

## REPORT ON BOILERS.

No. 51274

Received at London Office 11 MAR 1931

Date of writing Report

19

When handed in at Local Office

2

3

10

Part of

Glasgow

No. in Survey held at

Glasgow

Date, First Survey

26.8.30

Last Survey

28.2.

1931

Reg. Book.

(Number of Visits 77)

Gross

Tons

Net

on the new steel s/s "DALIA".

Master

Built at

Port Glasgow

By whom built

Robert Duncan &amp; Co Ltd

Yard No. 400

When built

1931

Engines made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Engine No. 939

When made

1931

Boilers made at

Glasgow

By whom made

David Rowan &amp; Co Ltd

Boiler No. 939

When made

1931

Nominal Horse Power

506

Owners

Port belonging to

Dunbar

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

Manufacturers of Steel

Witkovitzer Bergbau- und Eisenhütten-Bewerkschaft in Witkovitz

(Letter for Record S)

Total Heating Surface of Boilers

7401 sq'

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Three single ended

Working Pressure

180

Tested by hydraulic pressure to

320 lb

Date of test

28.11.30

No. of Certificate

18878

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

63.3 sq'

No. and Description of safety valves to each boiler

Two Improved high lift.

Area of each set of valves per boiler

per Rule

7.9 sq"

as fitted

9.8 sq"

Pressure to which they are adjusted

185

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

18"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-0"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

15'-6"

Length

11'-6"

Shell plates: Material

steel

Tensile strength

29-33 tons

Thickness

1 15/64"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

DR

Circ. seams

DBS. TR

Diameter of rivet holes in

circ. seams

F 13/16" B 15/16"

long. seams

15/16"

Pitch of rivets

F 3.18" B 3.54"

9"

Percentage of strength of circ. end seams

plate

F 62.6 B 62.9

rivets

F 44.8 B 49.2

Percentage of strength of circ. intermediate seam

plate

85.4

rivets

90.8

Percentage of strength of longitudinal joint

plate

85.4

rivets

90.8

combined

89

Working pressure of shell by Rules

182

Thickness of butt straps

outer 15/16"

inner 1 1/16"

No. and Description of Furnaces in each Boiler

Three Deighton 1 1/2"

Material

steel

Tensile strength

26-30 tons

Smallest outside diameter

3'-11 3/8"

Length of plain part

top

bottom

Thickness of plates

crown

1 1/2"

bottom

3/2"

Description of longitudinal joint

welded

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

Working pressure of furnace by Rules

183

Plates in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

1 5/16"

Pitch of stays 20 1/2" x 21 3/4"

Are stays secured

DN

Working pressure by Rules

183

Front plates: Material

steel

Tensile strength

26-30 tons

Thickness

27/32"

3/4"

Pitch of stay tubes in nests

10 1/2"

Pitch across wide water spaces

14"

Working pressure

front 185

back 182

Boilers to combustion chamber tops: Material

steel

Tensile strength

28-32 tons

Depth and thickness of girder

Centre

2 @ 9 3/8" x 7/8"

Length as per Rule

34 9/16"

Distance apart

11"

No. and pitch of stays

Each

3 @ 8 1/4"

Working pressure by Rules

183

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

23/32"

Back

11/16"

Top

23/32"

Bottom

23/32"

Pitch of stays to ditto: Sides

8 1/4" x 11"

Back

8 1/4" x 10 3/8"

Top

8 1/4" x 11"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

186

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

27/32"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

3/4"

Pitch of stays at wide water space

13 3/8"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

182

Main stays: Material

steel

Tensile strength

28-32 tons

At body of stay, or

3 1/4" &amp; 3"

No. of threads per inch

6

Areas supported by each stay

458 &amp; 414

Working pressure by Rules

203 &amp; 189

Screw stays: Material

steel

Tensile strength

26-30 tons

At turned off part, or

17/8" &amp; 1 3/4"

No. of threads per inch

9

Areas supported by each stay

84 &amp; 99

002630-002638-0150

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Working pressure by Rules 181 & 193 are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 1 3/4" & 2"  
No. of threads per inch 9 Area supported by each stay 99 & 125 Working pressure by Rules 183 & 198  
Tubes: Material iron External diameter { Plain 3" Stay 3" Thickness { 9 w.s. 1/4" 5/16" 3/8" No. of threads per inch 9  
Pitch of tubes 4 1/8" x 4 7/32" & 4 1/8" x 4 1/4" Working pressure by Rules 190 Manhole compensation: Size of opening in  
end shell plate 16" x 12" Section of compensating ring none No. of rivets and diameter of rivet holes -  
Outer row rivet pitch at ends - Depth of flange if manhole flanged 4" Steam Dome: Material none  
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 Smoke tube Manufacturers of { Tubes See copy of Nue Rpt attached  
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 yes  
Area of each safety valve 1.77 sq" Are the safety valves fitted with easing gear yes Working pressure as per  
Rules - Pressure to which the safety valves are adjusted 187 Hydraulic test pressure:  
tubes - castings - and after assembly in place 440 lbs Are drain cocks or valves fitted  
to free the superheater from water where necessary yes  
Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with yes

The foregoing is a correct description,  
For David Rowan & Co Ltd Manufacturer.  
Arch. H. Grierson

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

SEE ACCOMPANYING MACHINERY REPORT.

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

Total No. of visits 77

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

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

The materials and workmanship are good  
The boilers have been constructed under special survey in accordance with the Rules  
satisfactorily fitted in the vessel and their safety valves adjusted under steam

Survey Fee ... £ : : ✓

When applied for, 19

Travelling Expenses (if any) £ : : ✓

When received, 19

S. C. Davis

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 10 MAR 1931

Assigned

SEE ACCOMPANYING MACHINERY REPORT.



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