Rpt. 5a.

REPORT ON BOILERS.

No. 28983

Received at London Office -6 JAN 1925

Date of writing Report ____ 192__ When handed in at Local Office 5 JAN 1925 192__ Port of Sunderland

No. in Reg. Book. Survey held at Sunderland Date, First Survey ✓ Last Survey 5th Jan 1925

on the S.S. "Buckleigh" (Number of Visits ____) Tons Gross 5078 Net 3146

Master ____ Built at Sunderland By whom built Bartram & Sons Ltd Yard No. 256 When built 1924

Engines made at Sunderland By whom made John Dickinson & Sons Ltd Engine No. 870 When made 1924

Boilers made at Sunderland By whom made John Dickinson & Sons Ltd Boiler No. 1048 When made 1923

Nominal Horse Power 476 Owners W. J. Tatem, Limd Port belonging to London

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MULTITUBULAR BOILERS ~~MAIN, AUXILIARY,~~ OR DONKEY.

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

Total Heating Surface of Boilers 1172 □ft ✓ Is forced draught fitted no ✓ Coal or Oil fired coal ✓

No. and Description of Boilers one single ended marine ✓ **Working Pressure** 120 ✓

Tested by hydraulic pressure to 240 ✓ Date of test 4-6-23 ✓ No. of Certificate 3838 ✓ Can each boiler be worked separately —

Area of Firegrate in each Boiler 33 □ft ✓ No. and Description of safety valves to each boiler two direct spring

Area of each set of valves per boiler {per Rule 10·85 □" as fitted 14·140 □" ✓} Pressure to which they are adjusted 120 ✓ 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 15" ✓ Is oil fuel carried in the double bottom under boilers no tank ✓

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'-10 5/8" ✓ Length 10'-10 1/2" **Shell plates:** Material steel ✓ Tensile strength 28-32 tons ✓

Thickness 11/16" ✓ Are the shell plates welded or flanged no ✓ Description of riveting: circ. seams {end DR ✓ inter. ✓}

long. seams DBS, DR ✓ Diameter of rivet holes in {circ. seams 15/16" ✓ long. seams 15/16" ✓} Pitch of rivets {3 1/8" ✓ 4 3/4" ✓}

Percentage of strength of circ. end seams {plate 70 rivets 52·73} Percentage of strength of circ. intermediate seam {plate rivets ✓}

Percentage of strength of longitudinal joint {plate 80·26 rivets 97·65 combined 93·08} Working pressure of shell by Rules 125

Thickness of butt straps {outer 11/16" ✓ inner} **No. and Description of Furnaces in each Boiler** two, plain ✓

Material steel Tensile strength 26-30 tons ✓ Smallest outside diameter 3'-2" ✓

Length of plain part {top 6'-8" bottom 7'-2"} Thickness of plates {crown 21/32" ✓ bottom} Description of longitudinal joint welded ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 124 ✓

End plates in steam space: Material steel ✓ Tensile strength 26-30 tons ✓ Thickness 3/4" ✓ Pitch of stays 15" × 14 1/2" ✓

How are stays secured D N & W ✓ Working pressure by Rules 130 ✓

Tube plates: Material {front steel ✓ back steel ✓} Tensile strength {26-30 tons ✓ " " ✓} Thickness {13/16" ✓ 11/16" ✓}

Mean pitch of stay tubes in nests 11 1/4" ✓ Pitch across wide water spaces 14" ✓ Working pressure {front 120 back 132}

Girders to combustion chamber tops: Material steel ✓ Tensile strength 28-32 tons ✓ Depth and thickness of girder

at centre 2 @ 6 1/2 × 7/8" ✓ Length as per Rule 2'-9 3/16" ✓ Distance apart 8" ✓ No. and pitch of stays

in each 2 @ 10 1/2" ✓ Working pressure by Rules 145 **Combustion chamber plates:** Material steel ✓

Tensile strength 26-30 tons ✓ Thickness: Sides 5/8" ✓ Back 5/8" ✓ Top 5/8" ✓ Bottom 7/8" ✓

Pitch of stays to ditto: Sides 10 1/2" × 9" ✓ Back 10" × 10" Top 10 1/2 × 8" ✓ Are stays fitted with nuts or riveted over nuts in ecs ✓

Working pressure by Rules 135 **Front plate at bottom:** Material steel ✓ Tensile strength 26-30 tons ✓

Thickness 13/16" ✓ **Lower back plate:** Material steel ✓ Tensile strength 26-30 tons ✓ Thickness 11/16" ✓

Pitch of stays at wide water space 12 1/2 ✓ Are stays fitted with nuts or riveted over nuts ✓

Working Pressure 125 **Main stays:** Material steel ✓ Tensile strength 28-32 tons ✓

Diameter {At body of stay, or Over threads 2" ✓} No. of threads per inch 6 ✓ Area supported by each stay 217 □" ✓

Working pressure by Rules 120 **Screw stays:** Material steel ✓ Tensile strength 26-30 tons ✓

Diameter {At turned off part, or Over threads 1 1/2" ✓} No. of threads per inch 9 ✓ Area supported by each stay 84 □" ✓

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Working pressure by Rules 133 Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, or Over threads } 15/8" ✓

No. of threads per inch 9 ✓ Area supported by each stay 1260 □" Working pressure by Rules 131

Tubes: Material W. pot. iron ✓ External diameter { Plain 3 1/4" ✓ Stay 3 1/4" ✓ } Thickness { 10 W G ✓ 1/4" ✓ } No. of threads per inch 9 ✓

Pitch of tubes 4 1/2 × 4 1/2" ✓ Working pressure by Rules 136 **Manhole compensation:** Size of opening in

shell plate 16" × 12" ✓ Section of compensating ring 4 7/8" × 11/16" ✓ No. of rivets and diameter of rivet holes 26 @ 15/16" ✓

Outer row rivet pitch at ends 5 7/8" ✓ 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 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 .

For John Dickinson & Sons, Limited

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } Please see Machinery report. { During erection on board vessel - - - }

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

Total No. of visits

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The materials and workmanship are good.
The boiler has been constructed under special survey and fitted on the upper deck of the vessel

Survey Fee ... ... £ 7 : 16 : When applied for, - 1 APR 1924 192

Travelling Expenses (if any) £ : : When received, - 3 APR 1924 192

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 9 JAN 1925

Assigned

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