

REPORT ON BOILERS.

No. 11351

-3 SEP 1934

Received at London Office

Date of writing Report

19

When handed in at Local Office

2/8/1934

Port of Belfast

visits included in 7. E. inch.

No. in Survey held at Reg. Book.

Belfast

Date, First Survey

Last Survey 28. Aug. 1934

87481 on the

JM

TWIN SCREW

WAIWERA

(Number of Visits)

Tons } Gross
Net

Built at Belfast

By whom built

Harland & Wolff Ltd.

Yard No. 922

When built 1934

Engines made at Belfast

By whom made

Harland & Wolff Ltd.

Engine No. 922

When made 1934

Boilers made at Belfast

By whom made

Harland & Wolff Ltd.

Boiler No. 922

When made 1934

Shaw Savill & Albion Co. Ltd.

Port belonging to Southampton

VERTICAL DONKEY BOILER.

at Belfast

By whom made

Harland & Wolff Ltd.

Boiler No. 922

When made 1934

Where fixed Upper deck in Motor Room

Manufacturers of Steel

Bolton & Co. Ltd.

Heating Surface of Boiler

275 sq ft (for one boiler)

Is forced draught fitted No.

Exhaust gas or Oil fired Yes

Description of Boilers

Two Clarkson Thimble type waste heat

Working pressure 100 lbs.

Tested by hydraulic pressure to

200 lbs.

Date of test

7.5.34

28.5.34

No. of Certificate 972-973

of Firegrate in each Boiler

No. and Description of safety valves to each boiler

Two Spring-loaded

of each set of valves per boiler

per rule 3.54 sq ft
as fitted 4.8 sq ft

Pressure to which they are adjusted 100 lbs.

Are they fitted with easing gear Yes

Whether steam from main boilers can enter the donkey boiler

Yes

Smallest distance between boiler or uptake and bunkers

work

Yes

Is oil fuel carried in the double bottom under boiler

Yes

Smallest distance between base of boiler and tank-top plating

Yes

Is the base of the boiler insulated

Yes

Largest internal dia. of boiler 5' 11 1/2"

Height overall 15' 0"

Plates: Material

Steel

Tensile strength

28-32 Tons

Thickness

3/32"

Shell plates welded or flanged at butt ends

Description of riveting: circ. seams

end Single 17/16 Double bottom
inter Single

long. seams double

Rivet holes in

circ. seams 25/32"
long. seams 27/32"

Pitch of rivets

1 1/2"
2 1/8"

Percentage of strength of circ. seams

plate 16.9
rivets 53.5

of Longitudinal joint

plate 72.8
rivets 126.5
combined 108.8

Working pressure of shell by rules

113 lbs.

Thickness of butt straps

outer 3/8"

inner 3/8"

Crown: Whether complete hemisphere, dished partial spherical, or flat

Yes

Material

Steel

Strength

26-30 Tons

Thickness

2 1/32"

Radius

5' 6"

Working pressure by rules

118 lbs.

Position of Furnace: Plain, spherical, or dished crown

Yes

Material

Steel

Tensile strength

26/30 Tons

Size

7 1/4"

External diameter

top

bottom

Length as per rule

Working pressure by rules

Support stays circumferentially

and vertically

Are stays fitted with nuts or riveted over

Radius of stays over thread

Radius of spherical or dished furnace crown

5' 6"

Working pressure by rule

100 lbs.

Size of Ogee Ring

Diameter as per rule

D

d

Working pressure by rule

Position Chamber: Material

Steel

Tensile strength

26/30 Tons

Thickness of top plate

7/8"

Size of dished

36"

Working pressure by rule

Thickness of back plate

1 1/16"

Diameter if circular

36"

Pitch of stays

72"

Pitch of stays

Thimbles 6" Val. 5.337" hang

Are stays fitted with nuts or riveted over

Radius of stays over thread

Thimbles

2 3/4"

Thickness

No. 9. W. G.

Working pressure of back plate by rules

210 lbs.

Size of plates

front

back

Tensile strength

Thickness

Mean pitch of stay tubes in nests

front

back

Pitch in outer vertical rows

Dia. of tube holes

FRONT

stay

plain

BACK

stay

plain

Working pressure by rules

front

back

Each alternate tube in outer vertical rows a stay tube

Working pressure by rules

Stays to combustion chamber tops: Material

Tensile strength

Size 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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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 16×12 " ✓ Section of compensating ring $4 \frac{3}{4} \times 1 \frac{1}{16}$ " ✓ No. of rivets and diameter _____

of rivet holes $38 - 1 \frac{1}{16}$ " ✓ Outer row rivet pitch at ends $2 \frac{7}{8}$ " ✓ Depth of flange of shell crown of manhole flanged 3 " ✓

Uptake: External diameter $21 \frac{1}{16}$ " ✓ Thickness of uptake plate $1 \frac{1}{32}$ " ✓

Cross Tubes: No. _____ External diameters { _____ Thickness of plates _____

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

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

A. S. 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.)

Total No. of visits _____

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

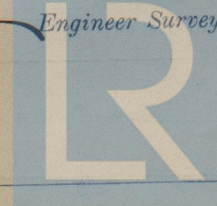
These Boilers were constructed under Special Survey & to an approved design. They were tested by hydraulic pressure in accordance with the rules, were efficiently installed and fastened on an upper deck in the motor room of the vessel. The safety valves were adjusted under steam. The accumulation noted under oil-burning did not exceed 5 lbs and at the maximum output of exhaust gas from the main engines there was no apparent accumulation. The workmanship & materials are good & they are eligible, in my opinion, for use on a classed vessel.

Survey Fee See Rpt 46 £ 8-8 : : When applied for, 31/8/1934
Travelling Expenses (if any) £ : : When received, 19

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

Committee's Minute FRI. 14 SEP 1934

Assigned See F.B. Rpt.



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