

13 MAR 1929

48972

No. 48675

REPORT ON BOILERS.

Received at London Office 5 DEC 1928

When handed in at Local Office

Port of

Glasgow

Survey held at Glasgow

Date, First Survey

30. 10. 28

Last Survey

1928

S/S "EMERALD"

(Number of Visits

7

Gross

736

Tons

305

Built at Port Glasgow

By whom built

A. Rodger & Co

Yard No.

When built 1904

Glasgow

By whom made

"

"

Engine No.

When made 1904

Glasgow

By whom made

David Rowan & Co Ltd

Boiler No.

366

When made 1928

Horse Power

99

Owners

W. Robertson

Port belonging to

Glasgow

TUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Makers of Steel Gutehoffnungshütte A. G. Oberhausen, James Dudgeon & Co (Letter for Record (S))

Rating Surface of Boilers 1902 sq ft Is forced draught fitted no Coal or Oil fired coal

Description of Boilers one single ended 15B. Working Pressure 160

hydraulic pressure to 290 Date of test 23-11-28 No. of Certificate 18114 Can each boiler be worked separately -

Firegrate in each Boiler 56 sq ft No. and Description of safety valves to each boiler

each set of valves per boiler per Rule as fitted Pressure to which they are adjusted Are they fitted with easing gear

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

distance between boilers or uptakes and bunkers or woodwork Is oil fuel carried in the double bottom under boilers

distance between shell of boiler and tank top plating Is the bottom of the boiler insulated

internal dia. of boilers 15'-0" Length 10'-6" Shell plates: Material steel Tensile strength 29-33 tons

1 1/2" Are the shell plates welded or flanged no Description of riveting: circ. seams end DR

NBS. TR Diameter of rivet holes in circ. seams 1 1/8" Pitch of rivets 3.09"

of strength of circ. end seams plate 63.6 rivets 48.1 Percentage of strength of circ. intermediate seam plate

of strength of longitudinal joint plate 85.93 rivets 86.93 Working pressure of shell by Rules 162

combined 89.2 No. and Description of Furnaces in each Boiler Three Morrison

of butt straps outer 1 1/2" inner 1 1/8" Tensile strength 26-30 tons Smallest outside diameter 46.03

steel Thickness of plates crown 3 3/4" bottom 3 1/4" Description of longitudinal joint welded

of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 161

es in steam space: Material steel Tensile strength 26-30 tons Thickness 1 1/2" Pitch of stays 16 1/2" x 21 7/8"

stays secured DN Working pressure by Rules 164

es: Material front steel Tensile strength 26-30 tons Thickness 2 7/8" 3/4"

back " Tensile strength " Thickness 2 7/8" 3/4"

ch of stay tubes in nests 11.25" Pitch across wide water spaces 14 1/2" Working pressure front 160

back 160

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

2 @ 7 3/4" x 1/8" Length as per Rule 33.6" Distance apart 9" No. and pitch of stays

3 @ 8 1/2" Working pressure by Rules 164 Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 2 1/8" Back 2 1/8" Top 2 1/8" Bottom 2 1/8"

stays to ditto: Sides 8 1/2" x 10 3/4" Back 10 1/2" x 8 3/4" Top 9" x 8 1/2" Are stays fitted with nuts or riveted over nuts

pressure by Rules 160 Front plate at bottom: Material steel Tensile strength 26-30 tons

2 7/8" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 2 3/8"

stays at wide water space 13 1/2" x 8 3/4" Are stays fitted with nuts or riveted over nuts

Pressure 160 Main stays: Material steel Tensile strength 28-32 tons

At body of stay, 2 3/4" No. of threads per inch 6 Area supported by each stay 344 & 384 sq"

Over threads Screw stays: Material steel Tensile strength 26-30 tons

pressure by Rules 190 & 170 No. of threads per inch 9 Area supported by each stay 76.3 & 92 sq"

At turned off part, 1 1/2" & 1 5/8"

Over threads



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Working pressure by Rules 164 & 168 Are the stays drilled at the outer ends no Margin stays: Diameter (At turned off part, or Over threads) 1 3/4"
No. of threads per inch 9 Area supported by each stay 105 Working pressure by Rules 173
Tubes: Material Iron External diameter (Plate 3 1/2" Stay 3 1/2" Thickness 8 W.S. No. of threads per inch 9
Pitch of tubes 4 1/8" x 4 1/8" Working pressure by Rules 215 Manhole compensation: Size of opening 19 1/2" x 15 1/2"
shell plate 19 1/2" x 15 1/2" Section of compensating ring 8 1/2" x 1 1/4" No. of rivets and diameter of rivet holes 34 @ 1 3/16"
Outer row rivet pitch at ends 8" Depth of flange if manhole flanged 3" 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 stays
How connected to shell Inner radius of crown Working pressure by Rules
Size of doubling plate under dome Diameter of rivet holes and 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 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 at Rules
Pressure to which the safety valves are adjusted Hydraulic test pressure tubes, castings and after assembly in place Are drain cocks or valves 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,
For David Rowan & Co. Ltd.
Arch. W. Grierson

Dates of Survey (During progress of work in shops - - -) 1928 Oct. 30 Nov. 5 & 12. 17. 20. 23
while building (During erection on board vessel - - -)
Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)
Total No. of visits 7

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.

This boiler fitted on board at Troon July 1929 see
Glasgow Report No. 148972

Survey Fee ... £ 12 : 14 :
Travelling Expenses (if any) £ : :
When applied for, 4 DEC 1928
When received, 7 DEC 1928

L. C. Davis

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 4 DEC 1928

Assigned TRANSMIT TO LONDON

+ NB. 2.29



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