

# REPORT ON BOILERS.

No. 10509

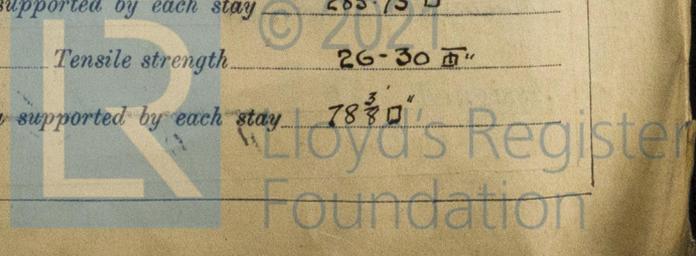
Received at London Office 24 NOV 1930

Date of writing report 19 When handed in at Local Office 19<sup>th</sup> Nov. 1930 Port of BELFAST  
 See F.S. machy. report.  
 No. in Survey held at BELFAST Date, First Survey Last Survey 19  
 on the STEEL TWIN SC. FOYLEBANK  
 Master Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 878 When built 1930  
 Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 878 When made 1930  
 Boilers made at Belfast By whom made Harland & Wolff Ltd. Boiler No. 878 When made 1930  
 Nominal Horse Power 830 Owners BANK LINE LTD. (A. WEIR & CO. LD. MANAGERS) Port belonging to Belfast BELFAST

## MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel D. Colville & Sons Ltd. (Letter for Record 5)  
 Total Heating Surface of Boilers 1510 Is forced draught fitted No. Coal or Oil fired Oil  
 No. and Description of Boilers ONE SINGLE-ENDED CYLINDRICAL Working Pressure 120 Lbs  
 Tested by hydraulic pressure to 230 Lbs Date of test 22.1.30 No. of Certificate 943 Can each boiler be worked separately ✓  
 Area of Firegrate in each Boiler EQUIVALENT 54.4 No. and Description of safety valves to each boiler TWO SPRING-LOADED IMPROVED HIGH LIFT  
 Area of each set of valves per boiler per Rule 16.90 Pressure to which they are adjusted 120 Lbs 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 and bunkers 24" Is oil fuel carried in the double bottom under boilers YES  
 Smallest distance between shell of boiler and tank top plating 37" Is the bottom of the boiler insulated YES  
 Largest internal dia. of boilers 13'-0" MEAN Length 11'-0" Shell plates: Material STEEL Tensile strength 28-32  
 Thickness 25" Are the shell plates welded or flanged NO Description of riveting: circ. seams end DOUBLE inter. 2.98  
 Long. seams TREBLE Diameter of rivet holes in circ. seams 15" Pitch of rivets 6" 2.98  
 Percentage of strength of circ. end seams plate 68.5 rivets 48.68 Percentage of strength of circ. intermediate seam plate rivets  
 Percentage of strength of longitudinal joint plate 84.69 rivets 111. Working pressure of shell by Rules 127 1/2  
 Thickness of butt straps outer 5" inner 3" No. and Description of Furnaces in each Boiler THREE MORISON  
 Material STEEL Tensile strength 26-30 Smallest outside diameter 39 3/8  
 Length of plain part top bottom Thickness of plates crown 7" bottom 16" Description of longitudinal joint WELD  
 Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 156 1/2  
 End plates in steam space: Material STEEL Tensile strength 26-30 Thickness 7/8 Pitch of stays 18"x18"  
 How are stays secured DOUBLE NUTS & WASHERS: SCREWED INTO END PLATES Working pressure by Rules 125 1/2  
 Tube plates: Material front STEEL Tensile strength 26-30 Thickness 3/4 back STEEL 26-30 3/4  
 Lean pitch of stay tubes in nests 10.06 Pitch across wide water spaces 14 1/4 x 9 Working pressure front 134 1/2 back 128 1/2  
 Girders to combustion chamber tops: Material STEEL Tensile strength 28-32 Depth and thickness of girder  
 Distance apart 9" No. and pitch of stays  
 Working pressure by Rules 149 Combustion chamber plates: Material STEEL  
 Tensile strength 26-30 Thickness: Sides 9/16 Back 9/16 Top 9/16 Bottom 3/4  
 Pitch of stays to ditto: Sides 8 1/4 x 8 1/2 Back 3 x 8 1/2 Top 9 1/2 x 8 1/2 Are stays fitted with nuts or riveted over nuts  
 Working pressure by Rules 136 1/2 Front plate at bottom: Material STEEL Tensile strength 26-30  
 Thickness 3/4 Lower back plate: Material STEEL Tensile strength 26-30 Thickness 3/4  
 Pitch of stays at wide water space 12 3/4 Are stays fitted with nuts or riveted over nuts  
 Working Pressure 139 1/2 Main stays: Material STEEL Tensile strength 28-32  
 Diameter At body of stay, or Over threads 2 1/2 No. of threads per inch SIX Area supported by each stay 285.75  
 Working pressure by Rules 155 1/2 Screw stays: Material STEEL Tensile strength 26-30  
 Diameter At turned off part, or Over threads 1 3/8 No. of threads per inch TEN Area supported by each stay 78 3/4

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Working pressure by Rules 129 lbs. Are the stays drilled at the outer ends No. Margin stays: Diameter { At turned off part, or Over threads 1 5/8" ✓

No. of threads per inch TEN Area supported by each stay 116.90" Working pressure by Rules 130 lbs

Tubes: Material W. 120 External diameter { Plain 3 3/4" Stay 3 3/4" Thickness { No. 8 S.W.G. 1/4" No. of threads per inch TEN

Pitch of tubes 4 1/2" Working pressure by Rules PLAIN 230 lbs STAY 120 lbs Manhole compensation: Size of opening

shell plate 16" x 12" Section of compensating ring 36" x 32" x 3/4" double No. of rivets and diameter of rivet holes 28 - 5/16"

Outer row rivet pitch at ends 8" 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

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 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

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

Rules Pressure to which the safety valves are adjusted Hydraulic test pressure

tubes 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,  
**FOR HARLAND AND WOLFF, LIMITED,**  
*A. J. Marshall* Assistant Secretary

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

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

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.)

This boiler has been constructed to approved design under special survey. The materials and the workmanship are sound and good. It has been satisfactorily tested by hydraulic pressure. The boiler is efficiently fastened on a seat on the tank top at the forward end of the motor room and the safety valves were adjusted under steam.

Survey Fee ... .. £ : See Machinery Report When applied for, 19

Travelling Expenses (if any) £ : When received, 19

*R. Lee Amess*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute FRI. 28 NOV 1936

Assigned See other J.E. Rpt



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