

REPORT ON BOILERS.

No. 51371

Received at London Office 18 OCT 1941

Date of writing Report

16 OCT. 1941

When handed in at Local Office

Port of HULL

No. in Survey held at

HULL.

Date, First Survey

13.11.40

Last Survey

9.9.41

Reg. Book.

(Number of Visits)

Gross

450

Tons

Net

143

on the H.M.T.

CHAPINSAY.

Built at

SELBY.

By whom built

Messrs. Cochrane & Sons. Ltd

Yard No.

1230.

When built

1941-9

Engines made at

HULL.

By whom made

Messrs. Angus & Smith Ltd

Engine No.

691

When made

1941-9

Boilers made at

HULL.

By whom made

Messrs. Angus & Smith Ltd

Boiler No.

691

When made

1941

Nominal Horse Power

156.

Owners

THE ADMIRALTY.

Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Messrs. Appleby Frodingham Steel Co. & Messrs. Charles

(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

5.7.41

No. of Certificate

4105.

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 Rule 15.4 sq. ft.

as fitted 16.6 sq. ft.

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

inter. D.R. Lap.

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

9 1/2"

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 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. Design 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

crown 19/32"

bottom 19/32"

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/sq. in.

Thickness

1 1/32".

Pitch of stays

21" x 20" max

How are stays secured

Nuts inside end.

Tube plates: Material

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"

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 7/8"

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 3/8" 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

3 1/8"

No. of threads per inch

6

Screw stays: Material

Steel

Tensile strength

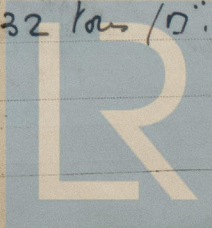
26/32 tons/sq. in.

Diameter

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,} 2" ^{or} Over threads

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", 7/16", 3/8", 7/16" 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 1 5/16" x 20" No. of rivets and diameter of rivet holes 15 @ 1 5/32"

Outer row rivet pitch at ends 10 1/8" Depth of flange if ^{Bottom} manhole flanged 3 1/4" Steam Dome: Material None

Tensile strength _____ Thickness of shell _____ Description of longitudinal joint _____

Diameter of rivet holes 0.651 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 For AMOS & SMITH LTD.

The foregoing is a correct description, C. S. Dewdney Manufacturer.

Dates of Survey ^{During progress of work in shops --} See machinery rep ^{During erection on board vessel --} _____

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) ✓

Total No. of visits 1

Is this Boiler a duplicate of a previous case _____ If so, state Vessel's name and Report No. _____

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The 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. it was found satisfactory in every respect.

Survey Fee ... £ : _____ When applied for, _____ 19

Travelling Expenses (if any) £ : _____ When received, _____ 19

C. S. Dewdney
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 28 OCT 1941

Assigned See Lib 2.6. 51371