

REPORT ON BOILERS.

50170
No. 50029

Received at London Office 15 JAN 1930

26 FEB 1930

Date of writing Report

7-1

1930

When handed in at Local Office

11-1

1930

Port of

Glasgow

No. in
Reg. Book.

Survey held at

Glasgow

Date, First Survey

2. 10. 29

Last Survey

26. 12. 29

on the

S. S. THE EMPEROR

(Number of Visits

12)

Gross

824

Tons

Net

405

Master

Built at

Glasgow

By whom built

Ailsa S.B. Co. Ltd

Yard No.

414

When built

1930

Engines made at

Glasgow

By whom made

Ailsa S.B. Co. Ltd

Engine No.

149

When made

1930

Boilers made at

Glasgow

By whom made

Barclay Curle & Co. Ltd

Boiler No.

A10

When made

1929

Nominal Horse Power

115

Owners

J. Hay & Sons Ltd

Port belonging to

Glasgow

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Wm Beardmore & Co. Ltd. ✓

(Letter for Record

(S.) ✓

Total Heating Surface of Boilers

2021 sq. ft. ✓

Is forced draught fitted

Coal or Oil fired

Coal ✓

No. and Description of Boilers

1. S.B. ✓

Working Pressure

200 lb. ✓

Tested by hydraulic pressure to

350 lb. ✓

Date of test

26-12-29

No. of Certificate

18570

Can each boiler be worked separately

Area of Firegrate in each Boiler

57½ sq. ft. ✓

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

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

Smallest distance between boilers or uptakes and bunkers or woodwork

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler, and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

15'-0" ✓

Length

10'-9" ✓

Shell plates: Material

Steel ✓

Tensile strength

29-33 Tons ✓

Thickness

1 5/16" ✓

Are the shell plates welded or flanged

no ✓

Description of riveting: circ. seams

end
inter.

F3.09 ✓

B3.746 ✓

long. seams

T.R. - D.B.S. ✓

Diameter of rivet holes in

circ. seams

F1 3/16" - B 1 3/8"

long. seams

1 3/8"

Pitch of rivets

9 1/2" ✓

Percentage of strength of circ. end seams

plate

F61.5 B.63.2

rivets

F42.9 B.48

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.5

rivets

88.1

combined

88.7

Working pressure of shell by Rules

200 lb. ✓

Thickness of butt straps

outer

63/64" ✓

inner

1 7/8" ✓

No. and Description of Furnaces in each Boiler

3. Deighton Section ✓

301- ✓

Material

Steel ✓

Tensile strength

26-30 ✓

Smallest outside diameter

3'-11 5/16" ✓

Length of plain part

top

✓

bottom

✓

Thickness of plates

crown

2 1/32" ✓

bottom

✓

Description of longitudinal joint

weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom

Working pressure of furnace by Rules

203 lb. ✓

End plates in steam space: Material

Steel ✓

Tensile strength

26-30 ✓

Thickness

1 9/32" ✓

Pitch of stays

19 1/2" x 19 5/8" ✓

How are stays secured

D.N. ✓

Working pressure by Rules

200 lb. ✓

Tube plates: Material

front

Steel ✓

back

✓

Tensile strength

26/30 Tons ✓

Thickness

29/32" ✓

49/64" ✓

Mean pitch of stay tubes in nests

10 1/4" ✓

Pitch across wide water spaces

14 1/4" ✓

Working pressure

front

202 lb. ✓

back

200 lb. ✓

Girders to combustion chamber tops: Material

Steel ✓

Tensile strength

28-32 Tons ✓

Depth and thickness of girder

at centre

8 1/2" x 7/8" double ✓

Length as per Rule

33.5" ✓

Distance apart

9 1/2" ✓

No. and pitch of stays

in each

2 @ 10 3/8" ✓

Working pressure by Rules

203 lb. ✓

Combustion chamber plates: Material

Steel ✓

Tensile strength

26-30 Tons ✓

Thickness: Sides

3/4" ✓

Back

2 1/32" ✓

Top

3/4" ✓

Bottom

3/4" ✓

Pitch of stays to ditto: Sides

10 3/8" x 9 1/4" ✓

Back

9 1/4" x 8" ✓

Top

10 3/8" x 9 1/2" ✓

Are stays fitted with nuts or riveted over

nuts ✓

Working pressure by Rules

201 lb. ✓

Front plate at bottom: Material

Steel ✓

Tensile strength

26-30 Tons ✓

Thickness

29/32" ✓

Lower back plate: Material

Steel ✓

Tensile strength

26-30 Tons ✓

Thickness

25/32" ✓

Pitch of stays at wide water space

13 1/2" ✓

Are stays fitted with nuts or riveted over

nuts ✓

Working Pressure

200 lb. ✓

Main stays: Material

Steel ✓

Tensile strength

28-32 Tons ✓

Diameter

At body of stay,

3" ✓

or

3 1/4" ✓

Over threads

✓

No. of threads per inch

6 ✓

Area supported by each stay

388 sq. in. ✓

Working pressure by Rules

202 lb. ✓

Screw stays: Material

Steel ✓

Tensile strength

26-30 Tons ✓

Diameter

At turned off part,

1 5/8" - 1 7/8" ✓

or

✓

Over threads

✓

No. of threads per inch

9 ✓

Area supported by each stay

74 sq. in. ✓

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Foundation

W1142-0044

Working pressure by Rules 206 lb. Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, 1 3/4" - 1 7/8" or Over threads }
No. of threads per inch 9 Area supported by each stay 91 & 100 sq. in. Working pressure by Rules 200 & 213 lb.
Tubes: Material Iron External diameter { Plain 3 1/4" Stay } Thickness { 1/4" 5/16" 3/8" No. of threads per inch 9 }
Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules 230 lb. Manhole compensation: Size of opening in shell plate 15 1/2" x 19 1/2" Section of compensating ring 9 1/4" x 1 5/16" No. of rivets and diameter of rivet holes 32 - 1 3/8"
Outer row rivet pitch at ends 9 1/4" Depth of flange if manhole flanged 3" Steam Dome: Material ✓
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes Pitch of rivets Percentage of strength of joint { Plate Rivets }
Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays
How connected to shell Inner radius of crown Working pressure by Rules
Size of doubling plate under dome Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell

Type of Superheater Manufacturers of { Tubes Steel castings }
Number of elements Material of tubes Internal diameter and thickness of tubes
Material of headers Tensile strength Thickness Can the superheater be shut off and the boiler be worked separately
Is a safety valve fitted to every part of the superheater which can be shut off from the boiler
Area of each safety valve Are the safety valves fitted with easing gear Working pressure as per Rules
Pressure to which the safety valves are adjusted Hydraulic test pressure: tubes, castings and after assembly in place Are drain cocks or valves fitted to free the superheater from water where necessary

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

FOR BARCLAY, CURLE & CO., LTD.

John Alexander
GENERAL MANAGER ENGINE WORKS

The foregoing is a correct description,

Manufacturer.

Dates of Survey { During progress of work in shops - - } 29 Oct 2, 11, 16, 22, 31 Nov 6, 14, 21, 28 Are the approved plans of boiler and superheater forwarded herewith yes (If not state date of approval.)
while building { During erection on board vessel - - - } Dec 10, 12, 26 Total No. of visits 12

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

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

This boiler has been built under special survey, to approved plans and the Society's Rules. Materials and workmanship are good. It is intended for the Ailsa S.B. Co's No 414 vessel, then engine No 449.

Survey Fee ... £ 13/10/0 When applied for, 13. 1. 1930
Travelling Expenses (if any) £ ... When received, 1-3. 10. 1930

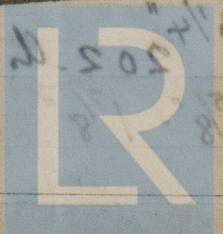
H. L. Luthert.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW

14 JAN 1930

Assigned TRANSMIT TO LONDON



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