

# REPORT ON BOILERS.

No. 10,409

1 JUL 1930

Received at London Office

Date of writing Report 19 When handed in at Local Office 30-6-1930 Port of Belfast  
 No. in Reg. Book 16189 Survey held at Belfast Date, First Survey \_\_\_\_\_ Last Survey 19  
 on the TWIN SC BRITANNIC (Number of Visits \_\_\_\_\_) Tons { Gross \_\_\_\_\_ Net \_\_\_\_\_  
 Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 807 When built 1930  
 Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 807 When made 1930  
 Boilers made at Belfast Lincoln By whom made Harland & Wolff Ltd. Babcock & Wilcox Ltd. Boiler No. \_\_\_\_\_ When made 1930  
 Owners Oceanic Stear. Nav. Co. Ltd. (White Star Line) Port belonging to Liverpool

## VERTICAL DONKEY BOILER. STEAM RESERVOIR.

Made at Belfast By whom made Harland & Wolff Ltd. Boiler No. 807 When made 1929 Where fixed \_\_\_\_\_  
 Manufacturers of Steel David Colville & Sons Ltd.  
 Capacity of Reservoir 88 ft Total Heating Surface of Boiler \_\_\_\_\_ Is forced draught fitted \_\_\_\_\_ Coal or Oil fired \_\_\_\_\_  
 No. and Description of Boilers One built steel, dome-ends Working pressure 100 lbs  
 Tested by hydraulic pressure to 200 lbs Date of test 19th Nov 1929 No. of Certificate 83

Area of Firegrate in each Boiler \_\_\_\_\_ No. and Description of safety valves to each boiler \_\_\_\_\_  
 Area of each set of valves per boiler { per rule \_\_\_\_\_ as fitted \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_  
 State whether steam from main boilers can enter the donkey boiler \_\_\_\_\_ Smallest distance between boiler or uptake and bunkers or woodwork \_\_\_\_\_  
 Is oil fuel carried in the double bottom under boiler \_\_\_\_\_ Smallest distance between base of boiler and tank top plating \_\_\_\_\_  
 Is the base of the boiler insulated \_\_\_\_\_ Largest internal dia. of boiler 42" Length 10'-0"  
 Shell plates: Material Steel Tensile strength 28-32 Tons Thickness 7/16"  
 Are the shell plates welded or flanged no Description of riveting: circ. seams { end single long. seams double  
 Dia. of rivet holes in { circ. seams 15/16" Pitch of rivets { 2.15" Percentage of strength of circ. seams { plate 54.06 of Longitudinal joint { plate 70.4  
 { long. seams 13/16" { 2.34" { rivets 60.2 { rivets 71.0  
 { combined 76.4

Working pressure of shell by rules 194 lbs Thickness of butt straps { outer \_\_\_\_\_ inner \_\_\_\_\_  
 Shell Crown: Whether complete hemisphere, dished partial spherical, or flat dished partial spherical Material Steel  
 Tensile strength 26-30 Tons Thickness front 3/4" back 7/8" Radius 42" Working pressure by rules 269 lbs

Description of Furnace: Plain, spherical, or dished crown \_\_\_\_\_ Material \_\_\_\_\_ Tensile strength \_\_\_\_\_  
 Thickness \_\_\_\_\_ External diameter { top \_\_\_\_\_ bottom \_\_\_\_\_ Length as per rule \_\_\_\_\_ Working pressure by rules \_\_\_\_\_  
 Pitch of support stays circumferentially \_\_\_\_\_ and vertically \_\_\_\_\_ Are stays fitted with nuts or riveted over \_\_\_\_\_  
 Diameter of stays over thread \_\_\_\_\_ Radius of spherical or dished furnace crown \_\_\_\_\_ Working pressure by rule \_\_\_\_\_  
 Thickness of Ogee Ring \_\_\_\_\_ Diameter as per rule { D \_\_\_\_\_ a \_\_\_\_\_ Working pressure by rule \_\_\_\_\_

Combustion Chamber: Material \_\_\_\_\_ Tensile strength \_\_\_\_\_ Thickness of top plate \_\_\_\_\_  
 Radius if dished \_\_\_\_\_ Working pressure by rule \_\_\_\_\_ Thickness of back plate \_\_\_\_\_ Diameter if circular \_\_\_\_\_  
 Length as per rule \_\_\_\_\_ Pitch of stays \_\_\_\_\_ Are stays fitted with nuts or riveted over \_\_\_\_\_  
 Diameter of stays over thread \_\_\_\_\_ Working pressure of back plate by rules \_\_\_\_\_  
 Tube Plates: Material { front \_\_\_\_\_ back \_\_\_\_\_ Tensile strength { \_\_\_\_\_ Thickness { \_\_\_\_\_ Mean pitch of stay tubes in nests \_\_\_\_\_  
 comprising shell, Dia. as per rule { front \_\_\_\_\_ back \_\_\_\_\_ Pitch in outer vertical rows { \_\_\_\_\_ Dia. of tube holes FRONT { stay \_\_\_\_\_ plain \_\_\_\_\_ BACK { stay \_\_\_\_\_ plain \_\_\_\_\_  
 each alternate tube in outer vertical rows a stay tube \_\_\_\_\_ Working pressure by rules { front \_\_\_\_\_ back \_\_\_\_\_

Orders to combustion chamber tops: Material \_\_\_\_\_ Tensile strength \_\_\_\_\_  
 Depth and thickness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_  
 Distance apart \_\_\_\_\_ No. and pitch of stays in each \_\_\_\_\_ Working pressure by rule \_\_\_\_\_



**Crown stays:** Material \_\_\_\_\_ Tensile strength \_\_\_\_\_ Diameter { at body of stay, \_\_\_\_\_ or over threads \_\_\_\_\_

No. of threads per inch \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_

**Screw stays:** Material \_\_\_\_\_ Tensile strength \_\_\_\_\_ Diameter { at turned off part, \_\_\_\_\_ or over threads \_\_\_\_\_ No. of threads per inch \_\_\_\_\_

Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Are the stays drilled at the outer ends \_\_\_\_\_

**Tubes:** Material \_\_\_\_\_ External diameter { plain \_\_\_\_\_ stay \_\_\_\_\_ Thickness { \_\_\_\_\_

No. of threads per inch \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Working pressure by rules \_\_\_\_\_

**Manhole Compensation:** Size of opening in shell plate \_\_\_\_\_ Section of compensating ring \_\_\_\_\_ No. of rivets and diameter \_\_\_\_\_

of rivet holes \_\_\_\_\_ Outer row rivet pitch at ends \_\_\_\_\_ Depth of flange if manhole flanged \_\_\_\_\_

**Uptake:** External diameter \_\_\_\_\_ Thickness of uptake plate \_\_\_\_\_

**Cross Tubes:** No. \_\_\_\_\_ External diameters { \_\_\_\_\_ Thickness of plates \_\_\_\_\_

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

The foregoing is a correct description,

Manufacture No. \_\_\_\_\_

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

Is the approved plan of boiler forwarded herewith (If not state date of approval.)

Total No. of visits \_\_\_\_\_

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

*This reservoir has been constructed under special Survey & to approved plans. The materials and workmanship are good. It has been tested by hydraulic pressure and efficiently fastened on board the vessel.*

Survey Fee *See Rpt 4b* £ 2 : 2 : } When applied for, *26-6* 1930  
 Travelling Expenses (if any) £ : : } When received, *✓* 19

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

Committee's Minute *FRI. 17 JUL 1930*  
 Assigned *See Rpt attached*

