

Rpt. 5a.

# REPORT ON BOILERS.

52181  
No. 51970  
19 MAR 1932

Received at London Office 2 DEC 1931

Date of writing Report 19 When handed in at Local Office 30. 11. 1931 Part of Glasgow  
 No. in Reg. Book. 2005 on the Glasgow Date, First Survey 23. 9. 31 Last Survey 26. 11. 1931  
 S. S. Rowan (Number of Visits 28) Gross Tons 500 Net 188  
 Master Built at Bowling By whom built Scott & Son Yard No. 321 When built 1931  
 Engines made at Glasgow By whom made Aitchison Blair & Co. Ltd. Engine No. 183 When made 1931  
 Boilers made at Glasgow By whom made David Rowan & Co. Ltd. Boiler No. 387 When made 1931  
 Nominal Horse Power 110 Owners Frontier Town S. S. Coy. Port belonging to Newry

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

Manufacturers of Steel L. Muller Ltd. Langarkshire Steel Co. Ltd. (Letter for Record (S))  
 Total Heating Surface of Boilers 2000 sq ft Is forced draught fitted no Coal or Oil fired coal  
 No. and Description of Boilers one single ended Working Pressure 200  
 Tested by hydraulic pressure to 350 Date of test 26. 11. 31 No. of Certificate 19058 Can each boiler be worked separately  
 Area of Firegrate in each Boiler 60.4 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' 0" 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 inter. B 3.747"}  
 long. seams UBS, TR Diameter of rivet holes in {circ. seams F 1 1/4" B 1 3/8" Pitch of rivets {F 3.22" B 3.747"}  
 Percentage of strength of circ. end seams {plate F 61.1 B 63.2 rivets F 46.3 B 47.9} Percentage of strength of circ. intermediate seam {plate 85.33 rivets 89.6 combined 88.5} Working pressure of shell by Rules 200  
 Thickness of butt straps {outer 1" inner 1 1/8"} No. and Description of Furnaces in each Boiler three Heighton bonneted  
 Material steel Tensile strength 26.30 tons Smallest outside diameter 45 1/2"  
 Length of plain part {top bottom} Thickness of plates {crown 5/8" bottom 5/8"} Description of longitudinal joint welded  
 Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 202  
 End plates in steam space: Material steel Tensile strength 26.30 tons Thickness 1 9/32" Pitch of stays 19" x 20"  
 How are stays secured UN steel Working pressure by Rules 202  
 Tube plates: Material {front back} steel Tensile strength {26.30 tons} Thickness {29" 32" 25" 32" 202} Working pressure by Rules 202  
 Mean pitch of stay tubes in nests 10' 2" Pitch across wide water spaces 14 1/4" Working pressure {front back} 202 210  
 Girders to combustion chamber tops: Material steel Tensile strength 28.32 tons Depth and thickness of girder  
 at centre 2 @ 8 5/8" x 7/8" Length as per Rule 32 9/16" Distance apart 9 1/2" No. and pitch of stays  
 in each 3 @ 8" Working pressure by Rules 202 Combustion chamber plates: Material steel  
 Tensile strength 26.30 tons Thickness: Sides 23/32" Back 21/32" Top 23/32" Bottom 1"  
 Pitch of stays to ditto: Sides 8 1/4" x 10 3/8" Back 9 1/4" x 8" Top 9 1/2" x 8" 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 202 Main stays: Material steel Tensile strength 28.32 tons  
 diameter {At body of stay, or Over threads} 3" No. of threads per inch 6 Area supported by each stay 385 sq in  
 Working pressure by Rules 205 Screw stays: Material steel Tensile strength 26.30 tons  
 diameter {At turned off part, or Over threads} 1 5/8" & 1 3/4" No. of threads per inch 9 Area supported by each stay 76 sq in & 88 sq in

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Working pressure by Rules **200 & 205** Are the stays drilled at the outer ends **no** Margin stays: Diameter { At turned off part, **1 3/4"** or Over threads }  
 No. of threads per inch **9** Area supported by each stay **91** Working pressure by Rules **200**  
 Tubes: Material **steel** External diameter { Plain **3 1/4"** Stay **3 1/4"** Thickness **8 w.g.** No. of threads per inch **9**  
 Pitch of tubes **4 3/8" x 4 1/2"** Working pressure by Rules **219** Manhole compensation: Size of opening in shell plate **15 1/2" x 19 1/2"** Section of compensating ring **9 1/2" x 1 7/16"** 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 Thickness of shell Description of longitudinal joint  
 Diameter of rivet holes **55** Pitch of rivets Percentage of strength of joint { Plate Rivets }  
 Internal diameter **81** Working pressure by Rules Thickness of crown No. and diameter of stays  
 How connected to shell Inner radius of crown Working pressure by Rules Diameter of rivet holes and pitch of rivets in outer row in dome connection to shell

Type of Superheater **wire** 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

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

Dates of Survey { During progress of work in shops -- } **1931 Sep. 23 24 29 30 Oct. 1 2 6 8** Are the approved plans of boiler and superheater forwarded herewith **yes**  
 { During erection on board vessel -- } **9 12 14 15 16 19 21 23 26 27 28 30** Total No. of visits **28**  
**Nov. 2 3 5 9 11 16 18 26**

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, etc.)  
 The materials and workmanship are good.  
 The boiler has been constructed under special survey in accordance with the Rules.

The boiler will be fitted on board of Glasgow.

*A.S.*  
 30/11/31

Survey Fee ... £ **13 : 6** : left When applied for, **27. 11. 31.**  
 Travelling Expenses (if any) £ ... : ... : ... When received, **1. 12. 31.**

**S. C. Davis**  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 1-DEC 1931**

Assigned **TRANSMIT TO LONDON**

