

28 JAN 1929

Bel 10,103

No. 15990

pt. 5b.

REPORT ON BOILERS.

Received at London Office 27 AUG 1928

Date of writing Report 25.8.1928 When handed in at Local Office 25.8.1928 Port of Grimsby

No. in Survey held at Lincoln Date, First Survey 13th Jan 1928 Last Survey 18th Aug 1928

Reg. Book 90704 on the Steel Twin Sc. HIGHLAND CHIEFTAIN (Number of Visits 17) Gross Tons Net Tons

Built at Belfast By whom built Harland & Wolff Ltd Yard No. 806 When built 1929

Engines made at Belfast By whom made Harland & Wolff Ltd Engine No. 806 When made 1929

Boilers made at Lincoln By whom made Babcock & Wilcox Ltd Boiler No. 73/4551 When made 1928

Owners H. & W. Nelson Ltd Port belonging to Belfast

VERTICAL DONKEY BOILER.

Made at Lincoln By whom made Babcock & Wilcox Ltd Boiler No. 73/4551 When made 1928 Where fixed Upper deck
in main room.

Manufacturers of Steel Parkgate 10 St. L. Total Heating Surface of Boiler 600 sq ft Is forced draught fitted Coal or Oil fired Coal

No. and Description of Boilers One "Clarkson" Thimble Tube type Working pressure 100 lb

Tested by hydraulic pressure to 200 lb Date of test 17th Aug 1928 No. of Certificate 241

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 as fitted 9.81 Pressure to which they are adjusted 100 lb 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

or woodwork 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. L. Steel Tensile strength 28/32 T. Thickness 1/2"

Are the shell plates welded or flanged Description of riveting: circ. seams { end S. R. Bot. A. T. long. seams D. R. D. B. Straps inter. d. r.

Dia. of rivet holes in { circ. seams 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 long. seams 7/8"

Working pressure of shell by rules 144 lb. Thickness of butt straps { outer 7/16" inner 7/16"

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Flat Material S. L. Steel

Tensile strength 26/30 T. Thickness 11/16" Radius Working pressure by rules 135 lb

Description of Furnace: Plain, spherical, or dished crown Material S. L. Steel Tensile strength 26/30 T.

Thickness 1 1/2" External diameter { top 5'-2 7/8" Length as per rule 9'-3 1/2" Working pressure by rules 120 lb. bottom 5'-2 7/8"

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 a 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

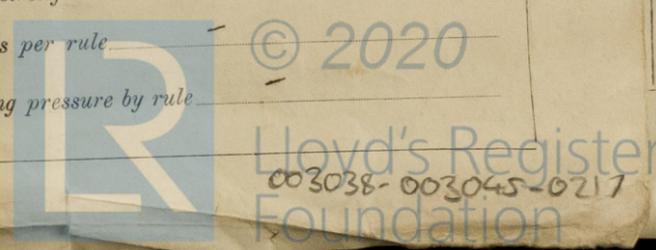
If comprising shell, Dia. as per rule { front back Pitch in outer vertical rows { Dia. of tube holes FRONT { stay plain BACK { stay plain

Is 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



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 *S. D. steel* Working pressure by rules Are the stays drilled at the outer ends
Tubes: Material *S. D. steel* External diameter { plain *3 1/4* 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 diameter 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
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,

Balcock & Wilcox Ltd Manufacturer.
 per *J.W.* Aug 23rd 1928

Annual Survey Request

Dates of Survey while building { During progress of work in shops - - } *1928 Jan 13, 26 Mar 7 Apr 5, 13, 17 May 1, 10, 18, 21, 31 Jun 13* Is the approved plan of boiler forwarded herewith *no 6/2/28* (If not state date of approval.)
 { During erection on board vessel - - }
 Total No. of visits *17*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This boiler has been built under special survey and in accordance with the Rules and approved plan. The materials and workmanship are good. (See Gms. 14: Entry Upt: 40.15842)*

*Plan with * Harbor Wolf 2751, 2000000*

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 at burning conditions and a rise of pressure of 6 lbs." was noted.

Rice Ames 3.1.29

Survey Fee £ *4 : 4 : -* When applied for, *22/8/28*
 Travelling Expenses (if any) £ *2 : 13/3* When received, *3rd Jan. 1929* See London Jan 4.

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

Committee's Minute **FRI. 1 FEB 1929**
 Assigned

