

REPORT ON BOILERS.

No. 12491

Received at London Office

13 NOV 1939

Date of Writing Report 10.11.39 Port of *Belfast*
 When handed in at Local Office *Belfast*
 Date, First Survey *10.11.39* Last Survey *19*
 No. in Survey held at *Belfast*
 Reg. Book *6298* on the *T.M.R. Co. "AUCKLAND STAR"*
 (Number of Visits) *1*
 Tons *Gross 12382.11*
Net 7807.77
 Built at *Belfast* By whom built *Haland, Wolff Ltd.* Yard No. *1017* When built *1939*
 Engines made at *Belfast* By whom made *Haland, Wolff Ltd.* Engine No. *1017* When made *1939*
 Boilers made at *Belfast* By whom made *Haland, Wolff Ltd.* Boiler No. *1017* When made *1939*
 Owners *Blue Star Line Ltd* Port belonging to *Belfast*

VERTICAL DONKEY BOILER.

Made at *Belfast* By whom made *Haland, Wolff Ltd* Boiler No. *1017* When made *1939* Where fixed *E.R. 3rd Forward*
Colville Ltd. *Bridge Deck Level*
 Manufacturers of Steel
 Total Heating Surface of Boiler *Oil firing 300 sq ft 475 sq ft 775 sq ft* Is forced draught fitted *Yes* Coal or Oil fired *Oil*
 Name and Description of Boilers *One Clarkson Horizontal Tube Type BATOG/775* Working pressure *80 lbs/sq in*
 Tested by hydraulic pressure to *160 lbs/sq in* Date of test *2/6/39* No. of Certificate *1060*
 Area of Firegrate in each Boiler *5'1" sq ft* No. and Description of safety valves to each boiler *One 2" double spring loaded*
 Area of each set of valves per boiler *5'1" sq ft* Pressure to which they are adjusted *80 lbs/sq in* Are they fitted with easing gear *Yes*
 State whether steam from main boilers can enter the donkey boiler *No* Smallest distance between boiler or uptake and *Of Service Tank*
bunkers
 Woodwork *5'9"* Is oil fuel carried in the double bottom under boiler *No* Smallest distance between base of boiler and tank top plating
 Is the base of the boiler insulated *No* Largest internal dia. of boiler *5'10 7/8"* Height *16'9" overall*
 Shell plates: Material *Steel* Tensile strength *28/32 Tons/sq in* Thickness *7/8"*
 Are the shell plates welded or flanged *No* Description of riveting: circ. seams *DRL* long. seams *DR. DBS*
 No. of rivet holes in *1 1/4"* Pitch of rivets *3 1/2"* Percentage of strength of circ. seams *64.3* of Longitudinal joint *73.5*
One Horizontal Tube holes 9 1/4" Tubes *7"* rivets *82*
 Working pressure of shell by rules *147 lbs* Thickness of butt straps *1 1/6"*
 Full Crown: Whether complete hemisphere, dished partial spherical, or flat *Dished partial spherical* Material *Steel*
 Tensile strength *26/30 Tons* Thickness *3/32"* Radius *5'6"* Working pressure by rules *94.5 lbs*
 Description of Furnace: Plain, spherical, or dished crown *Dished Crown* Material *Steel* Tensile strength *26/30 Tons*
 Thickness *25/32"* External diameter *37 9/16"* Length as per rule *7'0"* Working pressure by rules *111.5 lbs*
 Are support stays circumferentially *Yes* and vertically *Yes* Are stays fitted with nuts or riveted over *Yes*
 Diameter of stays over thread *3/4"* Radius of spherical or dished furnace crown *3'0"* Working pressure by rule *206 lbs*
 Thickness of Girth Ring *3/4"* Diameter as per rule *136 lbs*
 Combustion Chamber: Material *Steel* Tensile strength *26/30 Tons* Thickness of top plate *3/32"*
 Is it dished *Yes* Working pressure by rule *136 lbs* Thickness of back plate *3/32"* Diameter if circular *3'0"*
 Length as per rule *7'0"* Pitch of stays *3'0"* Are stays fitted with nuts or riveted over *Yes*
 Diameter of stays over thread *3/4"* Working pressure of back plate by rules *136 lbs*
 Shell Plates: Material *Steel* Tensile strength *26/30 Tons* Thickness *3/32"* Mean pitch of stay tubes in nests *3'0"*
 Comprising shell, Dia. as per rule *3'0"* Pitch in outer vertical rows *3'0"* Dia. of tube holes FRONT *3'0"* BACK *3'0"*
 Does alternate tube in outer vertical rows a stay tube *Yes* Working pressure by rules *136 lbs*
 Stays to combustion chamber tops: Material *Steel* Tensile strength *26/30 Tons* Length as per rule *7'0"*
 Thickness and thickness of girder at centre *3'0"* Working pressure by rule *136 lbs*
 Distance apart *3'0"* No. and pitch of stays in each *3'0"* Working pressure by rule *136 lbs*

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W334-0051

Crown stays: Material ✓ Tensile strength ✓ Diameter { at body of stay, ✓ or over threads. ✓
No. of threads per inch ✓ Area supported by each stay ✓ Working pressure by rules ✓
Screw stays: Material ✓ Tensile strength ✓ Diameter { at turned off part, ✓ or over threads. ✓ No. of threads per inch ✓
Area supported by each stay ✓ Working pressure by rules ✓ Are the stays drilled at the outer ends ✓
Tubes: Material *Shinbale Tubes - Steel* ✓ External diameter { *3 1/2" in outer shell* ✓ *2 3/4" in inner shell* Thickness { *9 BWC (142 mils)* ✓
No. of threads per inch ✓ *6" x 7" outer shell* Pitch of tubes *6.283 x 6" inner shell* Working pressure by rules *as approved* ✓
Manhole Compensation: Size of opening in shell plate *16" x 12"* ✓ Section of compensating ring *6" x 1 3/8"* ✓ No. of rivets and diam. of rivet holes *36 x 1 1/4" hole* ✓ Outer row rivet pitch at ends *6.28"* ✓ Depth of flange if manhole flanged *in Crown 3"* ✓
Uptake: External diameter *21 1/8"* ✓ Thickness of uptake plate *12" / 32"* ✓
Cross Tubes: No. ✓ External diameters { ✓ Thickness of plates { ✓
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with *Yes* ✓

The foregoing is a correct description,
For HARLAND AND WOLFE, LIMITED.

A. J. Marshall Manufact.
SECRETARY

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

Is the approved plan of boiler forwarded herewith (If not state date of approval.)

Total No. of visits

Is this Boiler a duplicate of a previous case *Yes*

If so, state Vessel's name and Report No. *WELLINGTON STAR BEL REPAIR*

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

This boiler has been constructed under Special Survey in accordance with the Rules and approved plan.

The materials and workmanship are good

The boiler has been efficiently installed onboard in accordance with the requirements of the Rules, examined under steam and the safety valves adjusted to 80 lbs/sq. in. Compression washers $7 \frac{7}{16}$ " $8 \frac{7}{16}$ "

The accumulation test has been carried out with satisfactory results using oil firing, exhaust gas simultaneously.

The boiler is eligible in our opinion to have the notation of 7 DB 80 lbs.

Survey Fee ... £ : : When applied for, 19
Travelling Expenses (if any) £ : : When received, 19

R. Lee Jones *John S. Thomas*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute
Assigned

TUE 21 NOV 1939

See Reg. F.C. 12491



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