

# REPORT ON BOILERS.

No. 12503

Received at London Office

DEC 6 1939

Date of writing Report 10 When handed in at Local Office 4. 12. 1939 Port of Belfast

No. in Survey held at Belfast Date, First Survey 11<sup>th</sup> September Last Survey 28<sup>th</sup> November 1939

on the Adelard Star (Number of Visits 9) Gross Tons Net

Built at Copenhagen By whom built Burmeister & Wain Yard No. 646 When built

Engines made at By whom made Engine No. When made

Boilers made at By whom made Boiler No. When made

Owners Port belonging to

## VERTICAL DONKEY BOILER.

made at Belfast By whom made Harland & Wolff Ltd. Boiler No. 15189 When made 1939 Where fixed

Manufacturers of Steel Colvilles Ltd. Total Heating Surface of Boiler 775 sq ft <sup>oil fired 300 sq ft</sup> <sup>sub gas 475 sq ft</sup> Is forced draught fitted

Coal or Oil fired + sub gas Working pressure 80 lbs sq in

No. and Description of Boilers One blank Composite CAT09/775 Date of test 28<sup>th</sup> November 1939 No. of Certificate 1064

Tested by hydraulic pressure to 160 lbs sq in

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler One Double-Spring

Area of each set of valves per boiler per rule 7.07 as fitted 7.96 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

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 5'-10 7/8" Height overall 16'-9"

Shell plates: Material Steel Tensile strength 28/32 tons Thickness 7/8"

Are the shell plates welded or flanged butt joint Description of riveting: circ. seams D.R.L. long. seams D.R., D.B.S.

Dia. of rivet holes in circ. seams 1 1/4" Pitch of rivets 3 1/2" Percentage of strength of circ. seams plate 64.3 rivets 66 of Longitudinal joint plate 73.5 rivets 82 combined

Working pressure of shell by rules 147 lbs Thickness of butt straps outer 9/16" inner 7/16"

Shell Crown: Whether complete hemisphere, dished partial spherical, or flat dished partly spherical Material Steel

Tensile strength 26/30 tons Thickness 2 1/32" Radius 5'-6" Working pressure by rules 94.5 lbs

Description of Furnace: Plain, spherical, or dished crown dished crown Material Steel Tensile strength 26/30 tons

Thickness 1 1/32" External diameter top 27 9/16" Length as per rule 7'-0" Working pressure by rules 111.5 lbs

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 8'-0" Working pressure by rule 206 lbs

Thickness of <sup>bottom dished crown</sup> Diameter as per rule D d Working pressure by rule 136 lbs

Combustion Chamber: Material Tensile strength Thickness of top plate

Dia. 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 BACK stay plain stay plain

Each alternate tube in outer vertical rows a stay tube Working pressure by rules front back

Welders 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



5.P.N<sup>o</sup>12503.

**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 Thimble tubes steel ✓ External diameter { plain 3 1/4" outer shell ✓ Thickness { ho 9 w 4 ✓  
stay 2 3/4" inner shell ✓

No. of threads per inch ✓ Pitch of tubes { circ + long { 6"x7" outer shell ✓ Working pressure by rules as approved. ✓  
6 2 3/4"x6" inner shell ✓

**Manhole Compensation:** Size of opening in shell plate 16"x12" ✓ Section of compensating ring 6"x1 3/8" ✓ No. of rivets and diameter of rivet holes 36 - 1 1/4" ✓ Outer row rivet pitch at ends 6.28" ✓ Depth of flange if manhole flanged corn manhole 3" ✓

**Uptake:** External diameter 21 1/16" ✓ Thickness of uptake plate 1 7/32" ✓

**Cross Tubes:** No. ✓ 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. J. Marshall* Manufacturer.  
 SECRETARY.

Dates of Survey { During progress of work in shops - - } Sept. 11-20-22 Oct 3-12-27 Nov. 7. 21-28-1939 Is the approved plan of boiler forwarded herewith (If not state date of approval.) Yes ✓

{ while building } During erection on board vessel - - } Total No. of visits 9

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. "Wellington Star" Del. Rpt. No. 12451

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

*This boiler has been constructed under special survey to an approved design. The materials and workmanship are good. It has been tested by hydraulic pressure in accordance with the Rules and is eligible, in my opinion, for use on a vessel classed with the Society.*

Survey Fee ... .. £ 4 : 4 : ) When applied for, 4. 12. 39  
 Travelling Expenses (if any) £ : : ) When received, 29/4 1940

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

Committee's Minute FRI. 4 JAN 1946

Assigned No Action

