

REPORT ON BOILERS.

No. 14623

Received at London Office 1 OCT 1948

Date of writing Report 19 When handed in at Local Office 28/9 '48 Port of Belfast

No. in Reg. Book. Survey held at Belfast. Date, First Survey 15th April 1948. Last Survey 17th Sept. 1948

on the M. V. "Galta" (Number of Visits 30) Gross 8247.40 Tons Net 4683.68

Master — Built at Belfast By whom built Harland & Wolff Yard No. When built 1948

Engines made at Belfast By whom made Harland & Wolff Engine No. 1373. When made 1948

Boilers made at Belfast By whom made Harland & Wolff Boiler No. 1373. When made 1948.

Nominal Horse Power TOTAL MHP 341 Owners M/S. Bulls Tankrederi Port belonging to Sandefjord.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Colvilles. (Letter for Record S.)

Total Heating Surface of Boilers 2047 x 2 sq. ft. Is forced draught fitted Yes. Coal or Oil fired Oil & kerosene.

No. and Description of Boilers 2 Cylindrical smoke tube type. Working Pressure 150 lb.

Tested by hydraulic pressure to 275 lbs. Date of test 26.7.48. No. of Certificate 1393. Can each boiler be worked separately yes.

Area of Firegrate in each Boiler — No. and Description of safety valves to each boiler 1-2 1/2" d. improved high lift double safety valve.

Area of each set of valves per boiler (per Rule 7.75 sq. in. as fitted 8.0 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 Ample. Is oil fuel carried in the double bottom under boilers boiler on flat above engine room.

Smallest distance between shell of boiler and tank top plating ✓ on aft flat. Is the bottom of the boiler insulated yes.

Largest internal dia. of boilers 12'-10 3/16". Length 11'-6" Shell plates: Material Steel. Tensile strength 29-33 ton DR. ✓

Thickness 29/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams {end 3.08" inter. 6 9/16" ✓

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

Percentage of strength of circ. end seams {plate 64.5. rivets 53.0. Percentage of strength of circ. intermediate seam {plate rivets ✓

Percentage of strength of longitudinal joint {plate 84.3. rivets 104. combined 89.3. Working pressure of shell by Rules 155 lb. □"

Thickness of butt straps {outer 23/32" ✓ inner 27/32" ✓ No. and Description of Furnaces in each Boiler 2. Sagittal. Corrugated.

Material Steel. Tensile strength 26-30 ton □" Smallest outside diameter 3'-8" ✓

Length of plain part {top ✓ bottom ✓ Thickness of plates {crown 1/2" ✓ bottom 1/2" ✓ Description of longitudinal joint Groove-Weld. ✓

Dimensions of stiffening rings on furnace or c.c. bottom ✓ Working pressure of furnace by Rules 163 lb. □" 16x16" ✓

End plates in steam space: Material Steel. Tensile strength 26-30 ton □" Thickness 15/16" Pitch of stays 16x15" ✓

How are stays secured DN.W. Working pressure by Rules As approved.

Tube plates: Material {front 7/8" ✓ Steel. Tensile strength { 26-30 ton □" ✓ Thickness { 7/8" ✓ back 3/4" ✓ Steel.

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

Girders to combustion chamber tops: Material Steel. Tensile strength 28-32 ton □" 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. Working pressure by Rules As approved. Combustion chamber plates: Material Steel.

Tensile strength 26-30 ton □" 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" ✓ 9 1/2" Top ✓ Are stays fitted with nuts or riveted over at shell & others welded.

Working pressure by Rules As approved. Front plate at bottom: Material Steel. Tensile strength 26-30 ton □" Thickness 7/8" ✓ Lower back plate: Material Steel. Tensile strength 26-30 ton □" Thickness 15/16" ✓

Pitch of stays at wide water space 16 1/4" x 9 1/2" ✓ 14 x 9 1/2" ✓ Are stays fitted with nuts or riveted over Welded. ✓

Working Pressure As approved. Main stays: Material Steel. Tensile strength 28-32 ton □"

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

Working pressure by Rules As approved. Screw stays: Material Steel. Tensile strength 26-30 ton □"

Diameter {At turned off part, 1 1/2" ✓ or Over threads No. of threads per inch 9. Area supported by each stay 9 1/2" x 8 1/4" ✓

Screwed at shell only. Welded in Combustion Chambers.

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?

End 18/10/48

Working pressure by Rules *As approved* Are the stays drilled at the outer ends Margin stays: Diameter $\left\{ \begin{array}{l} \text{At turned off part, } 1\frac{3}{4} \times 2 \\ \text{or} \\ \text{Over threads} \end{array} \right.$

No. of threads per inch *Welded* Area supported by each stay $14\frac{1}{2} \times 9\frac{1}{2}$ Working pressure by Rules *As approved*

Tubes: Material *H.D.S* External diameter $\left\{ \begin{array}{l} \text{Plain } 2\frac{1}{2} \\ \text{Stay } 2\frac{1}{2} \end{array} \right.$ Thickness $\left\{ \begin{array}{l} 10 \text{ LSG} \\ \frac{1}{4} - \frac{5}{16} - \frac{3}{32} \end{array} \right.$ No. of threads per inch *9*

Pitch of tubes $3\frac{3}{4} \times 3\frac{5}{8}$ Working pressure by Rules *As approved* Manhole compensation: Size of opening in shell plate $13\frac{3}{4} \times 17\frac{3}{4}$ Section of compensating ring $2'-8" \times 2'-4" \times \frac{7}{8}$ 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 $\left\{ \begin{array}{l} \text{Plate} \\ \text{Rivets} \end{array} \right.$

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 $\left\{ \begin{array}{l} \text{Tubes} \\ \text{Steel forgings} \\ \text{Steel castings} \end{array} \right.$

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 _____

Area of each safety valve _____ Are the safety valves fitted with casing 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*

FOR HARLAND AND WOLFF LIMITED.
The foregoing is a correct description,
M. M. M. M. M. Manufacturer.

Dates of Survey $\left\{ \begin{array}{l} \text{During progress of work in shops} \\ \text{while building} \end{array} \right. \left\{ \begin{array}{l} \text{Apr 15, 30 May 3, 10, 12, 14, 25, 28} \\ \text{June 3, 9, 14, 22, 23, 29 July 7, 15, 16, 19, 20, 21, 26, 29} \\ \text{Aug 10, 20, 27, 30 Sept. 8, 17} \end{array} \right.$ Are the approved plans of boiler and superheater forwarded herewith *Yes* (If not state date of approval.)

Total No. of visits *30*

Is this Boiler a duplicate of a previous case *Yes* If so, state Vessel's name and Report No. *1362 G. Report no 14543.*

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.

The boilers have been efficiently installed on board the vessel, the safety valves adjusted under steam for a working pressure of 150 lbs \square and a satisfactory accumulation test held.

See ME Machinery Dept
Survey Fee \pounds _____ : _____ : _____ } When applied for, 19
Travelling Expenses (if any) \pounds _____ : _____ : _____ } When received, 19

M. M. M. M. M.
Engineer Surveyor to Lloyd's Register of Shipping.

712
Committee's Minute
Assigned *See minute on J.E. machinery dept*

FRI. 29 OCT 1946



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