

## REPORT ON BOILERS.

No. 87829

Date of writing Report

19

When handed in at Local Office

4/12/1931

Port of

Received at London Office

7 DEC 1931

NEWCASTLE-ON-TYNE

No. in  
Reg. Book.

Survey held at

Walker.

Date, First Survey

24 July

Last Survey

1<sup>st</sup> Dec.

1931

on the

Main Boilers for the S. S. "FLATHOUSE"

(Number of Visits)

Gross  
Tons  
Net

Master

Built at

Southwick

By whom built

Swan Hunter, W. R. &amp; Co.

No. 1473

When built 1931

Engines made at

Walker.

By whom made

Swan Hunter, W. R. &amp; Co.

Engine No. 1416

When made 1931

Boilers made at

Walker.

By whom made

Swan Hunter, W. R. &amp; Co.

Boiler No. 1416

When made 1931

Nominal Horse Power

149

Owners

Stephen Blake &amp; Co. Ltd.

Port belonging to

Lander.

MULTITUBULAR BOILERS—MAIN, ~~AUXILIARY~~ OR DONKEY.

Manufacturers of Steel

Steel Co. of Scotland.

(Letter for Record

S)

Total Heating Surface of Boilers

2888 sq ft

Is forced draught fitted

Yes

Coal or Oil fired

Coal

No. and Description of Boilers

Two single ended main.

Working Pressure 180 lbs

Tested by hydraulic pressure to

320 lbs

Date of test

20.10.31

No. of Certificate

561

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

50.5 sq ft

No. and Description of safety valves to each boiler

2 spring loaded 1 H. L. type.

Area of each set of valves per boiler

per Rule

4.64 sq ft

as fitted

4.8 sq ft

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

5'-0"

Is oil fuel carried in the double bottom under boilers

Yes

Smallest distance between shell of boiler and tank top plating

2'-9"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

12'-10"

Length

10'-6"

Shell plates: Material

S

Tensile strength

30/34 T.

Thickness

1"

Are the shell plates welded or flanged

Yes

Description of riveting: circ. seams

end

D. R. Lap

long. seams

T. R. D. B. S.

Diameter of rivet holes in

circ. seams

1 1/8"

Pitch of rivets

3.58"

Percentage of strength of circ. end seams

plate

68.54

rivets

42.54

Percentage of strength of circ. intermediate seam

plate

-

rivets

-

Percentage of strength of longitudinal joint

plate

85.59

rivets

86.4

Working pressure of shell by Rules

181 lbs

Thickness of butt straps

outer

25/32"

inner

29/32"

No. and Description of Furnaces in each Boiler

3 Deighton section.

Material

S

Tensile strength

26/30 T.

Smallest outside diameter

36 3/4"

Length of plain part

top

-

bottom

Thickness of plates

crown

15/32"

bottom

Description of longitudinal joint

Weld

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

-

Working pressure of furnace by Rules

182 lbs

End plates in steam space: Material

S

Tensile strength

26/30 T.

Thickness

1 3/32"

Pitch of stays

14 1/2" x 16 3/4"

How are stays secured

D. nuts

Working pressure by Rules

188 lbs

Tube plates: Material

front

S

back

S

Tensile strength

26/30 T.

Thickness

13/16"

Pitch of stays

14 1/2" x 16 3/4"

Mean pitch of stay tubes in nests

11 1/16"

Pitch across wide water spaces

14 1/4"

Working pressure

front

189 lbs

back

196 lbs

Girders to combustion chamber tops: Material

S

Tensile strength

28/32 T.

Depth and thickness of girder

at centre

9" x 1 1/4"

Length as per Rule

30 9/16"

Distance apart

9 1/2"

No. and pitch of stays

in each

2 @ 9 3/8"

Working pressure by Rules

183 lbs

Combustion chamber plates: Material

S

Tensile strength

26/30 T.

Thickness: Sides

1 1/16"

Back

2 1/32" x 5/8"

Top

1 1/16"

Bottom

1 1/16"

Pitch of stays to ditto: Sides

9 3/8" x 9 1/2"

Back

9 1/4" x 9"

Top

9 1/2" x 9 3/8"

Are stays fitted with nuts or riveted over

nuts.

Working pressure by Rules

180 lbs

Front plate at bottom: Material

S

Tensile strength

26/30 T.

Thickness

1 1/32"

Lower back plate: Material

S

Tensile strength

26/30 T.

Thickness

1/8"

Pitch of stays at wide water space

14 1/4" x 9"

Are stays fitted with nuts or riveted over

nuts.

Working Pressure

220 lbs

Main stays: Material

S

Tensile strength

28/32 T.

Diameter

At body of stay,

2 3/4"

or

Over threads

No. of threads per inch

6

Area supported by each stay

301 sq in

Working pressure by Rules

183 lbs

Screw stays: Material

S

Tensile strength

26/30 T.

Diameter

At turned off part,

1 5/8" x 1 3/4"

or

Over threads

No. of threads per inch

9

Area supported by each stay

81.6 sq in

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Working pressure by Rules 186 lbs Are the stays drilled at the outer ends ☒ Margin stays: Diameter { At turned off part, 1 1/8" or Over threads }  
No. of threads per inch 9 Area supported by each stay 103.4 sq. in. Working pressure by Rules 205 lbs  
Tubes: Material iron External diameter { Plain 3 1/4" Stay } Thickness 5/16" No. of threads per inch 9  
Pitch of tubes 4 1/2" x 4 3/8" Working pressure by Rules 201 lbs Manhole compensation: Size of opening in shell plate 20 x 16" Section of compensating ring 10 5/8" x 1" No. of rivets and diameter of rivet holes 32 x 1 3/8"  
Outer row rivet pitch at ends 9 3/8" Depth of flange if manhole flanged - Steam Dome: Material iron  
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 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 Manufacturers of { Tubes 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 Working pressure as per Rules  
Pressure to which the safety valves are adjusted Hydraulic test pressure: tubes, 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

FOR THE FOREGOING IS A CORRECT DESCRIPTION,  
BY THE MANUFACTURER

E. J. Sweeney Manufacturer.

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

See Main Report

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

Total No. of visits

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 Boilers have been built under special survey in accordance with the Rules of the Society & the approved plans & have been securely fitted on board the vessel & their safety valves adjusted under steam to working pressure.  
The Materials & workmanship are of good quality.

Survey Fee ... £ 100 When applied for, 19  
Travelling Expenses (if any) £ Rpl. When received, 19

Edw. A. Sweeney

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 11 DEC 1931

Assigned

See F.B. Rpt.



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