

REPORT ON BOILERS.

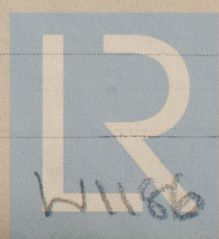
No. 13343

Received at London Office 10 OCT 1942

Date of writing Report 19 When handed in at Local Office 8-10-42 Port of Belfast.
 No. in Survey held at Belfast. Date, First Survey Please see A.E. with report
 Book. Last Survey 19
 on the M.V. "EMPIRE SPENSER" (Number of Visits) Gross 8194
 Tons Net 4776.
 Built at Belfast By whom built Harland & Wolff Ltd Yard No. 1079 When built 1942
 Engines made at Belfast By whom made Harland & Wolff Ltd Engine No. 1080 When made 1942
 Boilers made at Belfast By whom made Harland & Wolff Ltd Boiler No. 1080 When made 1942
 Nominal Horse Power 502 Owners Ministry of War Transport Port belonging to Belfast.

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs Colvilles Ltd. (Letter for Record 5
 Heating Surface of Boilers 3836 sq ft Is forced draught fitted yes. Coal or Oil fired Oil. Exhaust Gas.
 and Description of Boilers Two single ended cylindrical multitubular Working Pressure 150 lbs/sq in.
 Tested by hydraulic pressure to 275 lbs/sq in. Date of test 7.1.42 No. of Certificate 1158.
 No. and Description of safety valves to each boiler One double improved high lift type
 of each set of valves per boiler {per Rule 7.26 sq in. Pressure to which they are adjusted 150 lbs/sq in. Are they fitted with easing gear yes
 as fitted 7.96 sq in.
 Use of donkey boilers, state whether steam from main boilers can enter the donkey boiler
 Test distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers
 Test distance between shell of boiler and tank top plating Separate Oil House Is the bottom of the boiler insulated yes.
 Test internal dia. of boilers 12' 6" Length 11' 0" Shell plates: Material Steel Tensile strength 29/33 tons
 Thickness 7/8" Are the shell plates welded or flanged no Description of riveting: circ. seams {end DR
 {inter. 3.038"
 TR DBS. Diameter of rivet holes in {circ. seams 1 3/32" Pitch of rivets {6 1/16"
 {long. seams 1 1/32"
 Percentage of strength of circ. end seams {plate 64
 {rivets 56.1 Percentage of strength of circ. intermediate seam {plate
 {rivets 84.6
 Percentage of strength of longitudinal joint {rivets 106.7
 {combined 90.5 Working pressure of Shell by Rules 154 1/6 lbs/sq in.
 No. and Description of Furnaces in each Boiler Two corrugated "Brighton" section
 Tensile strength 26/30 tons Smallest outside diameter 42"
 Thickness of plates {crown 1/2" Description of longitudinal joint Fine weld.
 {bottom
 Dimensions of stiffening rings on furnace or c.c. bottom
 Plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 15/16" Pitch of stays various
 Are stays secured Nuts and washers inside + outside.
 Plates: Material {front Steel Tensile strength 26/30 tons Thickness 7/8"
 {back Steel Tensile strength 26/30 tons Thickness 13/16"
 Pitch of stay tubes in nests 8.54" 9.47" Pitch across wide water spaces 13 1/2"
 Stays to combustion chamber tops: Material Steel Tensile strength 28/32 tons Depth and thickness of girder
 Length as per Rule 29.94" Distance apart 11" No. and pitch of stays
 Combustion chamber plates: Material Steel
 Strength 26/30 tons Thickness: Sides 3/4" Back 3/4" Top 3/4" Bottom 3/4"
 f stays to ditto: Sides 8 1/4 x 9 3/4" Back 9 1/4 x 8" Top 11 x 7 1/4" Are stays fitted with nuts or riveted over all other rivets
 plate at bottom: Material Steel Tensile strength 26/30 tons
 Thickness 7/8" Lower back plate: Material Steel Tensile strength 26/30 tons Thickness 15/16"
 f stays at wide water space 13" Are stays fitted with nuts or riveted over riveted over
 Stays: Material Steel Tensile strength 28/32 tons
 At body of stay, 2 1/2" No. of threads per inch 6
 Over threads
 Stays: Material Steel Tensile strength 26/30 tons
 At turned off part, 1 1/2" 1 5/8" 2" No. of threads per inch 9
 Over threads



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Are the stays drilled at the outer ends

Margin stays: Diameter { At turned off part, or Over threads 15/8

No. of threads per inch 9

Tubes: Material *Weldless Steel*

External diameter { Plain 2 1/2 Stay 2 1/2

Thickness { 10 L S G 1/4 5/16 3/8

No. of threads per inch 9

Pitch of tubes 3 3/4 x 3 5/8

Manhole compensation: Size of opening

shell plate 16 1/2 x 12 1/2

Section of compensating ring 2 x [10 x 3/4 + (1 x 1)]

No. of rivets and diameter of rivet holes 28 @ 1 7/8 dia

Outer row rivet pitch at ends 9

Depth of flange if manhole flanged 3 3/8 in end plate

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

No. and diameter

Internal diameter

Thickness of crown

stays

Inner radius of crown

Diameter of rivet holes and

How connected to shell

Size of doubling plate under dome

of rivets in outer row in dome connection to shell

Type of Superheater

Manufacturers of { Tubes Steel forgings Steel castings

Internal diameter and thickness of tubes

Number of elements

Material of tubes

Thickness

Can the superheater be shut off

Material of headers

Tensile strength

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

Hydraulic test pres

Pressure to which the safety valves are adjusted

and after assembly in place

Are drain co

tubes

forgings and castings

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,

W. Marshall

Dates of Survey { During progress of work in shops - - - while building { During erection on board vessel - - -

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes

Total No. of visits

Is this Boiler a duplicate of a previous case yes. If so, state Vessel's name and Report No. *EMPIRE CHAPMAN Belfast Rpt 170132*

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

These boilers have been constructed under Special Survey in accordance with the Society's Rules and approved plans. The materials and workmanship are good. The boilers have been efficiently installed on board the vessel, all safety valves adjusted under steam and accumulation tests carried out with satisfactory results.

Survey Fee ... £

When applied for, 19

Travelling Expenses (if any) £

When received, 19

R. Shaw

Engineer-Surveyor to Lloyd's Register of Shipping

Committee's Minute

TUE 20 OCT 1942

Assigned

See for machinery rpt



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