

REPORT ON BOILERS.

Sld. No 28960
No. 12124
-2 DEC 1924
OCT 1924

Received at London Office

Date of writing Report 102 When handed in at Local Office 23.10.24 1924 Port of Middlesbrough

No. in Survey held at Stockton-on-Tees Date, First Survey 12th May Last Survey 14th Decr 1924

on the S.S. "Fylingdale" (new vessel) (Number of Visits 18) Tons { Gross 3918 Net 2322

Master Sunderland Built at Sunderland By whom built J. L. Thompson & Sons Yard No. 553 When built 1924

Engines made at Sunderland By whom made Richardson Westfahl & Co Engine No. 2189 When made 1924

Boilers made at Stockton By whom made Thos Hudson & Co Ltd Boiler No. 4956 When made 1924

Owners Randall, Marwood SS Co Ltd Port belonging to Whitley

MULTITUBULAR BOILERS ~~MAIN, AUXILIARY, OR DONKEY.~~ See Sunderland wire 3/12/24.

Manufacturers of Steel Messrs D. Colville & Sons Ltd (Letter for Record (S))

Total Heating Surface of Boilers 980 ϕ Is forced draught fitted NO Coal or Oil fired coal

No. and Description of Boilers One single ended Working Pressure 180

Tested by hydraulic pressure to 320 Date of test 17.10.24 No. of Certificate 6403 Can each boiler be worked separately ✓

Area of Firegrate in each Boiler 33 $\frac{1}{2}$ ϕ No. and Description of safety valves to each boiler 2 Direct spring

Area of each set of valves per boiler { per Rule 6.28 as fitted 7.96 Pressure to which they are adjusted 180 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

Smallest distance between boilers or uptakes and bunkers or woodwork 5'0" Is oil fuel carried in the double bottom under boilers NO

Smallest distance between shell of boiler and tank top plating Boiler on upper deck Is the bottom of the boiler insulated NO

Largest internal dia. of boilers 10' - 5 $\frac{5}{16}$ " Length 10' - 6" Shell plates: Material steel Tensile strength 29-33

Thickness 27/32 Are the shell plates welded or flanged no Description of riveting: circ. seams { and D. Riv. Lap inter. ✓

Long. seams 2 Butt - 3 Riveted Diameter of rivet holes in { circ. seams 15 long. seams 16 Pitch of rivets { 38 65

Percentage of strength of circ. end seams { plate 70.0 rivets 42.0 Percentage of strength of circ. intermediate seam { plate 85.65 rivets 91.6 combined 90.0 Working pressure of shell by Rules 182 lb

Thickness of butt straps { outer 14 $\frac{5}{16}$ x 3/4 inner 14 $\frac{5}{16}$ x 7/8 No. and Description of Furnaces in each Boiler Two plain

Material Steel Tensile strength 26-30 tons Smallest outside diameter 38"

Length of plain part { top 83 bottom 110 Thickness of plates { crown 25/32 bottom 25/32 Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 197

End plates in steam space: Material Steel Tensile strength 26-30 Thickness 29/32 Pitch of stays 14 $\frac{1}{2}$ x 15"

How are stays secured nuts + 8 x 5/8 long washers Working pressure by Rules 193 lb

Tube plates: Material { front Steel back Steel Tensile strength { 26-30 tons Thickness { 29/32 3/4

Mean pitch of stay tubes in nests 10 $\frac{3}{8}$ " Pitch across wide water spaces 14" x 9" Working pressure { front 191 back 187

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder at centre 7' x 15" Length as per Rule 27 25/32 Distance apart 7 $\frac{1}{4}$ " No. and pitch of stays in each 2 @ 8 $\frac{1}{2}$ " Working pressure by Rules 187 lb Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 21/32 Back 21/32 Top 21/32 Bottom 1"

Pitch of stays to ditto: Sides 9 $\frac{1}{2}$ x 8 $\frac{1}{2}$ " Back 8 $\frac{1}{2}$ x 9" Top 7 $\frac{1}{4}$ x 8 $\frac{1}{2}$ " Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 190 Front plate at bottom: Material Steel Tensile strength 26-30

Thickness 29/32 Lower back plate: Material Steel Tensile strength 26-30 Thickness 29/32

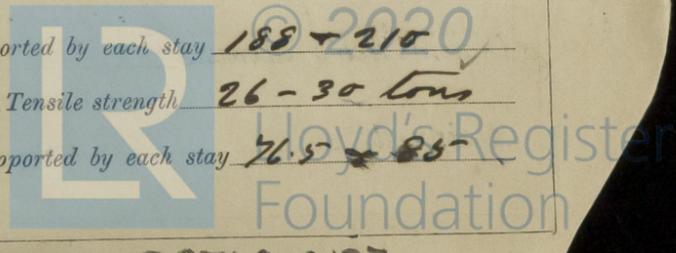
Pitch of stays at wide water space 14" x 9" Are stays fitted with nuts or riveted over nuts

Working Pressure 244 Main stays: Material Steel Tensile strength 28-32

Diameter { At body of stay, 2 $\frac{1}{2}$ + 2 $\frac{1}{2}$ " No. of threads per inch 6 Area supported by each stay 188 + 2100 Over threads 2 $\frac{1}{4}$ + 2 $\frac{1}{2}$ "

Working pressure by Rules 184 + 197 Screw stays: Material Steel Tensile strength 26-30 tons

Diameter { At turned off part, 1 $\frac{5}{8}$ " No. of threads per inch 9 Area supported by each stay 76.5 + 85 Over threads 1 $\frac{5}{8}$ "



Working pressure by Rules 178 x 180 Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, 1 1/4" ✓
 No. of threads per inch 9 Area supported by each stay 101.25 Working pressure by Rules 180
 Tubes; Material iron ✓ External diameter { Plain 3 1/4 ✓ Thickness 1/8 - 45.9 ✓ No. of threads per inch 9 ✓
 Stay 3 1/4 ✓ Pitch of tubes 4 1/2 x 4 1/2 ✓ Working pressure by Rules 204 x 180 Manhole compensation: Size of opening
 shell plate 16" x 12" ✓ Section of compensating ring 5 1/2 x 1 1/2 ✓ No. of rivets and diameter of rivet holes: 22 @ 1 1/2 ✓
 Outer row rivet pitch at ends 6 5/8 ✓ Depth of flange if manhole flanged - ✓ Steam Dome: Material iron
 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
 stays _____ Inner radius of crown _____ Working pressure by Rules _____
 How connected to shell _____ Size of doubling plate under dome _____ Diameter of rivet holes and p
 of rivets in outer row in dome connection to shell _____

Type of Superheater W.M. 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
 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 p
 Rules _____ Pressure to which the safety valves are adjusted _____ Hydraulic test pressur
 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,
THOMAS SUDRON & CO. LIMITED, Manufacturer
J. W. Johnston
 Are the approved plans of boiler and superheater forwarded to the Registrar? yes
 (If not state date of approval.)
 Total No. of visits 18

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) This boiler has been built under special survey: is of good material and workmanship and on completion was tested by hydraulic pressure with satisfactory results

This boiler has now been fitted and fired in the vessel in a satisfactory manner.
hmt

Survey Fee £ 6 : 10 : 6 } MONTHLY A/c.
 Travelling Expenses (if any) £ ✓ : : } When applied for, 192
 When received, 192

W. Morrison
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 2 DEC 1924
 Assigned See Sld 36 28960

