

REPORT ON BOILERS.

No. 76776

Date of writing Report _____ 192 _____ When handed in at Local Office 30/5/1923 Port of _____
 Received at London Office _____
 No. in Reg. Book. South Shields Date, First Survey 11 October/23 Last Survey 16 May 1923
 on the S.S. Steelville (Number of Visits _____) (Gross Tons 3724.39) (Net Tons 2299.83)
 Master _____ Built at South Shields By whom built John Readhead & Sons Ltd Yard No. 472 When built 1923
 Engines made at South Shields By whom made John Readhead & Sons Ltd Engine No. 472 When made 1923
 Boilers made at South Shields By whom made John Readhead & Sons, Ltd. Boiler No. 472 When made 1923
 Nominal Horse Power 328 Owners George Henry Stansfield Port belonging to Newcastle on Tyne

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel J. Spence & Sons, Ltd. (Letter for Record)
 Total Heating Surface of Boilers 899.5 sq ft Is forced draught fitted No. Coal or Oil fired Coal.
 No. and Description of Boilers one cylr. multi. single ended. Working Pressure 90 lbs/sq in.
 Tested by hydraulic pressure to 180 lbs/sq in. Date of test 29.3.23. No. of Certificate 9749. Can each boiler be worked separately
 Area of Firegrate in each Boiler 29.2 sq ft No. and Description of safety valves to each boiler 2 spring loaded.
 Area of each set of valves per boiler { per Rule 11.54 as fitted 11.86 Pressure to which they are adjusted 90 lbs/sq in. Are they fitted with easing gear Yes.
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No.
 Smallest distance between boilers or uptakes and bunkers or ~~woodwork~~ 18" upper deck Is oil fuel carried in the double bottom under boilers No.
 Smallest distance between shell of boiler and ~~lunch top~~ 18" top plating Is the bottom of the boiler insulated Yes.
 Largest internal dia. of boilers 10' 0" Length 10' 0" Shell plates: Material Steel Tensile strength 28-32 tons/sq in.
 Thickness 9/16" Are the shell plates welded or flanged No. Description of riveting: circ. seams { end L.A.P. D.R. inter. _____ }
 long. seams D.O.S. / D.R. Diameter of rivet holes in { circ. seams 13/16" long. seams 13/16" } Pitch of rivets { 3" 4 1/4" }
 Percentage of strength of circ. end seams { plate 68.7 rivets 63.6 } Percentage of strength of circ. intermediate seam { plate 80.8 rivets 100.2 } Working pressure of shell by Rules 109 lbs/sq in.
 Percentage of strength of longitudinal joint { plate 80.8 rivets 100.2 combined 95.16 }
 Thickness of butt straps { outer 1/2" inner 5/8" } No. and Description of Furnaces in each Boiler 2 plain.
 Material Steel Tensile strength 26-30 tons/sq in. Smallest outside diameter 3' 0"
 Length of plain part { top 6' 2" bottom 8' 9" } Thickness of plates { crown 9/16" bottom 9/16" } Description of longitudinal joint weld.
 Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 91 lbs/sq in.
 End plates in steam space: Material Steel Tensile strength 26-30 tons/sq in. Thickness 3/4" Pitch of stays 18" x 18"
 How are stays secured D.N. + W. Working pressure by Rules 110 lbs/sq in.
 Tube plates: Material { front Steel back Steel } Tensile strength { 26-30 tons/sq in. } Thickness { 3/4" 3/8" }
 Mean pitch of stay tubes in nests 9" x 9" Pitch across wide water spaces 13 1/2" x 9" Working pressure { front 104 lbs/sq in. back _____ }
 Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons/sq in. Depth and thickness of girder at centre 6" x 1 1/4" Length as per Rule 26" Distance apart 10" No. and pitch of stays in each 2 at 8" Working pressure by Rules 114 lbs/sq in. Combustion chamber plates: Material Steel
 Tensile strength 26-30 tons/sq in. Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1/16"
 Pitch of stays to ditto: Sides 10" x 9" Back 10" x 9" Top 10" x 8" Are stays fitted with nuts or riveted over Nuts
 Working pressure by Rules 93 lbs/sq in. Front plate at bottom: Material Steel Tensile strength 26-30 tons/sq in.
 Thickness 3/4" Lower back plate: Material Steel Tensile strength 26-30 tons/sq in. Thickness 3/4"
 Pitch of stays at wide water space 13 1/2" x 9" Are stays fitted with nuts or riveted over Nuts
 Working Pressure 110 lbs/sq in. Main stays: Material Steel Tensile strength 28-32 tons/sq in.
 Diameter { At body of stay, 2 1/2" or over threads _____ } No. of threads per inch 6 Area supported by each stay 3240"
 Working pressure by Rules 136 lbs/sq in. Screw stays: Material Iron Tensile strength _____
 Diameter { At turned off part, 1 1/2" or over threads _____ } No. of threads per inch 9 Area supported by each stay 900"

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Working pressure by Rules 139/60" Are the stays drilled at the outer ends No Margin stays: Diameter ^{At turned off part,} 1 1/2"
 No. of threads per inch 9 Area supported by each stay 121.60" Working pressure by Rules 104/16, 10"
Tubes: Material Iron External diameter ^{Plain} 3 1/2" Thickness ^{No. 10 W.G.} 5/16" No. of threads per inch 9
 Pitch of tubes 4 1/2" x 4 1/2" Working pressure by Rules 104/16, 10" Manhole compensation: Size of opening in
 shell plate 16" x 12" Section of compensating ring 14" x 9/16" No. of rivets and diameter of rivet holes 38 x 1 3/16"
 Outer row rivet pitch at ends 5" Depth of flange if manhole flanged 3" (Bottom hole) 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} _____
 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} _____
 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 JOHN READHEAD & SONS LTD. The foregoing is a correct description,
W. P. Dewar, Supt. Manager, Manufacturer.

Dates of Survey ^{During progress of} See machinery Report Are the approved plans of boiler and superheater forwarded herewith Yes.
 while ^{work in shops - -} _____
 building ^{During erection on} _____
 board vessel ^{board vessel - - -} _____
 Total No. of visits _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)
This donkey boiler was built under special survey, and the materials and workmanship are good. After putting on board in place, the boiler was steamed and the safety valves adjusted.

Survey Fee ... £ _____ : When applied for, _____ 192
 Travelling Expenses (if any) £ _____ : When received, _____ 192
V. Lockney, L. P. Stuart.
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute _____
 Assigned _____
 TUE. 12 JUN. 1923

