

REPORT ON BOILERS.

No. 51220

Received at London Office

10 JUN 1941

Date of writing Report

19

When handed in at Local Office

15 MAY 1941

Port of

HULL

No. in Survey held at
Reg. Book.

Date, First Survey

25 10 40

Last Survey

30 4 19 41

(Number of Visits 46)

Gross
Tons
Net

on the

H.M.T.

"ARRAN"

Built at

Beverly

By whom built

Cook Welling & Gemmell Ltd

Yard No.

671

When built

1941-5

Engines made at

Hull

By whom made

Charles D. Holmes & Co

Engine No.

1584

When made

1941-5

Boilers made at

Hull

By whom made

Charles D. Holmes & Co

Boiler No.

1584

When made

1941-5

Nominal Horse Power

156

Owners

The Admiralty

Port belonging to

S.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Appleyby - Nottingham Steel Works

(Letter for Record

S.

Total Heating Surface of Boilers

2650

Is forced draught fitted

Ys

Coal or Oil fired

Coal

No. and Description of Boilers

One S.B.

Working Pressure

200 lbs per sq in

Tested by hydraulic pressure to

350 lbs

Date of test

28.1.41

No. of Certificate

4087

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 in

Pressure to which they are adjusted

200 lbs

Are they fitted with easing gear

Ys

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

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

14'-9 3/8"

Length

11'-6"

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

1 3/8"

end

29/33 tons

long. seams

T.R. D.B.S.

Diameter of rivet holes in

circ. seams

1 3/8"

Pitch of rivets

9 1/2"

Percentage of strength of circ. end seams

plate

65.6%

Percentage of strength of circ. intermediate seam

plate

1"

Percentage of strength of longitudinal joint

plate

88.5%

Thickness of butt straps

outer

1 1/2"

No. and Description of Furnaces in each Boiler

3 cf. Saighton's section

Material

Steel

Tensile strength

26/30 tons per sq in

Smallest outside diameter

3'-6 7/16"

Length of plain part

top

Thickness of plates

crown

1 9/32"

Description of longitudinal joint

Weld

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

End plates in steam space: Material

Steel

Tensile strength

26/30 tons

Thickness

1 5/32"

Pitch of stays

21" x 20" max

How are stays secured

Nuts inside & out

Tube plates: Material

front

Steel

Tensile strength

26/30 tons per sq in

Thickness

7/8"

25/32"

Mean pitch of stay tubes in nests

9 1/16"

Pitch across wide water spaces

13 5/8"

Girders to combustion chamber tops: Material

Steel

Tensile strength

28/32 tons per sq in

Depth and thickness of girder

at centre

8 1/4" x 1 3/8"

Length as per Rule

2'-7 15/32"

Distance apart

10 3/4"

No. and pitch of stays

in each

2 - 9 7/8"

Combustion chamber plates: Material

Steel

Tensile strength

26/30 tons per sq in

Thickness: Sides

25/32"

Back

3/4"

Top

25/32"

Bottom

25/32"

Pitch of stays to ditto: Sides

10 3/4" x 9 7/8"

Back

9 1/4" x 9 7/8"

Top

10 3/4" x 9 7/8"

Are stays fitted with nuts or riveted over

nuts

Front plate at bottom: Material

Steel

Tensile strength

26/30 tons per sq in

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26/30 tons per sq in

Thickness

7/8"

Pitch of stays at wide water space

14 1/2" x 9 7/8"

Are stays fitted with nuts or riveted over

nuts

Main stays: Material

Steel

Tensile strength

28/32 tons per sq in

Diameter

At body of stay, or over threads

3 1/4"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26/30 tons per sq in

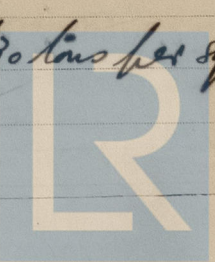
Diameter

At turned off part, or over threads

1 3/8"

No. of threads per inch

9

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Foundation

Are the stays drilled at the outer ends no. Margin stays: Diameter { At turned off part, 2" or 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. No. of threads per inch 9

Pitch of tubes 3 7/8 x 3 7/8 Manhole compensation: Size of opening in shell plate 16" (x 20") Section of compensating ring 15 1/6" x 20" No. of rivets and diameter of rivet holes 15 - 1 1/32"

Outer row rivet pitch at ends 10 1/8" Depth of flange of manhole flanged 3 1/4" 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,
FOR CHARLES D. HOLMES & CO., LTD. Manufacturer.

Dates of Survey { During progress of work in shops - - - See machinery rpt. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) _____

while building { During erection on board vessel - - - _____ Total No. of visits _____

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. H.M.T. "BIRCH" Hull rpt No 53672

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 and the Society's Rules. The workmanship and materials are good and when subjected to an hydraulic test of 350 lb. per square inch it was found satisfactory in every respect.

Survey Fee ... See machinery rpt. When applied for, _____ 19 _____

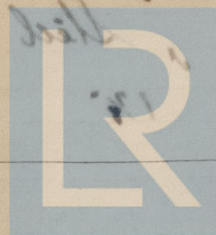
Travelling Expenses (if any) See machinery rpt. When received, _____ 19 _____

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

See FE machy rpt.



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