

10 Oct 1928

Bel 10.047

No. 15842

REPORT ON BOILERS.

Received at London Office

24 MAY 1928

t. 5b.

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 18.5.1928

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 & waste heat

No. and Description of Boilers One, Clarkson Thimble 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 No Description of riveting: circ. seams end... SPL long. seams D.R. D.K. 150

Dia. of rivet holes in 7/8" Pitch of rivets 2" Percentage of strength of circ. seams plate... 56% of Longitudinal joint rivets... 43%

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 1/2" External diameter 5'-2 1/8" Length as per rule 9'-3 1/2" Working pressure by rules 120 lbs

Attachment 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... ✓ Tensile strength ✓ Thickness ✓ Mean pitch of stay tubes in nests ✓

Comprising shell, Dia. as per rule front... ✓ Pitch in outer vertical rows ✓ Dia. of tube holes FRONT stay... ✓ BACK stay... ✓

Working pressure by rules front... ✓ back... ✓

Orders 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 1/2 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 diameters 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 18 May 1 2 3 18 Is the approved plan of boiler forwarded herewith NO 6/2/28
 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, July 1928
See longer return c 4.

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

Committee's Minute TUE. 16 OCT 1928
 Assigned See Bel. Pt. 8 apt No 10047

