

## REPORT ON BOILERS.

No. 49522

Received at London Office 21 AUG 1929

Date of writing Report 1929 When handed in at Local Office 17.8.29 Port of Glasgow

No. in Reg. Book. 581 Surveys held at Glasgow Date, First Survey 27.2.29 Last Survey 16.8.29

on the new steel S/S "KNIGHT OF ST GEORGE" Tons Gross 3807 Net 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 The Newport Normandy Line Ltd Port belonging to Newport Mon

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Withnortyzer Bergbau- und Eisenhütten-Gesellschaft in Withnorty (Letter for Record S)

Total Heating Surface of Boilers 1158 sq ft Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers one single ended Working Pressure 180

Tested by hydraulic pressure to 320 Date of test 18.6.29 No. of Certificate 18345 Can each boiler be worked separately

Area of Firegrate in each Boiler 34 sq ft No. and Description of safety valves to each boiler two direct opening

Area of each set of valves per boiler per Rule 7.430" as fitted 7.940" 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 2'-3" 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 11'-6" Length 10'-0" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 59/64 Are the shell plates welded or flanged no Description of riveting: circ. seams end 1 1/16" inter. 2.76"

long. seams DBS TR Diameter of rivet holes in circ. seams 1 1/16" long. seams 1" Pitch of rivets 7 5/32"

Percentage of strength of circ. end seams plate 61.5 rivets 55.4 Percentage of strength of circ. intermediate seam plate 86.02 rivets 88.5

Percentage of strength of longitudinal joint plate 86.02 rivets 88.5 combined 89.7 Working pressure of shell by Rules 183

Thickness of butt straps outer 11/16" inner 13/16" No. and Description of Furnaces in each Boiler Two Deighton 2 c

Material Steel Tensile strength 26-30 tons Smallest outside diameter 37.968

Length of plain part top Thickness of plates crown 31/64 bottom 64 Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 183

End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 31/32 Pitch of stays 16" x 14 3/4

How are stays secured DN Working pressure by Rules 183

Tube plates: Material front steel Tensile strength 26-30 tons Thickness 21/32 23/32

back " Tensile strength " Thickness 21/32 23/32

Mean pitch of stay tubes in nests 10.17 Pitch across wide water spaces 13 7/8 Working pressure front 181 back 179

Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder

at centre 2 @ 6 5/8" x 1/8" Length as per Rule 27.625 Distance apart 9 1/2 No. and pitch of stays

in each 2 @ 8 3/4" Working pressure by Rules 188 Combustion chamber plates: Material Steel

Tensile strength 26-30 tons Thickness: Sides 21/32 Back 21/32 Top 21/32 Bottom 21/32

Pitch of stays to ditto: Sides 8 3/4" x 9 1/2" Back 8 3/4" x 9 1/2" Top 8 3/4" x 9 1/2" 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 21/32 Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 3/4

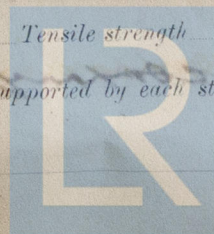
Pitch of stays at wide water space 13 7/8 x 8 3/4 Are stays fitted with nuts or riveted over nuts

Working Pressure 181 Main stays: Material Steel Tensile strength 28-32 tons

Diameter At body of stay, 2 1/2" & 2 1/4" No. of threads per inch 6 Area supported by each stay 244 & 222 sq"

Over threads Working pressure by Rules 219 & 193 lbs Screw stays: Material Steel Tensile strength 26-30 tons

Diameter At turned off part, 1 7/8" No. of threads per inch 9 Area supported by each stay 83 sq"

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Working pressure by Rules 183 Are the stays drilled at the outer ends no Margin stays: Diameter { At turned off part, or Over threads 13/4 & 17/8  
No. of threads per inch 9 Area supported by each stay 99 & 101 0" Working pressure by Rules 183 & 200 lbs  
Tubes: Material Iron External diameter { Plain 3 3/4" Stay 3 1/4" Thickness { 9 w.g. 1/4 & 5/16 No. of threads per inch 9  
Pitch of tubes 4 1/16" x 4 3/8" Working pressure by Rules 180 Manhole compensation: Size of opening in shell plate 19 1/4" x 15 1/4" Section of compensating ring 7 1/2" x 59" No. of rivets and diameter of rivet holes 36 @ 1 1/16"  
Outer row rivet pitch at ends 7 3/4" Depth of flange if manhole flanged 3" Steam Dome: Material none  
Tensile strength 158 Thickness of shell Description of longitudinal joint  
Diameter of rivet holes 100 Pitch of rivets Percentage of strength of joint { Plate Rivets  
Internal diameter Working pressure by Rules Thickness of crown No. and diameter of stays  
How connected to shell Inner radius of crown Working pressure by Rules  
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. Ltd. Manufacturer.  
Arch. H. Grierson

Dates { During progress of work in shops - - - See accompanying Machinery Report. Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
while building { During erection on board vessel - - - Total No. of visits 53.

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

The materials and workmanship are good.  
The boiler has been constructed under special survey in accordance with the Rules, satisfactorily fitted in the vessel and its safety valves adjusted under steam.

Survey Fee ... £ When applied for, 192  
Travelling Expenses (if any) £ When received, 192

S. C. Davis.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 20 AUG 1929

Assigned See accompanying Machinery Report.



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