

REPORT ON BOILERS.

No. 50672

25 MAY 1940

Received at London Office

MAY 29 1940

Date of writing Report 10-4-1940 When handed in at Local Office

Port of

No. in Survey held at
Reg. Book.

Date, First Survey

Last Survey

1940.

(Number of Visits)

Gross 452

Net 144

on the H.M.S.

BIRCH

Built at

By whom built

Cook, Miller & Gammell Ltd

Yard No. 652 When built 1940-4

Engines made at

By whom made

C.D. Holmes & Co Ltd

Engine No. 1554 When made do.

Boilers made at

By whom made

Boiler No. do When made do.

Nominal Horse Power

156

Owners

The Admiralty

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Horsley Bridge & T. Piggott, Ltd. Steel Co., of Scotland, Ltd.
Stewarts & Lloyds, Ltd. Appleby-Frodingham Steel Co., Ltd.

(Letter for Record)

"S."

Total Heating Surface of Boilers

2650 sq. ft.

Is forced draught fitted

Yes.

Coal or Oil fired

Coal.

No. and Description of Boilers

One - S.B.

Working Pressure 200 lbs/sq. in.

Tested by hydraulic pressure to

350 lbs/sq. in.

Date of test

4-12-39

No. of Certificate

4018.

Can each boiler be worked separately

Area of Firegrate in each Boiler

63 sq. ft.

No. and Description of safety valves to each boiler

2 - Spring loaded.

Area of each set of valves per boiler

per Rule

15.4 sq. in.

as fitted

Pressure to which they are adjusted

200 lbs/sq. in.

Are they fitted with easing gear

Yes.

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

Smallest distance between boilers or uptakes and bunkers

2'-0"

Is oil fuel carried in the double bottom under boilers

No.

Smallest distance between shell of boiler and tank top plating

None.

Is the bottom of the boiler insulated

No.

Largest internal dia. of boilers

177.375"

Length

11'-6"

Shell plates: Material

Steel

Tensile strength 29/33 tons/sq. in.

Thickness

42/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

D.R. lap

inter.

None.

long. seams

T.R. - D.B.S.

Diameter of rivet holes in

circ. seams

1.375"

long. seams

1.375"

Pitch of rivets

4"

Percentage of strength of circ. end seams

plate

65.6%

rivets

44.7%

Percentage of strength of circ. intermediate seam

plate

✓

rivets

✓

Percentage of strength of longitudinal joint

plate

85.5%

rivets

88.5%

combined

88.8%

Thickness of butt straps

outer

32/32"

inner

26/32"

No. and Description of Furnaces in each Boiler

3 - Cf. Deighton Section

Material

Steel

Tensile strength

26/30 tons/sq. in.

Smallest outside diameter

42.4375"

Length of plain part

top

✓

bottom

✓

Thickness of plates

crown

19/32"

bottom

✓

Description of longitudinal joint

Welded.

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

End plates in steam space: Material

Steel

Tensile strength

26/30 tons/sq. in.

Thickness

43/32"

Pitch of stays 21" x 26" max.

How are stays secured

Nuts inside & out.

Tube plates: Material

front

Steel

back

Steel

Tensile strength

26/30 tons/sq. in.

Thickness

28/32"

25/32"

Mean pitch of stay tubes in nests

9.6875"

Pitch across wide water spaces

13.625"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons/sq. in.

Depth and thickness of girder

at centre

8.25" x 60/32"

Length as per Rule

31.46875"

Distance apart

10.75"

No. and pitch of stays

in each

2 - 9.875"

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons/sq. in.

Thickness: Sides

25/32"

Back

24/32"

Top

25/32"

Bottom

25/32"

Pitch of stays to ditto: Sides

10.75" x 9.875"

Back

9.25" x 9.875"

Top

9.875" x 10.75"

Are stays fitted with nuts or riveted over

Nuts

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons/sq. in.

Thickness

28/32"

Lower back plate: Material

Steel

Tensile strength

26/30 tons/sq. in.

Thickness

28/32"

Pitch of stays at wide water space

14.5" x 9.875"

Are stays fitted with nuts or riveted over

Nuts

Main stays: Material

Steel

Tensile strength

28/32 tons/sq. in.

Diameter

At body of stay, or Over threads

3/8"

No. of threads per inch

6.

Screw stays: Material

Steel

Tensile strength

26/30 tons/sq. in.

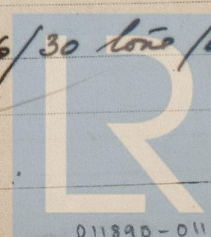
Diameter

At turned off part, or Over threads

1 1/8"

No. of threads per inch

9.



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Are the stays drilled at the outer ends

CNo.

Margin stays: Diameter { At turned off part, 2" or Over threads

No. of threads per inch

9

Tubes: Material

Steel

External diameter

Plain 2 3/4" Stay 2 3/4"

Thickness

8. W.G. 1/4, 5/16, 3/8, 7/16

No. of threads per inch

9

Pitch of tubes

3.875 x 3.875

Manhole compensation: Size of opening in

shell plate

16" (x 20")

Section of compensating ring

1.3125 x 20"

No. of rivets and diameter of rivet holes

15 - 1.46875"

Outer row rivet pitch at ends

10.125"

Depth of flange if manhole flanged

3.26"

Steam Dome: Material

CNo.

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

Thickness of crown

No. and diameter of

stays

Inner radius of crown

How connected to shell

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

CNo.

Manufacturers of

Tubes

Steel forgings

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

Pressure to which the safety valves are adjusted

Hydraulic test pressure

tubes

forgings and castings

and after assembly in place

Are drain cocks on

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

The foregoing is a correct description

FOR CHARLES D. HOLMES & CO., LTD.

Manufacturers

Dates

of Survey

while

building

During progress of

work in shops - -

During erection on

board vessel - -

1939 JUNE 20, AUG. 15, SEP. 5, 6, 11, 20, 21, 26

27, OCT. 3, 5, 7, 9, 11, 14, 17, 19, 23, 24, 26, NOV. 1, 6, 7, 8

15, 24, 27, 28, DEC. 4, 6, 7, 9, 13, 14, 15, 18

21, 28, 1940 JAN. 2, 4, 5, 10, 11, 15, 17, 18, 19, 20, 22, 23, 25, 29

FEB. 1, 2, 3, 9, MAR. 6, 11, 20, 22, 30, APR. 1, 3, 5, 6

15, 16, 17, 18, 20

Are the approved plans of boiler and superheater forwarded herewith

(If not state date of approval)

Total No. of visits

73

Is this Boiler a duplicate of a previous case

STANDARD ADMIRALTY TRAWLER.

If so, state Vessel's name and Report No.

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

This Boiler has been constructed under Special Survey in accordance with the approved Admiralty plans & the Rules & when subjected to a hydraulic test of 350 lbs/sq. it was found satisfactory in every respect.

Survey Fee

Travelling Expenses (if any)

When applied for,

When received,

19

19

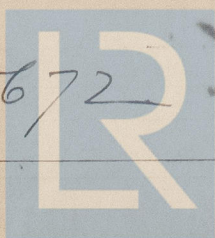
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE 4 JUN 1940

Assigned

See H/L 50672



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