

Rpt. 5a.

REPORT ON BOILERS.

No. 50725.

Date of writing Report

When handed in at Local Office

10 JUN 1940

Received at London Office

JUN 17 1940

No. in Survey held at

Hull.

Date, First Survey

20. 6. 39.

Last Survey

1. 6. 1940.

Rrg. Book.

H.M.T.

"BLACKTHORN"

(Number of Visits

59.)

Gross

452.

Tons

Net

144.

Built at

Beverley.

By whom built

Cook, Welton & Gemmell, Ltd.

Yard No.

653

When built 1940-4.

Engines made at

Hull.

By whom made

Charles. D. Holmes & Co., Ltd.

Engine No.

1555

When made 1940-4

Boilers made at

Hull.

By whom made

Hull.

Boiler No.

Hull.

When made H.M.T.

Nominal Horse Power

156.

Owners

The Admiralty.

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

The Steel Company of Scotland, 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

8/1/40

No. of Certificate

4022

Can each boiler be worked separately

yes

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 boiler

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

177.375"

Length

11' 6"

Shell plates: Material

Steel

Tensile strength

29/32 tons / sq in

Thickness

4 3/32"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end

D.R. - lap.

long. seams

T.R. - D.B.S.

Diameter of rivet holes in

circ. 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

89.5 %

combined

88.8 %

Thickness of butt straps

outer

32/32"

inner

36/32"

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"

Description of longitudinal joint

Weld.

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

yes

End plates in steam space: Material

Steel

Tensile strength

26/30 tons / sq in

Thickness

4 3/32"

Pitch of stays

21" x 20" 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

29/32 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

26/32"

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,

3 1/8"

or

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

26/30 tons / sq in

Diameter

At turned off part,

1 7/8"

or

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, 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

8.875 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

3.75"

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

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

tubes

forgings and castings

and after assembly in place

Hydraulic test pressure:

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 while building

During progress of work in shops -

1939 June 20, Aug. 15, Sept. 5, 6, 8, 20, 24, Oct. 3, 11, 14, 16, 24, 26, NOV. 1, 14, 15, 17, 21, 22, 23, 24, 27, 28, DEC. 7, 8, 9, 15, 21, 29, 1940 Jan. 5, 8, 9, 12, 15, 18, Feb. 9, 15, Mar. 4, 5, 8, 11, 15, 15, 18, 19, 19, Total No. of visits 59.

30, 30, 28, 29, Apr. 18, May 10, 15, 24, 25, 28, 29, 31, June 1.

Is this Boiler a duplicate of a previous case

yes.

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

H.M.T "BIRCH". Rpt. No. 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 and the Rules, and when subjected to a hydraulic test of 350 lb/sq. in it was found satisfactory in every respect.

Survey Fee

Travelling Expenses (if any)

When applied for,

19

When received,

19

Committee's Minute

TUE. 18 JUN 1940

Assigned

See H.M.T. 50728

Engineer Surveyor to Lloyd's Register of Shipping.



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