

REPORT ON BOILERS.

No. 81827

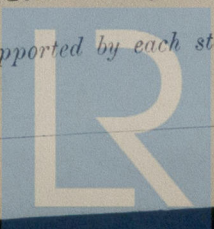
Received at London Office

23 SEP 1927

Writing Report 21st Sept 1927 When handed in at Local Office 21st Sept 1927 Port of Newcastle on Tyne
 in Survey held at St Peter & Hebburn Date, First Survey 1st March Last Survey 20th Sept 1927
 of op. S.S. Ireland (Number of Visits 4689) Gross Tons 4689
96 on the S.S. Ireland Net Tons 2876
 Built at Hebburn on Tyne By whom built R. H. Hawthorn Leslie & Co Yard No. 546 When built 1927
 nes made at St Peter By whom made R. H. Hawthorn Leslie & Co Engine No. 3668 When made 1927
 d diam. made at do By whom made do Boiler No. 3668 When made 1927
 inal Horse Power per rule 470 Owners Harri & Reed Port belonging to London

MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel D. Colville & Sons Ltd (Letter for Record S)
 Heating Surface of Boilers 1152 sq ft Is forced draught fitted No Coal or Oil fired Coal
 and Description of Boilers One Single Ended Working Pressure 100 lbs
 tested by hydraulic pressure to 200 lbs Date of test 10/6/27 No. of Certificate 157 Can each boiler be worked separately No
 Area of Firegrate in each Boiler 33 sq ft No. and Description of safety valves to each boiler Two direct spring high lift
 Area of each set of valves per boiler per Rule 12.8 Pressure to which they are adjusted 100 lbs Are they fitted with easing gear Yes
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No
 Smallest distance between boilers or uptakes and bunkers or woodwork 4'-0" Is oil fuel carried in the double bottom under boilers No
 Smallest distance between shell of boiler and tank top plating on main deck Is the bottom of the boiler insulated Yes
 Largest internal dia. of boilers 10'-10 3/4" Length 10'-9" Shell plates: Material Steel Tensile strength 28/32 tons
 Thickness 5/8" Are the shell plates welded or flanged No Description of riveting: circ. seams end 2 R 1/2
 Long. seams A.R. Double Strap Diameter of rivet holes in circ. seams 1" Pitch of rivets 5"
 Percentage of strength of circ. end seams plate 66.6 Percentage of strength of circ. intermediate seam plate 69.0
 Percentage of strength of longitudinal joint plate 50.0 Working pressure of shell by Rules 112 lbs per sq in
 Thickness of butt straps outer 17/32" No. and Description of Furnaces in each Boiler 2 Plain
 Material Steel Tensile strength 26/30 tons Smallest outside diameter 37"
 Length of plain part 84" Thickness of plates bottom 5/8" Description of longitudinal joint Welded
 Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 130 lbs
 End plates in steam space: Material Steel Tensile strength 26/30 tons Thickness 13/16" Pitch of stays 18" x 15"
 How are stays secured Double nuts & washers Working pressure by Rules 109 lbs
 Tube plates: Material Steel Tensile strength 26/30 tons Thickness 3/4" Working pressure front 114 lbs
 Mean pitch of stay tubes in nests 11 1/4" Pitch across wide water spaces 14 1/4" Depth and thickness of girder back 159 lbs
 Girders to combustion chamber tops: Material Steel Tensile strength 28/32 tons Distance apart 11" No. and pitch of stays
 at centre 8" x 1 1/8" Length as per Rule 28 3/4" Combustion chamber plates: Material Steel
 in each Iron 9" Working pressure by Rules 137 lbs Back 17/32" Top 9/16" Bottom 19/32"
 Tensile strength 26/30 tons Thickness: Sides 9/16" Are stays fitted with nuts or riveted over Nuts
 Pitch of stays to ditto: Sides 11" x 9" Back 10" x 9 1/2" Top 11" x 9" Tensile strength 26/30 tons
 Working pressure by Rules 120 lbs Front plate at bottom: Material Steel Tensile strength 26/30 tons Thickness 13/16"
 Thickness 13/16" Lower back plate: Material Steel Tensile strength 26/30 tons Are stays fitted with nuts or riveted over Nuts
 Pitch of stays at wide water space 14 1/4" Main stays: Material Steel Tensile strength 28/32 tons
 Working Pressure 177 lbs per sq in Diameter At body of stay 2 1/8" No. of threads per inch 6 Area supported by each stay 270 sq in
 Working pressure by Rules 112 lbs Diameter Over threads 1 3/8" Screw stays: Material Steel Tensile strength 26/30 tons
 Diameter At turned off part 1 3/8" No. of threads per inch 9 Area supported by each stay 99 sq in



Lloyd's Register
Foundation

Working pressure by Rules *102 lb* Are the stays drilled at the outer ends *No* Margin stays: Diameter { At turned off part, *1 5/8"* or Over threads *✓*

No. of threads per inch *9* Area supported by each stay *120 sq"* Working pressure by Rules *126 lb*

Tubes: Material *Iron* External diameter { Plain *3 3/4"* Stay *3 3/4"* Thickness { *9/16"* *5/16"* No. of threads per inch *9*

Pitch of tubes *4 1/2" x 4 1/2"* Working pressure by Rules *180 lb* Manhole compensation: Size of opening in shell plate *16" x 12"* Section of compensating ring *14" x 3/4"* No. of rivets and diameter of rivet holes *19, 1"*

Outer row rivet pitch at ends *5"* Depth of flange if manhole flanged *✓* Steam Dome: Material *None*

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 *✓*

How connected to shell *✓* Inner radius of crown *✓* Working pressure by Rules *✓*

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 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 *✓*

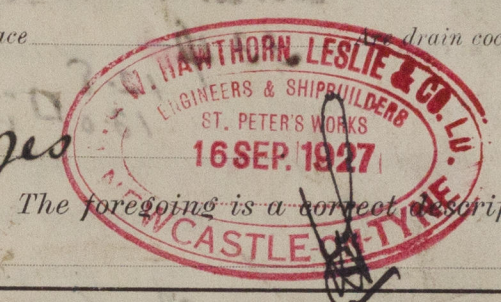
Area of each safety valve *✓* Are the safety valves fitted with easing gear *✓* Working pressure as per Rules *✓*

Pressure to which the safety valves are adjusted *✓* Hydraulic test pressure: *✓*

tubes *✓* castings *✓* and after assembly in place *✓* drain cocks or valves fitted *✓*

to free the superheater from water where necessary *✓*

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with *yes*



The foregoing is a correct description, Manufacturer. *✓*

Dates of Survey { During progress of work in shops - - - *See Machinery Report* Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) *yes*

while building { During erection on board vessel - - - *✓* Total No. of visits *✓*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *This Donkey Boiler has been constructed under special survey, the materials and workmanship are of good quality it has been securely fitted on the main deck, the safety valves adjusted under steam and found satisfactory.*

For recommendations please see machinery report now attached.

Survey Fee ... £ *none* : When applied for, 192

Travelling Expenses (if any) £ *✓* : When received, 192

George H. Woodcock
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUES. 27 SEP 1927

Assigned *See Mch. rpt. attached*