

REPORT ON BOILERS.

No. 8615

Received at London Office

31 AUG 1927

Date of writing Report Aug 30th 1927 When handed in at Local Office

192

Port of

Dundee

No. in Survey held at

Dundee

Date, First Survey

21-2-27

Last Survey

22-8-1927

Reg. Book.

41762

on the

T.S.S. "MARLOWE"

(Number of Visits 14)

Gross 812.83

Net 342.28

Master

Built at

Dundee

By whom built

Caledon S.B. & Eng^g Co. Ltd.

Yard No.

307

When built 1927

Engines made at

Dundee

By whom made

Caledon S.B. & Eng^g Co. Ltd.

Engine No.

507

When made 1927

Boilers made at

Dundee

By whom made

Caledon S.B. & Eng^g Co. Ltd.

Boiler No.

507

When made 1927

Nominal Horse Power

183

Owners

The Mayor, Aldermen, & Burgesses of the Borough of Wallasey.

Port belonging to

Liverpool.

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Wm. Beardmore & Co. Ltd. & D. Colville & Sons Ltd.

(Letter for Record (V))

Total Heating Surface of Boilers

3244 sq. ft. ✓

Is forced draught fitted

No.

Coal or Oil fired

Coal

No. and Description of Boilers

2 Single-Ended Return tube 2SB.

Working Pressure 180 lbs.

Tested by hydraulic pressure to

320 lbs.

Date of test

4-6-27

No. of Certificate

1017

Can each boiler be worked separately

Yes. ✓

Area of Firegrate in each Boiler

50 x 100 ft.

No. and Description of safety valves to each boiler

2 Spring-loaded High Lift. ✓

Area of each set of valves per boiler

per Rule

6.93 ✓

as fitted

9.85

Pressure to which they are adjusted

180 lbs.

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

✓

Smallest distance between shell of boiler and tank top

5 1/2"

Is the bottom of the boiler insulated

No

Largest internal dia. of boilers

13'-0 3/32"

Length

10'-10"

Shell plates: Material

Steel ✓

Tensile strength

28/32 Tns.

Thickness

1 5/16"

Are the shell plates welded or flanged

No

Description of riveting: circ. seams

end D.R. ✓

Long. seams

T.R. & B.S. ✓

Diameter of rivet holes in

circ. seams

1 1/8" ✓

long. seams

1 1/8" ✓

Pitch of rivets

3 1/4" ✓

8 1/8" ✓

Percentage of strength of circ. end seams

plate 65.3

rivets 46.6

Percentage of strength of circ. intermediate seam

plate

rivets ✓

Percentage of strength of longitudinal joint

plate 86.0

rivets 88.0

combined 89.6

Working pressure of shell by Rules

181 lbs.

Thickness of butt straps

outer 13/16" ✓

inner 15/16" ✓

No. and Description of Furnaces in each Boiler

3 Deighton Section 3 c.f.

Material

Steel

Tensile strength

26/30 Tns. ✓

Smallest outside diameter

3'-5 1/8" ✓

Length of plain part

top ✓

bottom ✓

Thickness of plates

crown 9/16" ✓

bottom 9/16" ✓

Description of longitudinal joint

weld. ✓

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

✓

Working pressure of furnace by Rules

198 lbs. ✓

End plates in steam space: Material

Steel

Tensile strength

26/30 Tns. ✓

Thickness

1 1/16" ✓

Pitch of stays

19" x 16 1/2"

How are stays secured

D. Nuts. ✓

Working pressure by Rules

190 lbs. ✓

Tube plates: Material

front Steel ✓

back Steel ✓

Tensile strength

26/30 Tns. ✓

Thickness

13/16" ✓

3/4" ✓

Lean pitch of stay tubes in nests

9 1/32"

Pitch across wide water spaces

13 1/2" ✓

Working pressure

front 181 lbs.

back 230 lbs.

Girders to combustion chamber tops: Material

Steel ✓

Tensile strength

28/32 Tns. ✓

Depth and thickness of girder

At centre

9 1/4" : 2 @ 3/4" ✓

Length as per Rule

2'-10 3/8" ✓

Distance apart

8 1/2" ✓

No. and pitch of stays

At each

3 @ 8 1/8" ✓

Working pressure by Rules

193 lbs.

Combustion chamber plates: Material

Steel ✓

Tensile strength

26/30 Tns.

Thickness: Sides

19/32" ✓

Back

5/8" ✓

Top

5/8" wire ✓

Bottom

3/4" ✓

Pitch of stays to ditto: Sides

8 1/8" x 7 1/2" ✓

Back

8 1/4" x 8 3/4" ✓

Top

8 1/8" x 8 1/2" ✓

Are stays fitted with nuts or riveted over

Nuts ✓

Working pressure by Rules

188 lbs.

Front plate at bottom: Material

Steel

Tensile strength

26/30 Tns.

Thickness

13/16" ✓

Lower back plate: Material

Steel

Tensile strength

26/30 Tns.

Thickness

3/4" ✓

Pitch of stays at wide water space

13 3/16"

Are stays fitted with nuts or riveted over

Nuts

Working Pressure

184 lbs.

Main stays: Material

Steel

Tensile strength

28/32 Tns.

Diameter

At body of stay, 2 3/4" ✓

Over threads

No. of threads per inch

6 ✓

Area supported by each stay

313.5 sq. in.

Working pressure by Rules

198 lbs.

Screw stays: Material

Iron ✓

Tensile strength

24 Tns.

Diameter

At turned off part, 1 5/8" ✓

Over threads

No. of threads per inch

9 ✓

Area supported by each stay

72 sq. in.

Working pressure by Rules 210 lb. Are the stays drilled at the outer ends No. Margin stays: Diameter 1 3/4"
No. of threads per inch 9 Area supported by each stay 80 sq ins. Working pressure by Rules 200 lb.
Tubes: Material Iron External diameter 3" Thickness 9/32" No. of threads per inch 9
Pitch of tubes 4 1/8" Working pressure by Rules 250 lb. Manhole compensation: Size of opening in
shell plate 16 x 12" Section of compensating ring ✓ No. of rivets and diameter of rivet holes ✓
Outer row rivet pitch at ends ✓ Depth of flange if manhole flanged 3 3/4" Steam Dome: Material
Tensile strength Thickness of shell Description of longitudinal joint
Diameter of rivet holes Pitch of rivets Percentage of strength of joint Plate
Internal diameter Working pressure by Rules Thickness of crown No. and diameter of
stays Inner radius of crown Working pressure by Rules
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

Number of elements Material of tubes Manufacturers of Tubes
Material of headers Tensile strength Steel castings
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 Can the superheater be shut off and
Rules Pressure to which the safety valves are adjusted Working pressure as per
tubes, castings and after assembly in place Hydraulic test pressure
to free the superheater from water where necessary Are drain cocks or valves fitted

Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with

The foregoing is a correct description,

Dates of Survey while building
During progress of work in shops - - 1927 Feb. 21, April 1, 9, 21, May 11, 17, June 2, 4
During erection on board vessel - - - July 4, August 19.

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
Total No. of visits 14

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

These boilers have been constructed under Special Survey in accordance with the Rules and approved plan. The materials and workmanship are good. The boilers have been fitted on board the vessel in an efficient manner, examined under steam and all safety valves adjusted.

Survey Fee ... £
Travelling Expenses (if any) £

When applied for, 192
When received, 192

Gen. T. Thomas

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI. 30 SEP 1927

Assigned

No action

FRI. 16 MAR 1928



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Foundation