

REPORT ON BOILERS.

No. 49522

Date of writing Report

192

When handed in at Local Office

192

Port of

Received at London Office

Glasgow

AUG 1929

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

27.2.19

Last Survey

16.8.1929

on the new steel 515" KNIGHT OF ST GEORGE.

(Number of Visits

53

Gross Tons

3807

Net Tons

2345

Master

Built at Port Glasgow

By whom built

Lithgows Ltd

Yard No. 827

When built 1929

Engines made at

Glasgow

By whom made

David Rowan & Co Ltd

Engine No. 901

When made 1929

Boilers made at

Glasgow

By whom made

David Rowan & Co Ltd

Boiler No. 901

When made 1929

Nominal Horse Power

379

Owners

Newport & Normandy Line

Port belonging to

Newport News

(Barrow & Thomas 16.7.29. Managers.)

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel

Witkowitz Bergbau- und Eisenhütten-Gesellschaft in Witkowitz

(Letter for Record

S

Total Heating Surface of Boilers

4430 sq ft

Is forced draught fitted

yes

Coal or Oil fired

coal

No. and Description of Boilers

Two single ended marine

258

Working Pressure

180

Tested by hydraulic pressure to

320

Date of test

18.6.29

No. of Certificate

18344

Can each boiler be worked separately

yes

Area of Firegrate in each Boiler

54.6 sq ft

No. and Description of safety valves to each boiler

two, direct opening

Area of each set of valves per boiler

per Rule

14.20"

as fitted

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

15"

Is oil fuel carried in the double bottom under boilers

no

Smallest distance between shell of boiler and tank top plating

2'-6"

Is the bottom of the boiler insulated

yes

Largest internal dia. of boilers

14'-0"

Length

11'-6"

Shell plates: Material

steel

Tensile strength

29-33 tons

Thickness

1 1/8"

Are the shell plates welded or flanged

no

Description of riveting: circ. seams

end

inter.

long. seams

WB & TR

Diameter of rivet holes in

circ. seams

long. seams

1 3/16"

Pitch of rivets

3 2"

8 3/8"

Percentage of strength of circ. end seams

plate

62.9

rivets

48.7

Percentage of strength of circ. intermediate seam

plate

rivets

Percentage of strength of longitudinal joint

plate

85.8

rivets

86.6

combined

89

Working pressure of shell by Rules

183

Thickness of butt straps

outer

inner

2 1/2"

No. and Description of Furnaces in each Boiler

Three Deighton 3 c.f.

Material

steel

Tensile strength

26-30 tons

Smallest outside diameter

40-78"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

3 3/4"

6 1/4"

Description of longitudinal joint

welded

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

-

Working pressure of furnace by Rules

182

End plates in steam space: Material

steel

Tensile strength

26-30 tons

Thickness

1 1/8"

Pitch of stays

17" x 19"

How are stays secured

WN

Working pressure by Rules

181

Tube plates: Material

front

back

steel

Tensile strength

26-30 tons

Thickness

3/32"

4 1/4"

6 1/4"

Mean pitch of stay tubes in nests

10 1/2"

Pitch across wide water spaces

13 1/2"

Working pressure

front

back

207

183

Girders to combustion chamber tops: Material

steel

Tensile strength

28-32 tons

Depth and thickness of girder

at centre

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

Length as per Rule

31.6"

Distance apart

9"

No. and pitch of stays

in each

2 @ 10"

Working pressure by Rules

183

Combustion chamber plates: Material

steel

Tensile strength

26-30 tons

Thickness: Sides

11"

Back

21"

Top

11"

Bottom

11"

11"

Pitch of stays to ditto: Sides

10" x 9"

Back

9 1/2" x 8 3/4"

Top

10" x 9"

Are stays fitted with nuts or riveted over

nuts

Working pressure by Rules

180

Front plate at bottom: Material

steel

Tensile strength

26-30 tons

Thickness

2 1/2"

Lower back plate: Material

steel

Tensile strength

26-30 tons

Thickness

4 1/4"

6 1/4"

Pitch of stays at wide water space

13 1/2" x 8 3/4"

Are stays fitted with nuts or riveted over

nuts

Working Pressure

183

Main stays: Material

steel

Tensile strength

28-32 tons

Diameter

At body of stay,

or

Over threads

2 3/4" & 2 1/2"

No. of threads per inch

6

Area supported by each stay

335 sq" & 299 sq"

Working pressure by Rules

195 & 180

Screw stays: Material

steel

Tensile strength

26-30 tons

Diameter

At turned off part,

or

Over threads

1 7/8" & 1 3/4"

No. of threads per inch

9

Area supported by each stay

832 sq" & 100.8 sq"

Working pressure by Rules 1834 180 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part. or Over threads 1 7/8 & 1 7/8
No. of threads per inch 9 Area supported by each stay 832 0 8 112 0 Working pressure by Rules 183 & 191
Tubes: Material Iron External diameter { Plain 2 1/2 Stay 2 1/2 Thickness { 9 w.s. 5 1/16 3 3/8 7 1/16 No. of threads per inch 9
Pitch of tubes 3 3/4 x 3 5/8 Working pressure by Rules 230 Manhole compensation: Size of opening
shell plate 15 1/2 x 19 1/2 Section of compensating ring 8 3/4 x 1 1/8 No. of rivets and diameter of rivet holes 32 @ 1 1/4
Outer row rivet pitch at ends 8 1/2 Depth of flange if manhole flanged 3 Steam Dome: Material none
Tensile strength 558 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 none 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 yes

The foregoing is a correct description,
For David Rowan & Co. Ld. Manufacturer,
Archd. W. Greerson
Dates of Survey { During progress of work in shops - - - See accompanying
while building { During erection on board vessel - - - Mch. Report.
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
Total No. of visits 53

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 ... £ See Mch. Rpt. When applied for, 192
Travelling Expenses (if any) £ : When received, 192
S. J. Davis.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 20 AUG 1929
Assigned See accompanying Mch. Report.