

# REPORT ON BOILERS.

No. 47941

Received at London Office

9 MAY 1928

Date of writing Report

192

When handed in at Local Office

7.5.1928

Port of

Glasgow

No. in Survey held at

Glasgow

Date, First Survey

22.2.26

Last Survey

26.4.1928

1928

on the

S.S.M.V. "Elsa"

(Number of Visits 102)

Gross 5381

Net 3177

Master

Built at

Glasgow

By whom built

Baird & Co. Ltd

Yard No.

619

When built

1928

Engines made at

Glasgow

By whom made

Baird & Co. Ltd

Engine No.

EW100

When made

1928

Boilers made at

Glasgow

By whom made

Baird & Co. Ltd

Boiler No.

10245

When made

1924

Nominal Horse Power

482

Owners

H. Batten

Port belonging to

Oslo

aktieselskabet Oljefart II.

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Wm Beardmore & Co. Ltd

(Letter for Record S)

Total Heating Surface of Boilers

1406 sq ft

Is forced draught fitted

No.

Coal or Oil fired

oil

No. and Description of Boilers

One single ended return tube

Working Pressure

120 lbs

Tested by hydraulic pressure to

230 lbs

Date of test

28.6.24

No. of Certificate

14476

Can each boiler be worked separately

Yes

Area of Firegrate in each Boiler

35.45 sq ft

No. and Description of safety valves to each boiler

2 direct spring (lift lift)

Area of each set of valves per boiler

per Rule 10.4

as fitted 9.8

Pressure to which they are adjusted

120 lbs

Are they fitted with easing gear

Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler

No.

Smallest distance between boilers or uptakes and bunkers or woodwork

11' 6"

Is oil fuel carried in the double bottom under boilers

Boiler fitted on flat above tank recess

Smallest distance between shell of boiler and tank top plating

11' 0"

Is the bottom of the boiler insulated

Yes

Largest internal dia. of boilers

11' 6"

Length

11' 0"

Shell plates: Material

S

Tensile strength

28-32 tons

Thickness

2 1/2"

Are the shell plates welded or flanged

No.

Description of riveting: circ. seams

end D.R. overlap

Long. seams DBS 3R 5 inches in pitch

Diameter of rivet holes in

circ. seams 1 1/2"

long. seams 3/4"

Pitch of rivets

2.454"

5.5"

Percentage of strength of circ. end seams

plate 66.0

rivets 62.8

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate 86.3

rivets 94.1

combined 91.0

Working pressure of shell by Rules

121

Thickness of butt straps

outer 1/2"

inner 5/8"

No. and Description of Furnaces in each Boiler

2 Dugblon

Material

S

Tensile strength

26-30 tons

Smallest outside diameter

3' 3 1/2"

Length of plain part

top

bottom

Thickness of plates

crown 1 1/2"

bottom 3/2"

Description of longitudinal joint

Weld

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

Yes

Working pressure of furnace by Rules

121

End plates in steam space: Material

S

Tensile strength

26-30 tons

Thickness

35/32"

Pitch of stays

15' x 1 1/2"

How are stays secured

Into inside & outside

Working pressure by Rules

124

Tube plates: Material

front S

back S

Tensile strength

26-30 tons

Thickness

23/32"

21/32"

Mean pitch of stay tubes in nests

11 1/2"

Pitch across wide water spaces

14 1/4"

Working pressure

front 125

back 125

Girders to combustion chamber tops: Material

S

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

8 1/8 x 1 1/4"

Length as per Rule

2' 8 35/32"

Distance apart

10"

No. and pitch of stays

in each

3 @ 8 3/4"

Working pressure by Rules

125

Combustion chamber plates: Material

S

Tensile strength

26-30 tons

Thickness: Sides

9/16"

Back

9/16"

Top

9/16"

Bottom

9/16"

Pitch of stays to ditto: Sides

10 x 8 3/4"

Back

9 1/2 x 9 1/8"

Top

10 x 8 3/4"

Are stays fitted with nuts or riveted over

Into

Working pressure by Rules

123

Front plate at bottom: Material

S

Tensile strength

26-30 tons

Thickness

23/32"

Lower back plate: Material

S

Tensile strength

26-30 tons

Thickness

21/32"

Pitch of stays at wide water space

14 1/4 x 9 1/8"

Are stays fitted with nuts or riveted over

Into

Working Pressure

121

Main stays: Material

S

Tensile strength

28-32 tons

Diameter

At body of stay

2 1/2"

Over threads

2 1/2"

No. of threads per inch

6

Area supported by each stay

27.5 sq"

Working pressure by Rules

126

Screw stays: Material

S

Tensile strength

26-30 tons

Diameter

At turned off part

1 1/2"

Over threads

1 1/2"

No. of threads per inch

9

Area supported by each stay

86.7 sq"

W273-00911



Working pressure by Rules 143. Are the stays drilled at the outer ends No. Margin stays: Diameter <sup>At turned off part,</sup> 1 5/8 <sup>or</sup> 1 5/8 <sup>Over threads</sup>

No. of threads per inch 9. Area supported by each stay 108.3 Working pressure by Rules 140.

Tubes: Material Iron External diameter <sup>Plain</sup> 3 1/4 Thickness <sup>10W5</sup> 3/8 <sup>5/16</sup> No. of threads per inch 9

Pitch of tubes 4 13/32 Working pressure by Rules 130 Manhole compensation: Size of opening 40

shell plate 19 x 15 Section of compensating ring 2-11 x 2-7 x 2 1/32 No. of rivets and diameter of rivet holes 40 @ 1"

Outer row rivet pitch at ends 7" Depth of flange if manhole flanged 4 1/4 Steam Dome: Material ✓

Tensile strength Thickness of shell Description of longitudinal joint

Diameter of rivet holes Pitch of rivets Percentage of strength of joint <sup>Plate</sup> ✓ <sup>Rivets</sup>

Internal diameter Working pressure by Rules Thickness of crown No. and diameter

stays Inner radius of crown Working pressure by Rules

How connected to shell Size of doubling plate under dome Diameter of rivet holes and

of rivets in outer row in dome connection to shell

Type of Superheater

Number of elements Material of tubes Manufacturers of Tubes Steel castings Internal diameter and thickness of tubes

Material of headers Tensile strength Thickness Can the superheater be shut off

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

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

FOR BARCLAY, CURLE & CO., LTD.

*John Alexander*  
ENGINE WORKS MANAGER

The foregoing is a correct description,

Manufacture

Dates of Survey <sup>During progress of</sup> See accompanying  
<sup>work in shops - -</sup>  
<sup>while</sup> machinery report  
<sup>building</sup> board vessel - -

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

Total No. of visits 102

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

This Boiler has been built under special Survey and in accordance with the Rules. The materials and workmanship are good. On completion it has been tested by hydraulic pressure with satisfactory results and afterwards placed on board and efficiently secured in position.

Survey Fee ... £ See Engine Report. When applied for, 192

Travelling Expenses (if any) £ See Engine Report. When received, 192

*Joseph Murray*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 8 - MAY 1928

Assigned See accompanying Mech. Report.



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