

10 Oct 1928

Bel 10.047

No. 15842

## REPORT ON BOILERS.

Received at London Office

24 MAY 1928

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Date of writing Report 23.5.28 When handed in at Local Office 23.5.28 Port of Grimsby  
 No. in Survey held at Lincoln Date, First Survey 13.1.28 Last Survey 18.5.28  
 Reg. Book 1228 on the "HIGHLAND MONARCH" (Number of Visits 11) Gross Tons        Net Tons         
 Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 751 When built 1928  
 Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 751 When made 1928  
 Boilers made at Lincoln By whom made Babcock & Wilcox Ltd. Boiler No. 73/4549 When made 1928  
 Owners H. & W. Nelson Ltd. Port belonging to Belfast

## VERTICAL DONKEY BOILER.

Made at Lincoln By whom made Babcock & Wilcox Ltd. No. 73/4549 When made 1928 Where fixed Upper deck  
 Manufacturers of Steel Parkgate, Dorman Long, Bolckow Vaughan.  
 Total Heating Surface of Boiler 600 sq. ft. Is forced draught fitted - Coal or Oil fired Oil fired & waste heat  
 No. and Description of Boilers One, Clarkson Thumble Tube type Working pressure 100 lbs.  
 Tested by hydraulic pressure to 200 lbs. Date of test 3rd May, 1928 No. of Certificate 233  
 Area of Firegrate in each Boiler None No. and Description of safety valves to each boiler Two, 2 1/2" dia. Spring loaded.  
 Area of each set of valves per boiler per rule 7.8" Pressure to which they are adjusted not adjusted Are they fitted with easing gear yes  
 State whether steam from main boilers can enter the donkey boiler ✓ Smallest distance between boiler or uptake and bunkers         
 Is oil fuel carried in the double bottom under boiler ✓ Smallest distance between base of boiler and tank top plating         
 Is the base of the boiler insulated ✓ Largest internal dia. of boiler 6'-0" Height 12'-6 1/2"  
 Shell plates: Material S.H. steel Tensile strength 28/32 T. Thickness 1/2"  
 Are the shell plates welded or flanged ✓ Description of riveting: circ. seams end. S.P.L. inter. S.P.L. long. seams D.R. D.K. 140  
 Dia. of rivet holes in 7/8" Pitch of rivets 2" Percentage of strength of circ. seams plate 56% rivets 43% of Longitudinal joint plate 73% rivets 102% combined 95%  
 Working pressure of shell by rules 144 lbs. Thickness of butt straps outer 7/16" inner 7/16"  
 Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Flat Material S.H. steel  
 Tensile strength 26/30 T. Thickness 1/16" Radius 2 1/2" Working pressure by rules 135 lbs.  
 Description of Furnace: Plain, spherical, or dished crown ✓ Material S.H. steel Tensile strength 26/30 T.  
 Thickness 1 1/32" External diameter 5'-2 1/8" Length as per rule 9'-3 1/2" Working pressure by rules 120 lbs.  
 Pitch of support stays circumferentially ✓ and vertically ✓ Are stays fitted with nuts or riveted over ✓  
 Diameter of stays over thread ✓ Radius of spherical or dished furnace crown ✓ Working pressure by rule ✓  
 Thickness of Ogee Ring ✓ Diameter as per rule D Working pressure by rule ✓  
 Combustion Chamber: Material ✓ Tensile strength ✓ Thickness of top plate ✓  
 Radius if dished ✓ Working pressure by rule ✓ Thickness of back plate ✓ Diameter if circular ✓  
 Length as per rule ✓ Pitch of stays ✓ Are stays fitted with nuts or riveted over ✓  
 Diameter of stays over thread ✓ Working pressure of back plate by rules ✓  
 Tube Plates: Material front back Tensile strength ✓ Thickness ✓ Mean pitch of stay tubes in nests ✓  
 Comprising shell, Dia. as per rule front back Pitch in outer vertical rows ✓ Dia. of tube holes FRONT stay plain BACK stay plain  
 Are each alternate tube in outer vertical rows a stay tube ✓ Working pressure by rules front back  
 Girders to combustion chamber tops: Material ✓ Tensile strength ✓  
 Depth and thickness of girder at centre ✓ Length as per rule ✓  
 Distance apart ✓ No. and pitch of stays in each ✓ Working pressure by rule ✓

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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 S.D. steel External diameter { plain 3 1/2 to 2 1/4 stay ☒ Thickness { 9 B.W.G.

No. of threads per inch ☒ Pitch of tubes ☒ Working pressure by rules ☒

Manhole Compensation: Size of opening in shell plate ☒ Section of compensating ring ☒ No. of rivets and diam. of rivet holes ☒ Outer row rivet pitch at ends ☒ Depth of flange if manhole flanged ☒

Uptake: External diameter 3'-5 1/2" Thickness of uptake plate 3/4"

Cross Tubes: No. ☒ External diameters { ☒ Thickness of plates ☒

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

The foregoing is a correct description,

Annual Boiler Survey

Dates of Survey { During progress of work in shops - 1928 Jan 13 26 Mar 7 Apr 5 13 17 19 May 1 2 3 18 Is the approved plan of boiler forwarded herewith no 6/2/28 (If not state date of approval.)

while building { During erection on board vessel - ☒ Total No. of visits 11

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) The materials and workmanship are good.

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

This boiler has been fastened efficiently on a flat on an upper deck at the forward end of the engine room. The safety valves were adjusted under steam, accumulation tests were made under waste heat and oil-burning conditions and a rise of pressure of 5 lbs was noted.

R. Lee Amear  
1. 10. 28.

Survey Fee ... £ 4 : 4 : 0 When applied for, 7 5 1928

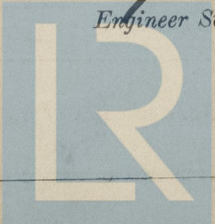
Travelling Expenses (if any) £ 1 : 15 : 0 When received, 7 5 1928

See London return C 4.

Committee's Minute TUE. 16 OCT 1928

Assigned See Bel. P. 8 apt No 10047

W. G. H. Kinlay  
Engineer Surveyor to Lloyd's Register of Shipping.

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