

REPORT ON BOILERS.

No. 50743.

Received at London Office

JUN 27 1940

Date of writing Report

19

When handed in at Local Office

19

Port of

HULL

No. in
Reg. Book.

Hull

Date, First Survey

15. 8. 39.

Last Survey

12-6.

1940.

(Number of Visits

61

Gross

450.34.

Tons

Net

148.15.

on the H.M.S.

BAY

Built at

Helly

By whom built

Bochrane & Sons Ltd.

Yard No. 1209 When built 1940-

Engines made at

Hull

By whom made

Amos & Smith Ltd.

Engine No. 670 When made 1940-6

Boilers made at

do

By whom made

do

Boiler No. do When made 1940-6

Nominal Horse Power

156

Owners

The Admiralty

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Appleby-Frodingham Steel Co. Ltd.

(Letter for Record

S

Total Heating Surface of Boilers

2650

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

One S.B.

Working Pressure 200 lbs/sq"

Tested by hydraulic pressure to 360 lbs/sq" Date of test 19/2/40. No. of Certificate 4023. Can each boiler be worked separately

Area of Firegrate in each Boiler

63

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"

as fitted 16.6 sq"

Pressure to which they are adjusted 200 lbs/sq"

Are they fitted with easing gear

Yes

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

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

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 29/32 tons/sq"

Thickness

4 2/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end D.R. - P.H.

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"

9.5"

Percentage of strength of circ. end seams

plate 65.68

rivets 44.78

plate 85.58

rivets 88.58

combined 88.88

Percentage of strength of circ. intermediate seam

plate

rivets

Thickness of butt straps

outer 3 1/2"

inner 3 1/2"

No. and Description of Furnaces in each Boiler

3 - CF

Material

Steel

Tensile strength

26/30 tons/sq"

Smallest outside diameter

42.4375"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

19/32"

Description of longitudinal joint

Weld.

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

End plates in steam space: Material

Steel

Tensile strength

26/30 tons/sq"

Thickness

43/32"

Pitch of stays 21" x 20" max

How are stays secured

Nuts inside & out

Tube plates: Material

front

back

Steel

Tensile strength

26/30 tons/sq"

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"

Depth and thickness of girder

at centre 8.25" x 6 1/2"

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"

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"

Thickness

28/32"

Lower back plate: Material

Steel

Tensile strength 26/30 tons/sq"

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"

Diameter

At body of stay,

or

Over threads

3 1/8"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26/30 tons/sq"

Diameter

At turned off part,

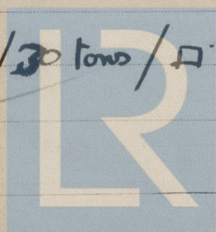
or

Over threads

1 7/8"

No. of threads per inch

9.



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Are the stays drilled at the outer ends No Margin stays: Diameter { At turned off part, ✓
or 2"
Over threads 2"

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" (+20") Section of compensating ring 1.3125" + 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 2.25" Steam Dome: Material None

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 None 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 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 Yes

The foregoing is a correct description,

A.R. Cumber Manufacturer.

Dates of Survey { During progress of work in shops - - { 1939 Aug. 15, Sept. 5, 6, 8, 12, 15, 20, 26, 28, Oct. 3, 6,
9, 14, 20, 24, Nov. 1, 2, 6, 24, 30 Are the approved plans of boiler and superheater forwarded herewith 17.10.39
while building { During erection on board vessel - - - { Dec. 4, 6, 8, 11, 12, 14, 16, 20
1940 Jan. 1, 5, 12, 15, 18, 26, 31 Total No. of visits 68
Feb. 9, 19, Mar. 4, 23, 26, Apr. 1, 4, 9, 10, 16, 19, 24, 25, 26, May 25, 28, 29, June 4, 5, 6, 7, 10, 12

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. H.M.S. BIRCH 50672

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,
to when subjected to a hydraulic test of 350 lbs/sq. in it
was found satisfactory in every respect.

Survey Fee £ : : When applied for, 19
Travelling Expenses (if any) £ : : When received, 19

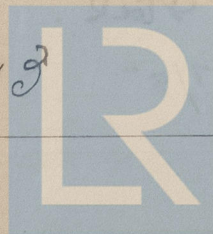
D. J. P. Cumber
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 28 JUN 1940

Committee's Minute

Assigned

See H.M.S. 50743



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