

Rpt. 5a.

## REPORT ON BOILERS.

No. 46570

46649

Received at London Office

21 APR 1927

Date of writing Report

192

When handed in at Local Office

15/4/1927

Port of

Glasgow.

No. in Survey held at  
Reg. Book.

Date, First Survey

10<sup>th</sup> Mar

Last Survey

12<sup>th</sup> April 1927

(Number of Visits)

4

on the,

S. S. Swan

Gross

Tons

Net

Master

Built at

Glenock

By whom built

Geo Brown &amp; Co

Yard No.

157

When built

1927

Engines made at

Glasgow

By whom made

M. Kie &amp; Baxter Ltd

Engine No.

1185

When made

1927

Boilers made at

Glasgow

By whom made

A. Anderson &amp; Sons Ltd

Boiler No.

2872

When made

1927

Nominal Horse Power

13

Owners

Port belonging to

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

Manufacturers of Steel

Phoenix A&amp;L: Hoarder Kerim

(Letter for Record)

Total Heating Surface of Boilers

316 ft<sup>2</sup>

Is forced draught fitted

Coal or Oil fired

No. and Description of Boilers

One Single Ended, Return Tube

Working Pressure

120 lb

Tested by hydraulic pressure to

230 lb

Date of test

23/3/27

No. of Certificate

14352

Can each boiler be worked separately

Area of Firegrate in each Boiler

12.3 ft<sup>2</sup>

No. and Description of safety valves to each boiler

Area of each set of valves per boiler

per Rule

Pressure to which they are adjusted

Are they fitted with easing gear

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

Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating

Is the bottom of the boiler insulated

Largest internal dia. of boilers

43 1/8"

Length

90"

Shell plates: Material

Steel

Tensile strength

28-32

Thickness

7/16"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

S.R.V.

Long. seams

D.R.-D.B.S.

Diameter of rivet holes in

circ. seams

13/16"

Pitch of rivets

2"

3 1/16"

Percentage of strength of circ. end seams

plate

93

rivets

48

Percentage of strength of circ. intermediate seam

plate

93.4

rivets

119

Percentage of strength of longitudinal joint

plate

93.4

rivets

119

Working pressure of shell by Rules

124 lb

Thickness of butt straps

outer

3/8"

inner

1/2"

No. and Description of Furnaces in each Boiler

One Plain

Material

Steel

Tensile strength

26-30

Smallest outside diameter

36"

Length of plain part

top

63"

bottom

Thickness of plates

crown

9/16"

bottom

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

166 lb

d plates in steam space: Material

Steel

Tensile strength

26-30

Thickness

19/32"

Pitch of stays

13 (3 in. 110)

Are stays secured

DN + Washers

Working pressure by Rules

242 lb

e plates: Material

front

Steel

back

Tensile strength

26-30

Thickness

19/32"

Pitch of stay tubes in nests

9.4

Pitch across wide water spaces

9"

Working pressure

not 180 lb

Orders to combustion chamber tops: Material

Steel

Tensile strength

28-32

Depth and thickness of girder

centre

4 3/4" x 1/2" double

Length as per Rule

19.9

Distance apart

6 1/2"

No. and pitch of stays

each

one

Working pressure by Rules

135 lb

Combustion chamber plates: Material

Steel

Tensile strength

26-30

Thickness: Sides

1/2"

Back

1/2"

Top

1/2"

Bottom

1/2"

Pitch of stays to ditto: Sides

7/8"

Back

8" x 8"

Top

6 1/2"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

144.5 lb

Front plate at bottom: Material

Steel

Tensile strength

26-30

Thickness

19/32"

Lower back plate: Material

Steel

Tensile strength

26-30

Thickness

19/32"

Pitch of stays at wide water space

Are stays fitted with nuts or riveted over

Working Pressure

Main stays: Material

Steel

Tensile strength

28-32

Pitch of stay, meter

At body of stay,

1 3/4"

Over threads

No. of threads per inch

8

Area supported by each stay

153 in<sup>2</sup>

Working pressure by Rules

123 lb

Screw stays: Material

Steel

Tensile strength

26-30

Pitch of stay, meter

At turned off part,

1 1/4"

Over threads

No. of threads per inch

9

Area supported by each stay

64 in<sup>2</sup>Lloyd's Register  
Foundation  
W1122-0089



Working pressure by Rules  $124.5 \text{ lbs}$  Are the stays drilled at the outer ends  $\text{no}$  Margin stays: Diameter  $\begin{cases} \text{At turned off part, } 1\frac{3}{8}'' \\ \text{Over threads } 1\frac{1}{2}'' \end{cases}$

No. of threads per inch  $9$  Area supported by each stay  $42 \text{ sq}$  Working pressure by Rules  $140 \text{ lbs}$

Tubes: Material  $\text{Iron}$  External diameter  $\begin{cases} \text{Plain } 2\frac{1}{2}'' \\ \text{Stay } 2\frac{1}{2}'' \end{cases}$  Thickness  $\frac{5}{16}''$  No. of threads per inch  $9$

Pitch of tubes  $3\frac{3}{8} \text{ E.P.}$  Working pressure by Rules  $125 \text{ lbs}$  Manhole compensation: Size of opening in shell plate  $18\frac{1}{2}'' \times 14\frac{1}{2}''$  Section of compensating ring  $6\frac{1}{2}'' \times \frac{5}{8}''$  No. of rivets and diameter of rivet holes  $44 - 1\frac{3}{16}''$

Outer row rivet pitch at ends  $3\frac{3}{8}''$  Depth of flange if manhole flanged  $3''$  Steam Dome: Material

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint  $\begin{cases} \text{Plate} \\ \text{Rivets} \end{cases}$

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  $\begin{cases} \text{Tubes} \\ \text{Steel castings} \end{cases}$

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 23 inclusive for boilers been complied with

The foregoing is a correct description,

ALEX. ANDERSON & SONS, LTD.  
per J. W. G. Fleming Manufacturer.

Dates of Survey  $\begin{cases} \text{During progress of work in shops - } 1927 \text{ Mar } 10 \text{ } 23 \text{ Apr } 1 \text{ } 12 \\ \text{while building } \begin{cases} \text{During erection on board vessel - } \end{cases} \end{cases}$

Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval)  $\text{yes}$

Total No. of visits  $4$

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

This boiler has been built to approved plan, under special survey. The materials & workmanship are good. The boiler is to the order of Messrs McKie & Baxter of Glasgow.

Note - The internal diameter of this boiler was altered from  $44\frac{1}{8}''$  to  $43\frac{5}{8}''$  at the request of Messrs McKie & Baxter.

Survey Fee ... £  $4 : 4 : 0$

Travelling Expenses (if any) £

When applied for,  $7-4-1927$

When received,  $11-5-1927$

H. L. Sutcliff

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

GLASGOW 20 APR 1927 GLASGOW 17 MAY 1927

Assigned

TRANSMIT TO LONDON

© 2020

Lloyd's Register Foundation