

REPORT ON BOILERS.

No. 11,806

Received at London Office 3 SEP 1936

Date of writing Report 19 When handed in at Local Office 2-9-36 Port of Belfast
 Included in F.R. regy. rpt.
 No. in Reg. Book 37780 Survey held at Belfast Date, First Survey Last Survey 31 Aug 1936
 on the MV. DUNVEGAN CASTLE (Number of Visits) Tons Gross Net

Built at Belfast By whom built Harland & Wolff Ltd Yard No. 960 When built 1936
 Engines made at Belfast By whom made Harland & Wolff Ltd Engine No. 960 When made 1936
 Boilers made at Belfast By whom made Harland & Wolff Ltd Boiler No. 960 When made 1932
 Owners Union Castle Mail S.S. Co Ltd Port belonging to London

VERTICAL DONKEY BOILER.

Made at Belfast By whom made Harland & Wolff Ltd Boiler No. 960 When made 1932 Where fixed Upper Deck ER
 Manufacturers of Steel Colville & Co

Total Heating Surface of Boiler 950 sq ft Is forced draught fitted ✓ Coal or Oil fired ✓ Exh. guns.

No. and Description of Boilers One Clarkson Vertical Begat/950 Working pressure 100 lb

Tested by hydraulic pressure to 200 lb Date of test 20-5-36 No. of Certificate 1019

Area of Firegrate in each Boiler ✓ No. and Description of safety valves to each boiler 2 spring loaded

Area of each set of valves per boiler { per rule 10.34 sq ft as fitted 11.88 sq ft Pressure to which they are adjusted 100 lb 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 7'-9" Height 21'-10 1/4" ✓

Shell plates: Material Steel Tensile strength 28/32 tons Thickness 1/2" ✓

Are the shell plates welded or flanged ✓ E.W. at butt joints Description of riveting: circ. seams { end 40 SR 136 DR inter. SR long. seams DR

Dia. of rivet holes in { circ. seams 7/8" long. seams 7/8" Pitch of rivets 2 1/2" x 3 1/2" Percentage of strength of circ. seams { plate 55.8 rivets 46.7 of Longitudinal joint { plate 73 rivets 98.6 combined 95.4

Working pressure of shell by rules 112 lb Thickness of butt straps { outer 7/8" inner 7/8" ✓

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

Tensile strength 26/30 Thickness 13/16 Radius 6'-0" Working pressure by rules 135 lb

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

Thickness ✓ Internal diameter { top 5'-0" bottom 5'-0" 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 4'-6" Working pressure by rule 115.6 lb

Thickness of Ogee Ring 15/16 Diameter as per rule { D 7'-9" d 5'-2 3/5" Working pressure by rule

Combustion Chamber: Material Steel Tensile strength 26/30 Thickness of top plate 3/4" ✓

Radius if dished ✓ Working pressure by rule ✓ Thickness of tube plate 1 3/16" Diameter if circular 5'-0" ✓

Length as per rule 11'-5 3/8" Pitch of stays { thimble 8 3/4 UP Are stays fitted with nuts or riveted over ✓

Diameter of stays over thread { thimble 4" 5 13/16 Working pressure of tube plate by rules 255 lb

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

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

W383-0035

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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 _____ 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 $22'' \times 17\frac{1}{2}''$ Section of compensating ring $7'' \times 1\frac{1}{4}''$ No. of rivets and diameter _____
 Crown $19\frac{1}{2}'' \times 15\frac{1}{2}''$ $6\frac{1}{2}'' \times 1\frac{1}{4}''$
 of rivet holes $56 \times \frac{7}{8}''$ Outer row rivet pitch at ends $2.576''$ Depth of flange if manhole flanged _____
 Crown $48 \times \frac{7}{8}''$ 3"
Uptake: External diameter $2'-8\frac{1}{2}''$ Thickness of uptake plate $\frac{5}{8}''$
Cross Tubes: No. _____ External diameters { _____ Thickness of plates _____

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with _____

The foregoing is a correct description,
For HARLAND AND WOLFF, LIMITED.

A. J. Marshall
Manufacturer
Assistant Secretary

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.) *Yes*

Total No. of visits _____

Is this Boiler a duplicate of a previous case. *Yes* If so, state Vessel's name and Report No. *Dumottar Castle 11767.*

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

This boiler on "Alcantara" was built under Board of Trade survey 18-11-32.
 The scantlings of the boiler are in accordance with the approved plan. It has been tested by hydraulic pressure, efficiently installed & fastened on an upper deck in the engine room. The safety valves were adjusted under steam accumulation tests were satisfactory. The boiler is adapted for oil burning or exhaust gases. In our opinion it is eligible for use on a classed vessel.

Survey Fee £

Travelling Expenses (if any) £

When applied for, 19

When received, 19

See Machinery report

Charles J. Hunter & R. Lee Ames
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

TUE. 8 SEP 1936

See Ref. L.E. 11806



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