking pressure by Rules 181 lbs Front plate at bottom: Material Steel Tensile strength 26/30 TonsThickness 15/16" Lower back plate: Material Steel Tensile strength 26/30 Tons Thickness 27/32"Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over NutsWorking Pressure 197 lbs Main stays: Material Steel Tensile strength 28/32 TonsDiameter { At body of stay, 3 1/4" No. of threads per inch Six Area supported by each stay 512.5 sq inWorking pressure by Rules 181 lbs Screw stays: Material Steel Tensile strength 26/30 TonsDiameter { At turned off part, 1 3/4" No. of threads per inch Nine Area supported by each stay 99.75 sq inWorking pressure by Rules 181 lbsDiameter { At turned off part, 1 3/4" No. of threads per inch Nine Area supported by each stay 99.75 sq inWorking pressure by Rules 181 lbsDiameter { At turned off part, 1 3/4" No. of threads per inch Nine Area supported by each stay 99.75 sq inWorking pressure by Rules 181 lbs

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Working pressure by Rules 182 lbs Are the stays drilled at the outer ends no. Margin stays: Diameter 2" { At turned off part, or Over threads }
 No. of threads per inch nine Area supported by each stay 137.75 sq" Working pressure by Rules 180 lbs
 Tubes: Material iron External diameter { Plain 3 1/4" Stay 3 1/4" Thickness 1/16" 1/4" No. of threads per inch nine
 Pitch of tubes 4 7/8" x 4 1/2" Working pressure by Rules 198 lbs Manhole compensation: Size of opening in shell plate 16" x 12" Section of compensating ring flanged No. of rivets and diameter of rivet holes 4 1/4" Top
 Outer row rivet pitch at ends 3 1/4" Bottom 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
 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

The foregoing is a correct description,
 THE NORTH EASTERN MARINE ENGINEERING CO. LTD. Manufacturer.

Dates of Survey { During progress of work in shops - - } Lee Niche 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 workmanship materials are sound & good. They were subjected to satisfactory hydraulic pressure tests and the safety valves were adjusted under steam to the pressure above stated. They were efficiently installed in the Steamer "Overstone" and, in my opinion, are eligible for a classed vessel.

Survey Fee ... £ : When applied for, 192
 Travelling Expenses (if any) £ : When received, 192

R. Lee Ames
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRIMAR 7 1924

FRIMAR 14 1924

Assigned



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