

Rpt. 5a.

# REPORT ON BOILERS.

10 APR 1929

No. 48486

Received at London Office

17 OCT 1928

Date of writing Report 8-10-1928 When handed in at Local Office 9/10/1928 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 21.6.28 Last Survey 8-10-1928

Reg. Book. THE VICEROY (Number of Visits 13) Tons Gross Net

Master Built at Troon By whom built Ailsa S B Col Ltd Yard No. 407 When built 1928

Engines made at Troon By whom made Ailsa S B Col Ltd Engine No. 142 When made 1928

Boilers made at Glasgow By whom made David Rowan & Co Ltd Boiler No. 362 When made 1928

Nominal Horse Power Owners Port belonging to

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

Manufacturers of Steel James Dunlop & Co Ltd and David B. Hillebrandson Ltd (Letter for Record S)

Total Heating Surface of Boilers 2021 sq ft Is forced draught fitted no Coal or Oil fired coal

No. and Description of Boilers one single ended marine Working Pressure 200

Tested by hydraulic pressure to 350 Date of test 8-10-28 No. of Certificate 18068 Can each boiler be worked separately -

Area of Firegrate in each Boiler 57 1/2 sq ft No. and Description of safety valves to each boiler

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

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 Is oil fuel carried in the double bottom under boilers

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

Largest internal dia. of boilers 15'-0" Length 10'-9" Shell plates: Material Steel Tensile strength 29-33 tons

Thickness 1 5/16" Are the shell plates welded or flanged no Description of riveting: circ. seams end DR

long. seams DBS. TR Diameter of rivet holes in circ. seams F 1 3/16" B 1 3/8" Pitch of rivets F 3.09 B 3.746

Percentage of strength of circ. end seams plate F 61.5 B 63.2 rivets F 42.9 B 48 Percentage of strength of circ. intermediate seam plate rivets

Percentage of strength of longitudinal joint plate 85.5 rivets 88.1 combined 88.7 Working pressure of shell by Rules 200

Thickness of butt straps outer 6 3/4" inner 1 1/4" No. and Description of Furnaces in each Boiler Three Deighton

Material steel Tensile strength 26-30 tons Smallest outside diameter 3'-11 5/16"

Length of plain part top Thickness of plates crown 2 1/2" bottom 3/32" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 203

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 9/32" Pitch of stays 19 1/2" x 19 7/8"

How are stays secured DN Working pressure by Rules 200

Tube plates: Material front steel back Tensile strength 26-30 tons Thickness 29/32" 49/64"

Mean pitch of stay tubes in nests 10 1/2" Pitch across wide water spaces 14 1/4" Working pressure front 202 back 200

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

at centre 2 @ 7/8" x 8 1/2" Length as per Rule 33.58" Distance apart 9 1/2" No. and pitch of stays

in each 2 @ 10 3/8" Working pressure by Rules 203 Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 3/4" Back 21/32" Top 3/4" Bottom 3/4"

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

Working pressure by Rules 201 Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 29/32" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 25/32"

Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over nuts

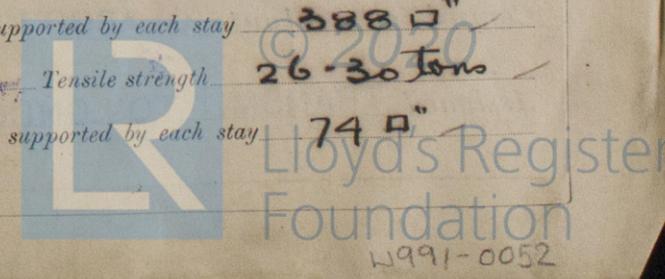
Working Pressure 200 Main stays: Material steel Tensile strength 28-32 tons

Diameter At body of stay, 3" No. of threads per inch 6 Area supported by each stay 388 sq"

Over threads Working pressure by Rules 202 Screw stays: Material steel Tensile strength 26-30 tons

Diameter At turned off part, 1 5/8" No. of threads per inch 9 Area supported by each stay 74 sq"

Over threads



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Working pressure by Rules 200 Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part,</sup> 1 3/4" & 1 7/8"  
 No. of threads per inch 9 Area supported by each stay 91 & 100" Working pressure by Rules 200 & 213  
 Tubes: Material Iron External diameter <sup>Plain</sup> 3 1/4" Thickness <sup>Stay</sup> 3/4" No. of threads per inch 9  
 Pitch of tubes 4 1/2" & 4 3/8" Working pressure by Rules 230 Manhole compensation: Size of opening in  
 shell plate 15 1/2" x 19 1/2" Section of compensating ring 9 1/2" x 15 1/16" No. of rivets and diameter of rivet holes 32 @ 1 3/8"  
 Outer row rivet pitch at ends 9 1/2" Depth of flange if manhole flanged 3" Steam Dome: Material none  
 Tensile strength FOA Thickness of shell 1/2" Description of longitudinal joint  
 Diameter of rivet holes 5/16" Pitch of rivets 5/16" Percentage of strength of joint <sup>Plate</sup> 100%  
 Internal diameter 25 1/2" Working pressure by Rules 230 Thickness of crown 1/4" No. and diameter of  
 stays 305 Inner radius of crown 15 1/2" Working pressure by Rules 230  
 How connected to shell None Size of doubling plate under dome None Diameter of rivet holes and pitch  
 of rivets in outer row in dome connection to shell None

Type of Superheater none Manufacturers of None  
 Number of elements None Material of tubes None Internal diameter and thickness of tubes  
 Material of headers None Tensile strength None Thickness None Can the superheater be shut off and  
 the boiler be worked separately None Is a safety valve fitted to every part of the superheater which can be shut off from the boiler  
 Area of each safety valve None Are the safety valves fitted with easing gear None Working pressure as per  
 Rules None Pressure to which the safety valves are adjusted None Hydraulic test pressure:  
 tubes None, castings None and after assembly in place None Are drain cocks or valves fitted,  
 to free the superheater from water where necessary None  
 Have all the requirements of Sections 14 to 23 inclusive for boilers been complied with Yes

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

Dates of Survey <sup>During progress of</sup> June 21 July 28 Aug 2 7 9 12 15 17 Are the approved plans of boiler and superheater forwarded herewith  
<sup>work in shops - -</sup> Yes (If not state date of approval.)  
<sup>while</sup> 25 Sep 5 13 Oct 28  
 building <sup>board vessel - -</sup> Yes Total No. of visits 13

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.

a.b.  
9/10/28

This boiler has been securely fitted on board S/S The Viceroy (see Gls Rpt N° 49048)  
D.E.B.

Survey Fee ... £ 13 : 10 : 0 When applied for, 13. 10. 1928  
 Travelling Expenses (if any) £ 0 : 0 : 0 When received, 16. 10. 1928

L. J. Danis  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 16 OCT 1928

Assigned TRANSMIT TO LONDON

See Glasgow Report  
 No. 49048  
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