

Rpt. 5a.

REPORT ON BOILERS.

No. 12327

Received at London Office

25 APR 1925

Date of writing Report 21-4-1925 When handed in at Local Office 23/4/1925 Port of Middlesbrough

No. in Reg. Book. 5488 Survey held at Stockton-on-Tees Date, First Survey 20 December 1924 Last Survey 21-4-1925

11273 on the S/S. "Willowpool" (Number of Visits 11) Tons {Gross 4815 Net 2978

Master Built at Stockton By whom built Ropner S.B. Coy Yard No. 549 When built 1925

Engines made at Stockton By whom made Messrs Blain & Co. Ltd Engine No. 1964 When made 1925

Boilers made at Stockton By whom made Riley Bros Ltd Boiler No. 5581 When made 1925

Nominal Horse Power Owners Sir R. Ropner & Co. Ltd Port belonging to W. Hartlepool

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

Manufacturers of Steel Steel Coy of Scotland (Letter for Record (S))

Total Heating Surface of Boilers 975 sq ft Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers One Single End. 15B. Working Pressure 150 lbs

Tested by hydraulic pressure to 275 lbs Date of test 21-4-25 No. of Certificate 6454 Can each boiler be worked separately

Area of Firegrate in each Boiler 34.3 sq ft No. and Description of safety valves to each boiler 2 direct Spring - High Lift.

Area of each set of valves per boiler {per Rule 4.64 sq ft as fitted 7.1 sq ft Pressure to which they are adjusted 148 lbs 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 In tween decks Is oil fuel carried in the double bottom under boilers

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

Largest internal dia. of boilers 126" Length 120" Shell plates: Material Steel Tensile strength 28-32 tons

Thickness 3/4" Are the shell plates welded or flanged No Description of riveting: circ. seams {end DR. LAP. inter. 3/4" & 6 1/2" Pitch of rivets 6 1/8"

long. seams {Double Riveted 5 Rivets in a pitch Diameter of rivet holes in {circ. seams 1 1/16" long. seams 1 5/16" Pitch of rivets 6 1/8"

Percentage of strength of circ. end seams {plate 67.4 rivets 45.0 Percentage of strength of circ. intermediate seam {plate rivets

Percentage of strength of longitudinal joint {plate 84.7 rivets 115.5 combined 92.5 Working pressure of shell by Rules 150 lbs

Thickness of butt straps {outer 1/4" x 19/32" inner 1/4" x 23/32" No. and Description of Furnaces in each Boiler Two Plain.

Material Steel Tensile strength 26-30 tons Smallest outside diameter 39"

Length of plain part {top 74 3/4" bottom 81" Thickness of plates {crown 11" bottom 16" Description of longitudinal joint Weld

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 156 lbs

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 25/32" Pitch of stays 15" TO 11" TUBES

How are stays secured Double Nuts & Loose Washers 8" x 9/16" Working pressure by Rules 151 lbs

Tube plates: Material {front Steel back Steel Tensile strength {26-30 tons Thickness 25/32"

Mean pitch of stay tubes in nests 10.375" Pitch across wide water spaces 14" x 9" Working pressure {front 150 lbs back 161 lbs

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

at centre 6 1/2" x 1 1/4" Length as per Rule 28" Distance apart 7 1/2" No. and pitch of stays

in each 2 c 8 3/4" Working pressure by Rules 152 lbs Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1"

Pitch of stays to ditto: Sides 8 3/4" x 9 1/2" Back 8 7/8" x 10" Top 8 1/4" x 7 1/2" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 151 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 25/32" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 25/32"

Pitch of stays at wide water space 14" x 10" Are stays fitted with nuts or riveted over Nuts

Working Pressure 167 lbs Main stays: Material Steel Tensile strength 28-32 tons

Diameter {At body of stay, 2 1/4" No. of threads per inch 6 Area supported by each stay 202.5 sq in

Working pressure by Rules 171 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter {At turned off part, 1 5/8" No. of threads per inch 9 Area supported by each stay 88.75 sq in

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Working pressure by Rules 173 lbs Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, 1 3/4" or Over threads

No. of threads per inch 9 ✓ Area supported by each stay 110 sq" Working pressure by Rules 164 lbs

Tubes: Material iron ✓ External diameter { Plain 3 1/4" ✓ Stay 3" Thickness { 8 W.C. ✓ 5/16" No. of threads per inch 9

Pitch of tubes 4 1/2" x 4 1/2" ✓ Working pressure by Rules S 191. P 288. Manhole compensation: Size of opening in shell plate 16" x 20" Section of compensating ring 7 x 15/16" No. of rivets and diameter of rivet holes 36 - 1 1/16" ✓

Outer row rivet pitch at ends 7" ✓ Depth of flange if manhole flanged ✓ Steam Dome: Material ✓

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 _____

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 _____

tubes _____, castings _____ Pressure to which the safety valves are adjusted _____ Hydraulic test pressure: _____

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)

HILEY BROS. (BOILERMAKERS) LIMITED
The foregoing is a correct description,

J. H. Shields SECRETARY, Manufacturer.

Dates of Survey { During progress of ¹⁹²⁴ work in shops - Dec 22, Feb 6, 13, 19, Mar 2, 25, 30.
while building { During erection on board vessel - Apr 3, 7, 17, 21.

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

Total No. of visits 11

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

This boiler will be fitted on board at this Port.
Please return plan for 5584 and report for completion.
This boiler has been constructed under Special Survey:
is of good material and workmanship and on completion
was tested by hydraulic pressure with satisfactory results.

This boiler was placed on board at this Port,
efficiently secured in position, mounted and
safety valves adjusted under steam with mdt

Survey Fee ... £ 6 : 10 : -

Travelling Expenses (if any) £ : :

When applied for MONTHLY A/c.

When received, 192

W. A. Roberts
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 29 MAY 1925

Assigned



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Foundation