

Rpt. 5a.
CEIVED

REPORT ON BOILERS.

No. 14188

JUL 1946

Received at London Office 21 JUL 1946

Date of writing Report 29TH JUNE 1946 When handed in at Local Office 29TH JUNE 1946 Port of BELFAST

No. in Survey held at BELFAST Reg. Book. Date, First Survey 13th March 1946 Last Survey 21st June 1946

on the M.V. BRITISH KNIGHT (Number of Visits 21) Tons {Gross 8629 Net 4999}

Master Built at GLASGOW By whom built HARLAND & WOLFF, LD. Yard No. 1307G When built 1946

Engines made at Glasgow By whom made Harland & Wolff Ltd Engine No. 1307 When made 1946

Boilers made at BELFAST By whom made HARLAND & WOLFF, LD. Boiler No. 1307G When made 1946

Nominal Horse Power Owners British Tanker Co. Port belonging to London.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLES, LD. (Letter for Record S)

Total Heating Surface of Boilers 2047 x 2 FT² Is forced draught fitted YES Coal or Oil fired OIL

No. and Description of Boilers TWO CYLINDRICAL SMOKE TUBE TYPE. Working Pressure 150 LB./SQ. IN.

Tested by hydraulic pressure to 275 LB./SQ. IN. Dates of test 17, 19/6/46 No. of Certificates 1353-4 Can each boiler be worked separately

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 2 1/4" Double Spring Improved High Lift

Area of each set of valves per boiler 3.63 sq. in. Pressure to which they are adjusted 150 lb. 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 well clear. Is oil fuel carried in the double bottom under boilers No.

Smallest distance between shell of boiler and tank top plating 30" Is the bottom of the boiler insulated Mats.

Largest internal dia. of boilers 12'-10 3/16" Length 11'-6" Shell plates: Material S Tensile strength 29/33 T/0"

Thickness 29/32" Are the shell plates welded or flanged No Description of riveting: circ. seams 3.08" end D.R.

long. seams T.R.D.B.S. Diameter of rivet holes in circ. seams 1 3/32" Pitch of rivets 6 9/16"

Percentage of strength of circ. end seams plate 64.5 rivets 53 Percentage of strength of circ. intermediate seam plate - rivets -

Percentage of strength of longitudinal joint plate 84.3 rivets 104 Working pressure of shell by Rules 155 LB./SQ. IN.

Thickness of butt straps outer 23/32" inner 27/32" No. and Description of Furnaces in each Boiler 2 - DEIGHTON CORRUGATED

Material S. Tensile strength 26-30 T/0" Smallest outside diameter 3'-8"

Length of plain part top - bottom - Thickness of plates crown 1/2" Description of longitudinal joint FORGE WELD

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 163 LB./SQ. IN.

End plates in steam space: Material S Tensile strength 26/30 T/0" Thickness 15/16" Pitch of stays 16" x 15/16"

How are stays secured NUTS IN & OUT Working pressure by Rules AS APP.

Tube plates: Material front S back S Tensile strength 26/30 T/0" Thickness 7/8"

Mean pitch of stay tubes in nests 8 5/16" Pitch across wide water spaces 13 1/2" Working pressure front AS APP. back

Girders to combustion chamber tops: Material S Tensile strength 28/32 T/0" Depth and thickness of girder

at centre 9 1/2" x 1 1/32" Length as per Rule 32 1/2" Distance apart 9 3/8" No. and pitch of stays

in each WELDED TO C.C. Working pressure by Rules AS APP. Combustion chamber plates: Material S.

Tensile strength 26/30 T/0" Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"

Pitch of stays to ditto: Sides 8 1/2" x 8 1/2" - 9" Back 8 1/4" x 9 1/2" Top - Are stays fitted with nuts or riveted over RIVETED EXCEPT MARGIN INNER.

Working pressure by Rules AS APP. Front plate at bottom: Material S. Tensile strength 26/30 T/0"

Thickness 7/8" Lower back plate: Material S. Tensile strength 26/30 T/0" Thickness 15/16"

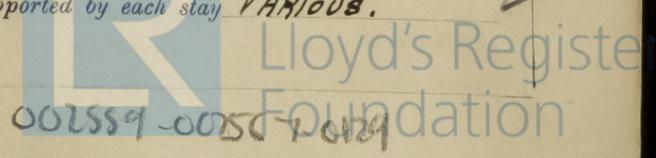
Pitch of stays at wide water space 15" x 9 1/2" Are stays fitted with nuts or riveted over NUTS INNER END.

Working Pressure AS APP. Main stays: Material S. Tensile strength 28/32 T/0"

Diameter {At body of stay, or Over threads 2 3/4" No. of threads per inch 6 Area supported by each stay VARIOUS - SEE PLAN.

Working pressure by Rules AS APP. Screw stays: Material S. Tensile strength 26/30 T/0"

Diameter {At turned off part, or Over threads 1 1/2", 1 3/4", 2" No. of threads per inch 9 Area supported by each stay VARIOUS.



Working pressure by Rules *As APP.* Are the stays drilled at the outer ends *No* Margin stays: Diameter *1 3/4"*
 No. of threads per inch *9* Area supported by each stay *11 1/8" x 9 1/2"* Working pressure by Rules *As APP*
 Tubes: Material *H.D.S.* External diameter *2 1/2"* Thickness *10 L.S.G. 1/4", 5/16", 3/32"* No. of threads per inch *9*
 Pitch of tubes *3 3/4" x 3 5/8"* Working pressure by Rules *As APP.* Manhole compensation: Size of opening in
 shell plate *13 3/4"* Section of compensating ring *2 x (8" x 7/8")* No. of rivets and diameter of rivet holes *WELDED TO SHELL*
 Outer row rivet pitch at ends *-* Depth of flange if manhole flanged *-* Steam Dome: Material *-*
 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 holes and pitch
 of rivets in outer row in dome connection to shell *-*

Type of Superheater *NONE* Manufacturers of *Tubes Steel forgings 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 *-* forgings and 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 22 inclusive for boilers been complied with *YES*
 The foregoing is a correct description,
A. H. Macfarlane Manufacturer.

Dates of Survey *1946* During progress of work in shops *Mon 13. 26. 28 Apr 9. 12 25 30* Are the approved plans of boiler and superheater forwarded herewith *YES*
 while building *May 1. 3. 6. 7. 24 28. 31 June 2. 6. 13. 17. 19. 21* (If not state date of approval.)
 During erection on board vessel *- - -* Total No. of visits *21*

Is this Boiler a duplicate of a previous case *No* If so, state Vessel's name and Report No. *-*

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

These boilers have been built under Special Survey in accordance with the Rules and approved plan. The materials and workmanship are good. They have been despatched to Glasgow for installation on board the vessel. These boilers have been satisfactorily fitted on board the vessel, and their safety valves adjusted under steam to the working pressure and found satisfactory. They have been examined under full working conditions with satisfactory results. Safety valve compression washer sizes. Port Boilers No. 1. 25/64 No. 2. 25/64 Starboard Boiler. No. 1. 7/16 No. 2. 27/64
G. E. Murdoch. Glasgow. 18/9/46.

Survey Fee £ *27 : 6 : 0* When applied for, *29 June 1946*
 Travelling Expenses (if any) £ : : When received, *19*

John Macfarlane
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW 15 OCT 1946*

Assigned

SEE ACCOMPANYING MACHINERY REPORT.