

# REPORT ON BOILERS.

No. 80689

Received at London Office - 4 NOV 1926

Date of writing Report 20th Oct 1926 When handed in at Local Office 20th Oct 1926 Port of NEWCASTLE-ON-TYNE.

No. in Survey held at St Peters & Helburn Date, First Survey 16 Dec. 1925 Last Survey 3rd Nov 1926

on the Iron Steamer S.S. Rohna. (Number of Visits —) Gross 8500 Tons Net 4700

Built at Helburn By whom built R. H. Hawthorn Leslie & Co Ltd Yard No 542 When built 1926

Engines made at St Peters By whom made R. H. Hawthorn Leslie & Co Ltd Engine No. 3646 When made 1926

Boilers made at do By whom made do Boiler No 3646 When made 1926

Owner British India Steam Navigation Co Ltd Port belonging to London.

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

Manufacturers of Steel Friedrupp (Krupp plates by Cornett). (Letter for Record S)  
Total Heating Surface of Boilers 14080 sq ft Is forced draught fitted yes Coal or Oil fired oil

No. and Description of Boilers Five, Single Ended. Working Pressure 215 lbs per sq in.

Tested by hydraulic pressure to 373 lbs per sq in. Date of test 7.15.23 No. of Certificate 9984, 9987, 9989, 9994, 9995 Can each boiler be worked separately yes

Area of Firegrate in each Boiler Oil burning No. and Description of safety valves to each boiler Two, direct spring.

Area of each set of valves per boiler per Rule 12.60 = 3 sq in. Pressure to which they are adjusted 215 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. D.B.

Smallest distance between boilers or uptakes and bunkers or woodwork 24" Is oil fuel carried in the double bottom under boilers yes

Smallest distance between shell of boiler and tank top plating 24" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 15'-9" Length 12'-0" Shell plates: Material Steel Tensile strength 28/32 tons

Thickness 1 17/32" Are the shell plates welded or flanged no Description of riveting: circ. seams end 2 R L P inter. none

g. seams Double Straps Diameter of rivet holes in circ. seams 1 9/16" Pitch of rivets 4.15" 10 3/8"

Percentage of strength of circ. end seams plate 62.3 rivets 49.5 Percentage of strength of circ. intermediate seam plate 84.9 rivets 92.6 combined 88.3

Percentage of strength of longitudinal joint plate 84.9 rivets 92.6 combined 88.3 Working pressure of shell by Rules 215 lbs per sq in.

Thickness of butt straps outer 1 3/16" inner 1 5/16" No. and Description of Furnaces in each Boiler 3 Horizons.

Material Steel Tensile strength 26/30 tons Smallest outside diameter 47 15/16"

Length of plain part top Thickness of plates crown 2 23/32" Description of longitudinal joint Butt

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 220 lbs per sq in.

End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 1 3/8" Pitch of stays 22"x18"

How are stays secured Double nuts & washers Working pressure by Rules 219 lbs per sq in.

End plates: Material front } steel back } Tensile strength 26/30 tons Thickness 1 3/16"

Can pitch of stay tubes in nests 9" Pitch across wide water spaces 13 3/4" Working pressure front 229 lbs back 226

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

centre 10"x1 1/16" Length as per Rule 34 1/32" Distance apart 9 1/2" No. and pitch of stays

each Three, 8" Working pressure by Rules 223 lbs Combustion chamber plates: Material Steel

Tensile strength 26/30 tons Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 29/32"

Pitch of stays to ditto: Sides 9 1/2"x8 1/2" Back 9"x9" Top 9 1/2"x8" Are stays fitted with nuts or riveted over Nuts

Working pressure by Rules 222, 215, 234 Front plate at bottom: Material Steel Tensile strength 26/30 tons

Thickness 1" Lower back plate: Material Steel Tensile strength 26/30 tons Thickness 29/32"

Pitch of stays at wide water space 14 3/4"x9" Are stays fitted with nuts or riveted over Nuts

Working Pressure 226 lbs per sq in. Main stays: Material Steel Tensile strength 28/32 tons

Diameter At body of stay, 3 3/8" No. of threads per inch 6 Area supported by each stay 396 sq in.

Working pressure by Rules 220 lbs per sq in. Screw stays: Material Steel Tensile strength 26/30 tons

Diameter At turned off part, 1 3/4" No. of threads per inch 9 Area supported by each stay 81 sq in.



Working pressure by Rules 224 lb Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, 2" or Over threads 2"  
No. of threads per inch 9 Area supported by each stay 1070" Working pressure by Rules 232 lb per sq. in.  
Tubes: Material Iron External diameter { Plain 2 3/4" Stay 2 3/4" Thickness 5/16 - 7/16" No. of threads per inch 9  
Pitch of tubes 4" x 4" Working pressure by Rules 230 lb per sq. in. Manhole compensation: Size of opening in shell plate 17" x 13" Section of compensating ring 19" x 1 7/8" No. of rivets and diameter of rivet holes 15, 1 9/16"  
Outer row rivet pitch at ends 10 3/8" Depth of flange if manhole flanged Yes Steam Dome: Material None  
Tensile strength Yes Thickness of shell Yes Description of longitudinal joint Yes  
Diameter of rivet holes Yes Pitch of rivets Yes Percentage of strength of joint { Plate Yes Rivets Yes  
Internal diameter Yes Working pressure by Rules Yes Thickness of crown Yes No. and diameter of stays Yes  
How connected to shell Yes Inner radius of crown Yes Working pressure by Rules Yes  
Size of doubling plate under dome Yes Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell Yes

Type of Superheater None Manufacturers of { Tubes Yes Steel casting Yes  
Number of elements Yes Material of tubes Yes Internal diameter and thickness of tubes Yes  
Material of headers Yes Tensile strength Yes Thickness Yes Can the superheater be shut off and the boiler be worked separately Yes  
Is a safety valve fitted to every part of the superheater which can be shut off from the boiler Yes  
Area of each safety valve Yes Are the safety valves fitted with easing gear Yes Working pressure as per Rules Yes  
Pressure to which the safety valves are adjusted Yes Hydraulic test pressure: tubes Yes, castings Yes and after assembly in place Yes Are drain cocks or valves fitted to free the superheater from water where necessary Yes

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with yes

The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - - -  
while building { During erection on board vessel - - -

See Index Report

Are the approved plans of boiler and superheater forwarded herewith yes  
(If not state date of approval.)  
Total No. of visits

### GENERAL REMARKS

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

These boilers have been built under special survey. The materials & workmanship are of good quality, they have been securely fitted on board and the safety valves adjusted under steam to 215 pounds per square inch.

Survey Fee ...

Travelling Expenses (if any) £

When applied for,

192

When received,

192

George Murdoch  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Nov. 5 NOV 1926

Assigned

See Index Report attached



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Lloyd's Register  
Foundation