

# REPORT ON BOILERS.

No. 10,641

Received at London Office 22 JUN 1931

Report 19 When handed in at Local Office 19<sup>th</sup> June 1931 Port of Belfast  
 Visits included in 4.9.1931  
 Survey held at Belfast Date, First Survey Last Survey 19  
 (Number of Visits ) (Gross Tons) (Net Tons)  
 in the Steel TWIN SC. "MARACAY"  
 Built at Belfast By whom built Harland Wolff Ltd. Yard No. 915 When built 1931  
 Made at Belfast By whom made Harland Wolff Ltd. Engine No. 915 When made 1931  
 Made at Belfast By whom made Harland Wolff Ltd. Boiler No. 915 When made 1931  
 Horse Power Owners Lago Shipping Co. Ltd. Port belonging to London

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

Suppliers of Steel Colvilles Ltd. (Letter for Record \$)  
 Heating Surface of Boilers 5112 sq ft Is forced draught fitted Yes Coal or Oil fired Oil  
 Description of Boilers Two single-ended Cylindrical Working Pressure 180 lbs  
 Hydraulic pressure to 320 lbs Date of test 30.4.31 No. of Certificate 963-964 Can each boiler be worked separately Yes  
 Weight in each Boiler 126.6 tons No. and Description of safety valves to each boiler Two Improved high lift Spring loaded  
 Each set of valves per boiler (per Rule 1/2 of 19.6" as fitted 9.8" Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes  
 Donkey boilers, state whether steam from main boilers can enter the donkey boiler Yes  
 Distance between boilers or uptakes and bunkers or woodwork 32" Is oil fuel carried in the double bottom under boilers No  
 Distance between shell of boiler and <sup>top of flange</sup> ~~bottom of plating~~ 10" Is the bottom of the boiler insulated Yes  
 External dia. of boilers 15'-6" MEAN Length 11'-6" Shell plates: Material Steel Tensile strength 28-32 tons  
 Are the shell plates welded or flanged No. Description of riveting: circ. seams { end double inter. }  
 Diameter of rivet holes in { circ. seams 1 1/32" long. seams 1 1/32" Pitch of rivets { 3.52" }  
 Percentage of strength of circ. intermediate seam { plate rivets }  
 of strength of longitudinal joint { plate rivets combined }  
 Working pressure of shell by Rules 196.7 lbs  
 No. and Description of Furnaces in each Boiler Three Deighton  
 Tensile strength 26-30 tons Smallest outside diameter 47 1/4"  
 Thickness of plates { crown 5/8" bottom 5/8" Description of longitudinal joint weld  
 Working pressure of furnace by Rules 193 lbs  
 in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 1/32" Pitch of stays 16" x 25 1/2"  
 Working pressure by Rules 186.8 lbs  
 Tensile strength { 26-30 tons Thickness 3 1/32" 3/4"  
 Working pressure { front 230 lbs back 203 lbs  
 Tensile strength 28-32 tons Depth and thickness of girder  
 Length as per Rule 33" Distance apart 10 5/8" No. and pitch of stays  
 Working pressure by Rules 237 lbs Combustion chamber plates: Material Steel  
 Thickness: Sides 23/32" Back 11/16" Top 23/32" Bottom 23/32"  
 Are stays fitted with nuts or riveted over nuts  
 Front plate at bottom: Material Steel Tensile strength 26-30 tons Thickness 27/32"  
 Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 27/32"  
 Are stays fitted with nuts or riveted over nuts  
 Main stays: Material Steel Tensile strength 28-32 tons  
 No. of threads per inch Five Area supported by each stay 347.125 sq in  
 Screw stays: Material Steel Tensile strength 26-30 tons  
 No. of threads per inch Ten Area supported by each stay 87.875 sq in

Working pressure by Rules 206 lb Are the stays drilled at the outer ends *no* ✓ Margin stays: Diameter { At turned off part, ✓  
 or Over threads 2" + 2 1/4" ✓  
 No. of threads per inch *2 1/2* ✓ Area supported by each stay 97.480" 126.870" Working pressure by Rules 254 lb. ✓  
 Tubes: Material *M. Iron* External diameter { Plain 2 3/4" ✓  
 Stay 2 3/4" ✓ Thickness { No. 8 S.W.G. ✓  
 3/8" 5/16" 1/4" ✓ No. of threads per inch *13*. ✓  
 Pitch of tubes 4" x 3 3/8" ✓ Working pressure by Rules *Plain 275 lb. ✓ Stay 213 lb. ✓* Manhole compensation: Size of  
 shell plate 16" x 12" ✓ Section of compensating ring 36" x 32" x 1 25/64" ✓ No. of rivets and diameter of rivet holes 28 - 1 1/2" ✓  
 Outer row rivet pitch at ends 8 3/4" ✓ Depth of flange if manhole *McNeil Ring flanged rivelled 2" thick* ✓ 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  
 stays ✓ Inner radius of crown ✓ Working pressure by Rules ✓  
 How connected to shell ✓ Size of doubling plate under dome ✓ Diameter of rivet holes  
 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  
 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  
 Rules Pressure to which the safety valves are adjusted Hydraulic  
 tubes castings and after assembly in place Are drain cocks or  
 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, LONDON

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.)  
 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.)

*These boilers have been constructed under special survey and to an approved plan. The materials and workmanship are good. They have been subjected to a hydraulic test in accordance with the rules. The safety valves have been adjusted under steam working pressure.*

Survey Fee ... .. £ See *Survey Report* When applied for, 19  
 Travelling Expenses (if any) £ See *Survey Report* When received, 19

*R. E. Ames*  
 Engineer Surveyor to Lloyd's Register

Committee's Minute *FRI. 26 JUN 1914*

Assigned *See F. E. Rpt.*