

## REPORT ON BOILERS.

No. 13091

Received at London Office - 4 NOV 1941

Date of writing Report 10 When handed in at Local Office 10 Port of BELFAST  
 Visits included in 7. 2. 1941

No. in Survey held at BELFAST Date, First Survey Last Survey 19  
 Reg. Book on the "EMPIRE HOPE" (Number of Visits) Gross Tons Net

Built at Belfast By whom built Harland & Wolff Ltd. Yard No. 1050 When built 1941  
 Engines made at Belfast By whom made Harland & Wolff Ltd. Engine No. 1050 When made 1941  
 Boilers made at Belfast By whom made Harland & Wolff Ltd. Boiler No. 1050 When made 1941  
 Owners Port belonging to

## VERTICAL DONKEY BOILER.

Made at Belfast By whom made Harland & Wolff Ltd. Boiler No. 1050 When made 1941 Where fixed upper deck main Room  
 Manufacturers of Steel Colville's Ltd.

Total Heating Surface of Boiler 300 sq. ft. Is forced draught fitted Yes Cooler Oil fired or waste Heat  
 No. and Description of Boilers Two Blacken type Begato/300 Working pressure 100 lb  
 Tested by hydraulic pressure to 200 lb Date of test 2. 12. 40 & 13. 12. 40 No. of Certificate 1119 - 1122

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler 1 1/2" Double S.L. Marine ordinary Lift Type  
 Area of each set of valves per boiler { per rule 1.26 sq. ft. Pressure to which they are adjusted 100 lb. Are they fitted with easing gear Yes  
 as fitted 4.81 sq. ft.

State whether steam from main boilers can enter the donkey boiler Is oil fuel carried in the double bottom under boiler No Smallest distance between boiler or uptake and bunkers or woodwork Is the base of the boiler insulated No Largest internal dia. of boiler 6' 11 1/16" Height 17' 1 1/2"

Shell plates: Material Steel Tensile strength 29372 tons Thickness 13/32"

Are the shell plates welded or flanged Description of riveting: circ. seams { end... top single L. bottom double L. long. seams D.R. D.B.S.  
 inter... single L.

Dia. of rivet holes in { circ. seams 25/32" Pitch of rivets 1 1/2" - mid 1 1/2" blue 2 7/8" Percentage of strength of circ. seams { plate 16.9 of Longitudinal joint { plate 72.75  
 long. seams 25/32" rivets 53.5 rivets 78.5 combined

Working pressure of shell by rules 113.6 lb Thickness of butt straps { outer 3/8" inner 3/8"

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat Yes Material Steel  
 Tensile strength 26/30 tons Thickness 1/16" Radius 66" Working pressure by rules 101.3 lb

Description of Furnace: Plain, spherical, or dished crown Yes Material Steel Tensile strength 16/30 tons  
 Thickness 9/8" External diameter { top 55 1/2" Length as per rule 2' 4 1/2" Working pressure by rules 125.3 lb  
 bottom 55 1/2"

Pitch of support stays circumferentially none fitted and vertically Are stays fitted with nuts or riveted over  
 Diameter of stays over thread Radius of spherical or dished furnace crown 48" Working pressure by rule 170.6 lb  
 Thickness of Ogee Ring 13/16" Diameter as per rule { D a Working pressure by rule 147.7

Combustion Chamber: Material Steel Tensile strength 26/30 tons Thickness of top plate 5/8"  
 Radius if dished 36" Working pressure by rule Thickness of back plate 15/32" Diameter if circular 3' 1 9/16" dia  
 Length as per rule 7' 0" Pitch of stays 6" Are stays fitted with nuts or riveted over  
 Diameter of stays over thread Working pressure of back plate by rules 111.5 lb

Tube Plates: Material { front Tensile strength Thickness Mean pitch of stay tubes in nests  
 back

If comprising shell, Dia. as per rule { front Pitch in outer vertical rows { Dia. of tube holes FRONT { stay BACK { stay  
 back plain plain

Is each alternate tube in outer vertical rows a stay tube Working pressure by rules { front back

Girders 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

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Foundation

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**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 Steel Rimble tubes External diameter { plain 2 3/4" dia holes Thickness 9 B.W. stay \_\_\_\_\_

No. of threads per inch \_\_\_\_\_ Pitch of tubes 6" vertical 6.42 circum. Working pressure by rules as appraised

**Manhole Compensation:** Size of opening in shell plate 16" x 12" Section of compensating ring 4 7/8 x 4 1/6 No. of rivets and diameter \_\_\_\_\_

of rivet holes 40 - 13/16" Outer row rivet pitch at ends 3 7/8" Depth of flanges if manhole flanged in shell as in shell 3"

**Uptake:** External diameter 21 1/8" Thickness of uptake plate 1 7/32"

**Cross Tubes:** No. none fitted External diameters { \_\_\_\_\_ Thickness of plates \_\_\_\_\_

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. Marshall* Manufacturer.  
 Secretary

Dates of Survey { During progress of work in shops - - } Is the approved plan of boiler 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 Yes. If so, state Vessel's name and Report No. "Traitoria" Bel. Rpt No. 12500

**GENERAL REMARKS** (State quality of workmanship, opinions as to class, &c.) These boilers have been constructed under special survey in accordance with the Rules and approved plans. The materials and workmanship are good. These boilers have been efficiently installed on board, examined under steam and the safety valves adjusted to 100 lbs. pressure, accumulation test carried out with satisfactory results. The boilers are eligible in our opinion to have record of + 2 DB 100 lbs. pressure.

Survey Fee ... £ : : When applied for, 19

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

Committee's Minute  
 Assigned

J  
 See Bel. Rpt. 13091

*Alec Amner, S. Shaw*  
 Engineer Surveyors to Lloyd's Register of Shipping.

