

# REPORT ON BOILERS.

No. 51476

30 JAN 1942

Received at London Office

Date of writing Report

19

When handed in at Local Office

27 JAN 1942

Port of HULL.

3. 2. 41

Last Survey

27/11/41

19 41

No. in Survey held at HULL.

Date, First Survey

(Number of Visits)

Gross 452.  
Net 142.

on the H.M.T. E DAY.

uilt at SELBY.

By whom built Messrs. Cochrane & Sons Ltd.

Yard No. 1234. When built 1941 4

Engines made at HULL.

By whom made Messrs. Amos & Smith Ltd.

Engine No. 695. When made 1941 4

Boilers made at HULL.

By whom made Messrs. Amos & Smith Ltd.

Boiler No. 695. When made 1941 4

nominal Horse Power 156.

Owners THE ADMIRALTY

Port belonging to

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Appleby Frodingham Steel Co. Ltd. & Co. Billies.

(Letter for Record 5.

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 lb/sq. in.

Tested by hydraulic pressure to 350 lb/sq. in. Date of test 23/9/41. No. of Certificate 4116.

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 16.6 sq. in.)

Pressure to which they are adjusted 200 lb/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 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/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)

Long. 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% combined 88.8%)

Percentage of strength of longitudinal joint (plate 85.5% rivets 88.5% combined 88.8%)

Thickness of butt straps (outer 1 1/8" inner 1 1/8")

No. and Description of Furnaces in each Boiler 3 cf. Eighteen Section

Material Steel Tensile strength 26/30 tons/sq. in.

Smallest outside diameter 3'-6 1/16".

Length of plain part (top 39 1/2" bottom 39 1/2")

Thickness of plates (crown 39 1/2" bottom 39 1/2")

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/sq. in.

Thickness 1 1/32".

Pitch of stays 21" x 20" max.

How are stays secured Nuts inside cover.

Tube plates: Material (front Steel back Steel)

Tensile strength (26/30 tons/sq. in. 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".

Girders to combustion chamber tops: Material Steel

Tensile strength 28/32 tons/sq. in.

Depth and thickness of girder

at centre 8 1/4" x 1 3/8".

Length as per Rule 2'-7 1/2".

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/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/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.

Main stays: Material Steel

Tensile strength 28/32 tons/sq. in.

Diameter (At body of stay 3 1/8" or Over threads)

No. of threads per inch 6.

Screw stays: Material Steel

Tensile strength 26/30 tons/sq. in.

Diameter (At turned off part 1 3/8" or 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, ☒ 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 7/8" x 3 7/8"

Shell plate 16" x 20"

Section of compensating ring 1 5/16" x 20"

Manhole compensation: Size of opening in shell plate 15 @ 1 5/32"

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

How connected to shell

Inner radius of crown

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

Area of each safety valve

Is a safety valve fitted to every part of the superheater which can be shut off from the boiler

Pressure to which the safety valves are adjusted

Are the safety valves fitted with easing gear

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

The foregoing is a correct description,

Manufacturer.

Dates of Survey ☒ During progress of work in shops - - ☒ while building ☒ During erection on board vessel - - -

See machy rept

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. Hull R.P. 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.

The Workmanship and Materials are good and 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

Committee's Minute

FRI 6 FEB 1912

Assigned

See Hull R.P. 51476

Engineer Surveyor to Lloyd's Register of Shipping.



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