

## REPORT ON BOILERS.

No. 79910

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Date of writing Report *Feb 15<sup>th</sup> 1925* When handed in at Local Office *Feb 15<sup>th</sup> 1925* Port of **NEWCASTLE-ON-TYNE.**No. in Survey held at **WALKER** Date, First Survey *March 2<sup>nd</sup> 1925* Last Survey *Feb 11<sup>th</sup> 1925*  
Reg. Book.40913 on the *turn screw steamer* **SIRDHANA** (Number of Visits *67*) Gross *7760*  
Tons Net *4850*Master *✓* Built at **Walker** By whom built **S. H. & W. R. Co. Ltd** Yard No. **1200** When built **1925**Engines made at **Walker** By whom made **S. H. & W. R. Co. Ltd.** Engine No. **1200** When made **1925**Boilers made at **Walker** By whom made **S. H. & W. R. Co. Ltd.** Boiler No. **1200** When made **1925**Nominal Horse Power **801** Owners **British India S. S. Co. Ltd** Port belonging to **London**MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY OR DONKEY.~~Manufacturers of Steel *Thomas. The Leeds Forge Co. Ltd. Plates in. David Colville & Sons Ltd* (Letter for Record *S*)Total Heating Surface of Boilers *12125* <sup>55B</sup> Is forced draught fitted *yes* Coal or Oil fired *coal*No. and Description of Boilers *5 S.E. Multitubular* Working Pressure *215 lbs/sq"*Tested by hydraulic pressure to *273* Date of test *24.8.25* No. of Certificate *9933 S.S.S.* Can each boiler be worked separately *yes*Area of Firegrate in each Boiler *63.6* No. and Description of safety valves to each boiler *2. D.S. High Lift.*Area of each ~~set~~ of valves per boiler { per Rule *4.375* as fitted *5.944* } Pressure to which they are adjusted *215* Are they fitted with easing gear *yes*In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler *✓*Smallest distance between boilers or uptakes and bunkers or woodwork *20"* 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 *no.*Largest internal dia. of boilers *14'-9 5/16"* Length *12'-6"* Shell plates: Material *steel* Tensile strength *30 to 34 tons.*Thickness *1 1/32"* Are the shell plates welded or flanged *no* Description of riveting: circ. seams { end *D.R.L.* 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 { *4.75"* *9 5/16"* }Percentage of strength of circ. end seams { plate *68.46* rivets *42.39* } Percentage of strength of circ. intermediate seam { plate *✓* rivets *✓*Percentage of strength of longitudinal joint { plate *85.23* rivets *85.29* combined *87.53* } Working pressure of shell by Rules *215 lbs/sq"*Thickness of butt straps { outer *1 1/32"* inner *1 5/32"* } No. and Description of Furnaces in each Boiler *3 Dighton.*Material *steel* Tensile strength *26 to 30 tons.* Smallest outside diameter *46 5/8"*Length of plain part { top *✓* bottom *✓* } Thickness of plates { crown *1 1/6"* bottom *✓* } Description of longitudinal joint *welded.*Dimensions of stiffening rings on furnace or c.c. bottom *✓* Working pressure of furnace by Rules *216 lbs/sq"*End plates in steam space: Material *steel* Tensile strength *26 to 30 tons* Thickness *1 5/16"* Pitch of stays *20 7/8" x 18 1/2"*How are stays secured *Double nuts* Working pressure by Rules *216 lbs/sq"*Tube plates: Material { front *✓* back *✓* } Tensile strength { *26 to 30 tons.* } Thickness { *1 1/32"* *1 3/16"* }Mean pitch of stay tubes in nests *9 3/8"* Pitch across wide water spaces *13 1/2" x 7 1/2"* Working pressure { front *223 lbs/sq"* back *270 lbs/sq"* }Girders to combustion chamber tops: Material *steel* Tensile strength *28 to 32 tons* Depth and thickness of girderat centre *10 1/8" x 1 7/8"* Length as per Rule *38 15/32"* Distance apart *9 1/4"* No. and pitch of staysin each *3 of 9"* Working pressure by Rules *217 lbs/sq"* Combustion chamber plates: Material *steel*Tensile strength *26 to 30 tons.* Thickness: Sides *23/32"* Back *23/32"* Top *23/32"* Bottom *29/32"*Pitch of stays to ditto: Sides *9 3/4" x 8 1/2"* Back *9 1/2" x 8 1/2"* Top *9 1/4" x 9"* Are stays fitted with nuts or riveted over *nuts fitted.*Working pressure by Rules *217 lbs/sq"* Front plate at bottom: Material *steel* Tensile strength *26 to 30 tons.*Thickness *1 1/32"* Lower back plate: Material *steel* Tensile strength *26 to 30 tons* Thickness *1/8"*Pitch of stays at wide water space *14 1/2" x 8 3/8"* Are stays fitted with nuts or riveted over *nuts fitted*Working Pressure *229* Main stays: Material *steel* Tensile strength *28 to 32 tons.*Diameter { At body of stay, *3 1/4"* or *✓* } No. of threads per inch *6* Area supported by each stay *372 sq"*Working pressure by Rules *216 lbs/sq"* Screw stays: Material *steel* Tensile strength *26 to 30 tons*Diameter { At turned off part, *1 3/4"* or *✓* } No. of threads per inch *9* Area supported by each stay *83.2 sq"*

Working pressure by Rules  $218 \frac{11}{16}$  Are the stays drilled at the outer ends *no* ✓ Margin stays: Diameter { At turned off part, or Over threads  $1 \frac{1}{8} \times 2$  }  
 No. of threads per inch *9* ✓ Area supported by each stay  $96.4 \text{ sq. in.}$  Working pressure by Rules  $221 \frac{11}{16}$   
 Tubes: Material *Iron* ✓ External diameter { Plain  $2 \frac{1}{2}$  Stay  $2 \frac{1}{2}$  } Thickness {  $8 \text{ W.C.}$   $3/8 \times 5/16$  } No. of threads per inch *9* ✓  
 Pitch of tubes  $3 \frac{3}{4}$  ✓ Working pressure by Rules  $230 \frac{11}{16}$  Manhole compensation: Size of opening in shell plate  $20 \times 16$  ✓ Section of compensating ring  $10 \frac{1}{16} \times 1 \frac{1}{32}$  No. of rivets and diameter of rivet holes *32* ✓  $1 \frac{9}{16}$  ✓  
 Outer row rivet pitch at ends  $10 \frac{5}{8}$  ✓ Depth of flange if manhole flanged  $2 \frac{3}{4}$  ✓ 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 hole 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* ✓  
**SWAN, HUNTER & WIGHAM RICHARDSON, LTD.**

*G. F. Dwyer*  
**DIRECTOR**

The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - - - } *From March 2<sup>nd</sup> 1925 to Feb 11<sup>th</sup>*  
 { During erection on board vessel - - - }  
 Are the approved plans of boiler and superheater forwarded herewith *yes* ✓  
 (If not state date of approval.)  
 Total No. of visits *67*

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) *These boilers have been examined during construction, and the materials and workmanship are good and in accordance with the requirements of the rules & the approved plan. On completion they were submitted to a hydraulic test with satisfactory result, and after fitting on board were also seen under steam & found good.*

Survey Fee ... *see other report* When applied for, 192  
 Travelling Expenses (if any) £ : : When received, 192

*L. G. Shallcross, Francis Ashton*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **TUES. 22 DEC 1925**

Assigned



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