

# REPORT ON BOILERS.

No. 81484

Received at London Office

23 JUN 1927

Date of writing Report 18 June 1927 When handed in at Local Office 22/6/1927 Port of Newcastle on Tyne

No. in Survey held at Walker Date, First Survey 12 Oct. 1926 Last Survey 16 June 1927

Reg. Book. (Number of Visits —) Gross 2190  
Tons Net 905

on the TWIN SCREW STEAMER "JUNA"

Master Walker Built at Walker By whom built S. H. W. R. L. D. Yard No. 1230 When built 1927-6

Engines made at Walker By whom made Swan Hunter, Lightham, Richardson & Co. Ltd. Engine No. 1230 When made 1927-6

Boilers made at Walker By whom made Swan Hunter, Lightham, Richardson & Co. Ltd. Boiler No. 1230 When made 1927-6

Nominal Horse Power 469 Owners British India Steam Navigation Co. Ltd. Port belonging to London

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

Manufacturers of Steel David Colville & Co. Ltd. Plates Marshall & Co. Ltd. Furnaces (Letter for Record S)

Total Heating Surface of Boilers 7313 358 Is forced draught fitted yes Coal or Oil fired oil Working Pressure 215 lb.

No. and Description of Boilers 3 S.E. CYL. MULTITUBULAR  
2 AFT. BOILERS. 21.5.27. FBOILER 146. L.G.S.

Tested by hydraulic pressure to 373 lb. Date of test 13.5.27 No. of Certificates 144 L.G.S. Can each boiler be worked separately yes

Area of Firegrate in each Boiler OIL FUEL No. and Description of safety valves to each boiler two, direct spring loaded, high lift, 2 3/4" dia.

Area of each set of valves per boiler {per Rule 10.84 as fitted 11.86 Pressure to which they are adjusted 215 lb. wp. Are they fitted with easing gear yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler none

Smallest distance between boilers or uptakes and bunkers or woodwork 27" Is oil fuel carried in the double bottom under boilers yes

Smallest distance between shell of boiler and tank top plating 28" Is the bottom of the boiler insulated yes

Largest internal dia. of boilers 14' 6" 5/16 Length 11' 6" Shell plates: Material Steel Tensile strength 30/34 tons

Thickness 1 1/32" Are the shell plates welded or flanged no Description of riveting: circ. seams {end D.R. LAP inter. —

long. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams 1 1/2" long. seams 1 3/8" Pitch of rivets {plate 4.757" rivets 8 15/16"

Percentage of strength of circ. end seams {plate 68.46% rivets 42.38% Percentage of strength of circ. intermediate seam {plate none rivets —

Percentage of strength of longitudinal joint {plate 84.61% rivets 88.86% combined 87.00% Working pressure of shell by Rules 217 lb.

Thickness of butt straps {outer 1 1/32" inner 1 5/32" No. and Description of Furnaces in each Boiler 3 Deighton Corrugated

Material Steel Tensile strength 26/30 tons Smallest outside diameter 3' 6 1/16"

Length of plain part {top — bottom — Thickness of plates {crown 31" bottom 32" Description of longitudinal joint weld

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 223 lb.

End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 1 9/32" Pitch of stays 19 1/2" x 17 1/8"

How are stays secured double nuts and washers Working pressure by Rules 219 lb.

Tube plates: Material {front Steel back Steel Tensile strength {26-30 tons Thickness {1 1/32" Working pressure {front 223 lb. back 269

Mean pitch of stay tubes in nests 17 1/2" Pitch across wide water spaces 13 1/2"

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

at centre 8 1/2" x 2 3/16" Length as per Rule 31 1/2" Distance apart 8" No. and pitch of stays

in each 2 of 9 3/4" pitch Working pressure by Rules 215 lb. Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 3/32" Back 11" Top 2 3/32" Bottom 2 3/32" See Marshall 29/6/27.

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

Working pressure by Rules 216 lb. Front plate at bottom: Material Steel Tensile strength 26-30 tons

Thickness 1 1/32" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 31/32"

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

Working Pressure 285 lb. Main stays: Material Steel Tensile strength 28-32 tons

Diameter {At body of stay 3/8" or Over threads 3/8" No. of threads per inch 6 Area supported by each stay 19 1/2" x 17 1/8"

Working pressure by Rules 215 lb. Screw stays: Material Steel Tensile strength 26-30 tons

Diameter {At turned off part 1 5/8" or Over threads 1 5/8" No. of threads per inch 9 Area supported by each stay 72"



Working pressure by Rules 216 4/4" Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part. or Over threads 1 7/8" ✓  
No. of threads per inch 9 ✓ Area supported by each stay 11 1/2 x 8 1/2" Working pressure by Rules 223 4/4" ✓  
Tubes: Material Iron ✓ External diameter { Plain 2 1/2" ✓ Thickness { 8 W G ✓ No. of threads per inch 9 ✓  
Pitch of tubes 3 3/4" ✓ Working pressure by Rules 218 4/4" ✓ Manhole compensation: Size of opening in  
shell plate 32" x 16" ✓ Section of compensating ring Flanged ✓ No. of rivets and diameter of rivet holes 32 - 19/16 dia ✓  
Outer row rivet pitch at ends 5 5/16" ✓ Depth of flange if manhole flanged 2 3/4 x 1 1/2" ✓ 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 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 none 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 yes ✓

The foregoing is a correct description,  
FOR SWAN, HUNTER, & WICHAM RICHARDSON, LTD. Manufacturer,  
21/6/27. W. W. Winstanley  
Dates of Survey { During progress of work in shops - - }  
while building { 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 Boilers built under Special Survey the material and workmanship found good and efficient.  
The Boilers Satisfactorily fitted up on board the Vessel, tested under steam and found Satisfactory.

Survey Fee please see 1st entry Rept on Trading £ : : When applied for, 192  
Travelling Expenses (if any) £ : : When received, 192

L. G. Shallcross  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 28 JUN 1927  
Assigned See Rept. attached