

6 MAR 1930

Rpt. 5a.

# REPORT ON BOILERS.

No. 16827

Received at London Office 31 OCT 1929

Date of writing Report 1929 When handed in at Local Office 30.10.1929 Port of WEST HARTLEPOOL

No. in Survey held at Hartlepool Date, First Survey 10<sup>th</sup> Sept. Last Survey 25<sup>th</sup> Oct. 1929

41012 Sup. on the Main Boilers D 193 se. 'KYLEE' (Number of Visits 12) (Gross 2822 Tons) (Net 1662)

Master Built at Middlesbrough By whom built Smiths Dock Co Yard No. 892 When built 1929  
Engines made at Middlesbrough By whom made Smiths Dock Co Engine No. 359 When made 1929  
Boilers made at Hartlepool By whom made Richardsons Westgarth & Co Boiler No. D 193 When made 1929  
Nominal Horse Power of boilers 304. Owners Sharp S.S. Co Ltd. Port belonging to Newcastle

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Company of Scotland Ltd (Letter for Record S)

Total Heating Surface of Boilers 4554 sq. ft. Is forced draught fitted no Coal or Oil fired coal.

No. and Description of Boilers Two, single ended Working Pressure 180 lbs

Tested by hydraulic pressure to 320 lbs Date of test 11.10.29 No. of Certificate 3770 Can each boiler be worked separately

Area of Firegrate in each Boiler 60 sq. ft. No. and Description of safety valves to each boiler Pair Spring loaded

Area of each set of valves per boiler (per Rule 14.5) (as fitted 16.58) Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1'-6" Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 2'-0" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 15'-6" Length 10'-9" Shell plates: Material Steel Tensile strength 28/32

Thickness 1 17/64" Are the shell plates welded or flanged no Description of riveting: circ. seams (end DR Lap) (inter. DR Lap)

long. seams J.R. D.B.S. Diameter of rivet holes in (circ. seams 1 9/32" (long. seams 1 9/32" Pitch of rivets (3 3/4" 9"

Percentage of strength of circ. end seams (plate 65.85 (rivets 46.2) Percentage of strength of circ. intermediate seam (plate 85.78 (rivets 87)

Percentage of strength of longitudinal joint (plate 85.78 (rivets 87 (combined 89) Working pressure of shell by Rules 181 lbs

Thickness of butt straps (inter 1" (inner 1 1/8" No. and Description of Furnaces in each Boiler 3 Deightons 3cf

Material Steel Tensile strength 26/30 Smallest outside diameter 44 3/8"

Length of plain part (top (bottom) Thickness of plates (crown 9" (bottom 7/16" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 184 lbs

End plates in steam space: Material Steel Tensile strength 26/30 Thickness 1 9/32" Pitch of stays 21 1/2" x 22"

How are stays secured Double nuts & washers Working pressure by Rules 181 lbs

Tube plates: Material (front Steel (back Steel Tensile strength (26/30 Thickness (7/8" 3/4" & 3/4" doubler.

Mean pitch of stay tubes in nests 10 13/32" Pitch across wide water spaces 14 1/2" Working pressure (front 184 lbs (back 186 lbs

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

at centre 8 3/4" x 1 7/8" Length as per Rule 32 1/2" Distance apart 11 3/4" No. and pitch of stays

in each Three 8" Working pressure by Rules 182 lbs Combustion chamber plates: Material Steel

Tensile strength 26/30 Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 10" x 10" Back 10 1/8" x 9 3/4" Top 8" x 11 3/4" Are stays fitted with nuts or riveted over nuts

Working pressure by Rules 181 lbs Front plate at bottom: Material Steel Tensile strength 26/30

Thickness 7/8" Lower back plate: Material Steel Tensile strength 26/30 Thickness 7/8"

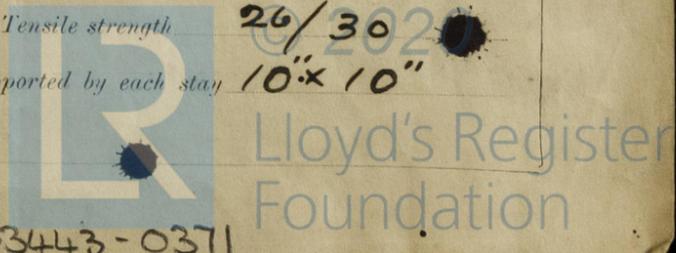
Pitch of stays at wide water space 14 1/2" x 10 1/8" Are stays fitted with nuts or riveted over nuts

Working Pressure 200 lbs Main stays: Material Steel Tensile strength 28/32

Diameter (At body of stay, 3 1/8" (Over threads No. of threads per inch 6 Area supported by each stay 21 1/2" x 22"

Working pressure by Rules 180 lbs Screw stays: Material Steel Tensile strength 26/30

Diameter (At turned off part, 1 3/4" (Over threads No. of threads per inch 9 Area supported by each stay 10" x 10"



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Working pressure by Rules 181 lbs Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part.</sup> 1 1/8" <sup>or</sup> 1 1/8" <sup>Over threads</sup> ✓  
 No. of threads per inch 9 ✓ Area supported by each stay 11 5/8" x 10 5/8" Working pressure by Rules 180 lbs  
 Tubes: Material Iron External diameter <sup>Plain</sup> 3 3/4" ✓ <sup>Stay</sup> 3 3/4" ✓ Thickness <sup>8 W.G.</sup> 1/4" x 7/16" ✓ No. of threads per inch 9 ✓  
 Pitch of tubes 4 5/8" x 4 5/8" ✓ Working pressure by Rules 190 lbs Manhole compensation: Size of opening in shell plate 13" x 16 1/2" ✓ Section of compensating ring 13 7/16" x 1 1/4" ✓ No. of rivets and diameter of rivet holes 32 1 3/32" ✓  
 Outer row rivet pitch at ends 9" ✓ 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 <sup>Plate</sup> / <sup>Rivets</sup>  
 Internal diameter / Working pressure by Rules / Thickness of crown / No. and diameter of stays  
 How connected to shell / Inner radius of crown / Working pressure by Rules  
 of rivets in outer row in dome connection to shell / Size of doubling plate under dome / Diameter of rivet holes and pitch

Type of Superheater / Manufacturers of <sup>Tubes</sup> / <sup>Steel castings</sup>  
 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 / 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 22 inclusive for boilers been complied with yes.  
 The foregoing is a correct description.  
 FOR RICHARDS & WESTGAR ENGINEERS  
 George Clark. Manufacturer.

Dates of Survey <sup>1929</sup> <sub>while building</sub> <sup>During progress of work in shops - - -</sup> 10.11.13.24.26.1.2.4.7.10.14.17.25 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) ✓  
<sup>During erection on board vessel - - -</sup> Total No. of visits 12

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
 These boilers have been built under Special Survey. The materials and workmanship are good and efficient. On completion they satisfactorily withstood the hydraulic test. They are being despatched to Middlesbrough for fitting on board.  
 These boilers have been securely fitted aboard and their safety valves adjusted and tested under steam with satisfactory results.

Survey Fee ... .. £ 27: 14: - ✓ When applied for, 30.10.1929  
 Travelling Expenses (if any) £ : : When received, 5.11.29  
 M. Man. <sup>Trab.</sup> 3.3.30  
 R. D. Shilston.  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 11 MAR 1930  
 Assigned See Trab. G.C. 13994

