

5a.

# REPORT ON BOILERS.

No. 51173.

13. 18. 2  
6. 10. 18.  
0. Apr.  
27/4/40  
10/40.  
9-40  
41  
3-41

Received at London Office APR 24 1941

Writing Report

19

When handed in at Local Office

19

Port of

HULL

Survey held at

Hull

Date, First Survey

5. 6. 40.

Last Survey

2 4. 1941.

(Number of Visits

54.)

Gross

452

Tons

Net

142.

on the H.M.S

**'JULIET'**

Beverley

By whom built

J. Barrow, Booth, Welton & Gemmell, Ltd.

Yard No. 669

When built 1941-3.

Boilers made at

Hull

By whom made

Messrs. C. D. Holmes, Ltd.

Engine No. 1569

When made 1941-3.

Boilers made at

Hull

By whom made

Messrs. C. D. Holmes, Ltd.

Boiler No. 1569

When made 1941-3.

Indicated Horse Power

156

Owners

The Admiralty

Port belonging to

## TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Appleby Frodingham Steel Co. Ltd.

(Letter for Record

S

Heating Surface of Boilers

2650 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Coal

Number 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

18. 12. 40.

No. of Certificate

4083.

Can each boiler be worked separately

Yes

Number of Firegrate in each Boiler

63 sq ft

No. and Description of safety valves to each boiler

2 - spring loaded.

Pressure of each set of valves per boiler

per Rule 15.4 sq in

as fitted 16.6 sq in

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

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

14' - 9 3/8"

Length

11' - 6"

Shell plates: Material

Steel

Tensile strength 29/32 tons/sq in

Thickness

1 5/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D. R. Lap

inter. None

Type of seams

T. R. - D. B. S.

Diameter of rivet holes in

circ. seams 1 3/8"

long. seams 1 3/8"

Pitch of rivets

4"

9 1/2"

Percentage of strength of circ. end seams

plate 65.6%

rivets 44.7%

Percentage of strength of circ. intermediate seam

plate 85.5%

rivets 88.5%

Percentage of strength of longitudinal joint

plate 85.5%

rivets 88.5%

combined 88.8%

Thickness of butt straps

outer 1"

inner 1 1/8"

No. and Description of Furnaces in each Boiler

3 - Cf. Deighton section

Material

Steel

Tensile strength

26/30 tons/sq in

Smallest outside diameter

3' - 6 7/16"

Length of plain part

top

Thickness of plates

1 9/32"

Description of longitudinal joint

Weld.

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

Yes

Material of plates in steam space

Steel

Tensile strength 26/30 tons/sq in

Thickness

1 1/32"

Pitch of stays 21" x 20 max

How are stays secured

Nuts inside - out.

Material of side plates

front Steel

back Steel

Tensile strength

26/30 tons/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"

Material of girders to combustion chamber tops

Steel

Tensile strength 28/32 tons/sq in

Depth and thickness of girder

centre 8 1/4" x 1 7/8"

Length as per Rule

2' - 7 5/32"

Distance apart

10 3/4"

No. and pitch of stays

each 2 - 9 7/8"

Combustion chamber plates: Material

Steel.

Tensile strength

26/30 tons/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

Material of front plate at bottom

Steel

Tensile strength

26/30 tons/sq in

Thickness

7/8"

Lower back plate: Material

Steel

Tensile strength

26/30 tons/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

Material of main stays

Steel

Tensile strength

28/32 tons/sq in

Diameter

At body of stay, 3 1/8"

Over threads

No. of threads per inch

6

Material of screw stays

Steel

Tensile strength

26/30 tons/sq in

Diameter

At turned off part, 1 7/8"

Over threads

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 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 15 - 1 1/2" ✓ shell plate 16" (x 20") Section of compensating ring 1 5/16" x 20" ✓ No. of rivets and diameter of rivet holes 15 - 1 1/2" ✓

Outer row rivet pitch at ends 10 1/8" ✓ Depth of flange if 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 \_\_\_\_\_ } Internal diameter and thickness of tubes \_\_\_\_\_

Number of elements \_\_\_\_\_ Material of tubes \_\_\_\_\_ 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 of 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. JAMES & CO., LTD. Manufacturer

Dates of Survey { During progress of work in shops - - } while building { During erection on board vessel - - } See Machinery report. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) 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

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. The workmanship & materials are good & when subjected to an hydraulic test of 350 lbs/sq" it was found satisfactory in every respect.

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

*[Signature]* Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 29 APR 1941

Assigned See H.M.L. 51173