

# REPORT ON BOILERS.

54690  
No. 54408

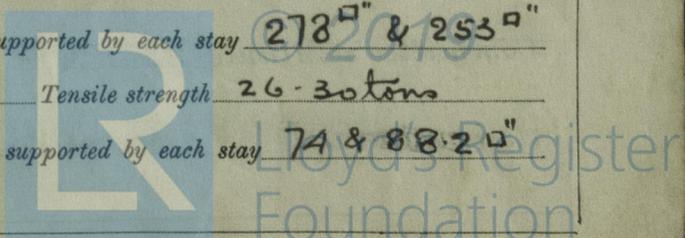
4 JUL 1934

Received at London Office 18 APR 1934

Port of Glasgow  
 Date, First Survey 31. 1. 34 Last Survey 16-4-1934  
 (Number of Visits 13)  
 Tons { Gross 346  
 Net 121  
 Built at Bowling By whom built Scott & Sons Yard No. 325 When built 1934  
 Engines made at Glydebank By whom made Aitchison Blain & Co. Ltd Engine No. 186 When made 1934  
 Boilers made at Glasgow By whom made Davis Rowan & Co. Ltd Boiler No. 392 When made 1934  
 Nominal Horse Power 79 Owners Kilkeel S. S. Co Ltd Port belonging to newry

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

Manufacturers of Steel Bohills Ltd (Letter for Record 5)  
 Total Heating Surface of Boilers 1489 sq ft Is forced draught fitted no Coal or Oil fired coal  
 Type and Description of Boilers one single ended Working Pressure 205  
 Tested by hydraulic pressure to 358 Date of test 3-4-34 No. of Certificate 19354 Can each boiler be worked separately ✓  
 Area of Firegrate in each Boiler 50.8 sq ft No. and Description of safety valves to each boiler \_\_\_\_\_  
 Area of each set of valves per boiler { per Rule \_\_\_\_\_ 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 13'-0" Length 10'-0" Shell plates: Material Steel Tensile strength 29-33 tons  
 Thickness 1 3/16" Are the shell plates welded or flanged no Description of riveting: circ. seams { end DR  
 inter. \_\_\_\_\_  
 Long. seams 1985. TR Diameter of rivet holes in { circ. seams F 1 3/16" B 1 1/4" Pitch of rivets { F 3.207" B 3.5"  
 long. seams 1 1/4" 8 1/2"  
 Percentage of strength of circ. end seams { plate F 62.9 B 64.2 Percentage of strength of circ. intermediate seam { plate \_\_\_\_\_  
 rivets F 46.2 B 46.8 rivets \_\_\_\_\_  
 Percentage of strength of longitudinal joint { plate 84.8 Working pressure of shell by Rules 206  
 rivets 92.8  
 combined 88.5  
 Thickness of butt straps { outer 29" No. and Description of Furnaces in each Boiler Three Deighton  
 inner 1 1/2" Material Steel Tensile strength 26-30 tons Smallest outside diameter 3'-2 3/8"  
 Length of plain part { top \_\_\_\_\_ Thickness of plates { crown 35" Description of longitudinal joint welded  
 bottom \_\_\_\_\_ bottom 64"  
 Dimensions of stiffening rings on furnace or c.c. bottom \_\_\_\_\_ Working pressure of furnace by Rules 208  
 End plates in steam space: Material Steel Tensile strength 26-30 tons Thickness 1 3/8" Pitch of stays 17 1/4" x 1 5/8"  
 How are stays secured DN Working pressure by Rules 206  
 Tube plates: Material { front Steel Tensile strength { 26-30 tons Thickness { 29"  
 back \_\_\_\_\_ " " " 32" 25"  
 Lean pitch of stay tubes in nests 10-18" Pitch across wide water spaces 14" Working pressure { front 207  
 back 211  
 Girders to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder \_\_\_\_\_  
 Distance from centre to centre 20 6 3/4" x 1 1/8" Length as per Rule 28 9/16" Distance apart 8" No. and pitch of stays \_\_\_\_\_  
 No. of stays in each 2 @ 9 1/4" Working pressure by Rules 210 Combustion chamber plates: Material Steel  
 Tensile strength 26-30 tons Thickness: Sides 43" Back 32" Top 43" Bottom 1"  
 Pitch of stays to ditto: Sides 9 1/4" x 8" Back 8 1/2" x 8 1/2" Top 8" x 9 1/4" Are stays fitted with nuts or riveted over nuts  
 Working pressure by Rules 208 Front plate at bottom: Material Steel Tensile strength 26-30 tons  
 Thickness 29" Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 13"  
 Pitch of stays at wide water space 13 1/4" Are stays fitted with nuts or riveted over nuts  
 Working Pressure 217 Main stays: Material Steel Tensile strength 28-32 tons  
 Diameter { At body of stay, 2 3/4" & 2 1/2" No. of threads per inch 6 Area supported by each stay 278" & 253"  
 Over threads \_\_\_\_\_  
 Working pressure by Rules 235 & 211 Screw stays: Material Steel Tensile strength 26-30 tons  
 Diameter { At turned off part, \_\_\_\_\_ No. of threads per inch 9 Area supported by each stay 74 & 88.2"  
 Over threads 1 5/8" & 1 3/4"



Working pressure by Rules 206 & 205 Are the stays drilled at the outer ends no Margin stays: Diameter <sup>At turned off part,</sup> 1 3/4" <sub>or Over threads</sub>

No. of threads per inch 9 Area supported by each stay 88.2 sq" Working pressure by Rules 205

Tubes: Material steel External diameter <sup>Plain</sup> 3 1/4" <sub>Stay</sub> 3 1/4" Thickness <sup>8 W.R.</sup> 1/4" <sub>5/16"</sub> 3/8" No. of threads per inch 9

Pitch of tubes 4 1/6" x 4 3/8" Working pressure by Rules 230 Manhole compensation: Size of opening shell plate 19 1/2" x 15 1/2" Section of compensating ring 10 1/2" x 1 3/16" No. of rivets and diameter of rivet holes 34 @ 1 1/4"

Outer row rivet pitch at ends 8 3/4" 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 <sup>Plate</sup> \_\_\_\_\_ <sub>Rivets</sub> \_\_\_\_\_

Internal diameter \_\_\_\_\_ Working pressure by Rules \_\_\_\_\_ Thickness of crown \_\_\_\_\_ No. and diameter 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 <sup>Tubes</sup> \_\_\_\_\_ <sub>Steel castings</sub> \_\_\_\_\_

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 Manufacture  
Arch. H. Grierson

Dates of Survey <sup>During progress of</sup> 1934 July: 31 <sub>work in shops - -</sub> July: 1. 5. 7. 9. 14 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

<sup>while building</sup> <sub>board vessel - - -</sub> 1936 Mar 13. 14. 23 Apr 3. 16 Total No. of visits 13

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, &c.)

The materials and workmanship are good.

The boiler has been constructed under special survey and will be fitted on board the vessel.

At Bowling.

16/4/34

Survey Fee ... .. £ 9 : 18 : When applied for, 17 APR 1934

Travelling Expenses (if any) £ \_\_\_\_\_ : \_\_\_\_\_ : \_\_\_\_\_ When received, 19. 4. 1934

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

Committee's Minute GLASGOW 17 APR 1934

Assigned TRANSMIT TO LONDON

see accompanying mach. report. No. 54690

Lloyd's Register Foundation