

# Rpt. 5a. REPORT ON BOILERS. No. 57316

5 AUG 1936

Received at London Office

Date of writing Report 19 36 When handed in at Local Office 3. 8. 36 Port of Glasgow

No. in Survey held at Glasgow Date, First Survey 17. 12. 35 Last Survey 29. 7. 1936

on the near steel 315" TREWELLARD (Number of Visits 75) Tons { Gross 5201 Net 3076

Master Port Glasgow Built at Port Glasgow By whom built Lithgow & Co Yard No. 883 When built 1936

Engines made at Glasgow By whom made Davie Rowan & Co Ltd Engine No. 989 When made 1936

Boilers made at Glasgow By whom made Davie Rowan & Co Ltd Boiler No. 989 When made 1936

Nominal Horse Power 434 Owners Hain S.S. Co Port belonging to London

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

Manufacturers of Steel Plate by steel boy Scotland & stay by B. Miller & Co (Letter for Record (r) )

Total Heating Surface of Boilers 4642 sq ft Is forced draught fitted yes Coal or Oil fired coal

No. and Description of Boilers Two single ended Working Pressure 230

Tested by hydraulic pressure to 395 Date of test 9. 4. 36 No. of Certificate 19700. 19708 Can each boiler be worked separately yes

Area of Firegrate in each Boiler 510 sq ft No. and Description of safety valves to each boiler 2, Impulse high lift

Area of each set of valves per boiler { per Rule 592 sq ft as fitted 628 sq ft Pressure to which they are adjusted 235 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 18" 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 external dia. of boilers 15'-0" Length 11'-6" Shell plates: Material steel Tensile strength 29.33 tons

Thickness 1 3/4" Are the shell plates welded or flanged no Description of riveting: circ. seams { end WR lap inter. -

Long. seams WR, S, T, R Diameter of rivet holes in { circ. seams F 1 3/8" B 1 9/16" Pitch of rivets { F 3.5" B 4.18" long. seams 1 9/16" }

Percentage of strength of circ. end seams { plate F 60.8 B 62.6 rivets F 45.4 B 48.8 Percentage of strength of circ. intermediate seam { plate 85.1 rivets 90.2 combined 88.3 Working pressure of shell by Rules 231

Thickness of butt straps { outer 1 1/8" 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'-8 1/2"

Length of plain part { top - bottom - Thickness of plates { crown 49" bottom 62" Description of longitudinal joint welded

Dimensions of stiffening rings on furnace or c.c. bottom - Working pressure of furnace by Rules 253

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 3/8" Pitch of stays 2 1/4" x 1 3/4"

How are stays secured D.N. Working pressure by Rules 231

Tube plates: Material { front steel back " Tensile strength { 26-30 tons Thickness { F 1 5/16" B 2 5/32"

Mean pitch of stay tubes in nests 9.6" Pitch across wide water spaces 14" Working pressure { front 230 back 236

Girders to combustion chamber tops: Material steel Tensile strength 28-32 tons Depth and thickness of girder at centre 2 @ 9 1/4" x 7/8" Length as per Rule 34 15/32" Distance apart 8 1/2" No. and pitch of stays in each 3 @ 8 1/4" Working pressure by Rules 232 Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 1 1/16" Back 3/4" Top 1 1/16" Bottom 2 1/32"

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

Working pressure by Rules 235 Front plate at bottom: Material steel Tensile strength 26-30 tons

Thickness 1 5/16" Lower back plate: Material steel Tensile strength 26-30 tons Thickness 2 1/32"

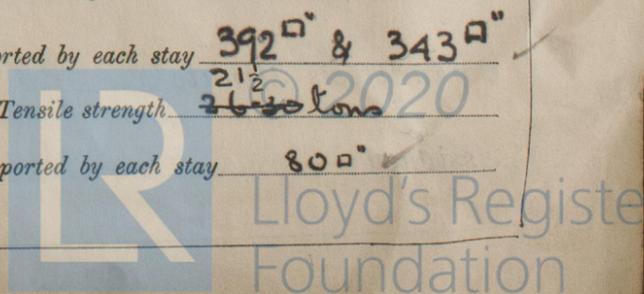
Pitch of stays at wide water space 13 1/2" Are stays fitted with nuts or riveted over nuts

Working Pressure 236 Main stays: Material steel Tensile strength 28-32 tons

Diameter { At body of stay, 3 1/4" & 3" No. of threads per inch 6 Area supported by each stay 392 sq in & 343 sq in Over threads 21 1/2" @ 2020

Working pressure by Rules 237 & 230 Screw stays: Material Iron Tensile strength 26-30 tons

Diameter { At turned off part, 1 7/8" No. of threads per inch 9 Area supported by each stay 80 sq in Over threads 17/8"



Working pressure by Rules 266 ✓ Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, or Over threads 2" ✓  
 No. of threads per inch 9 ✓ Area supported by each stay 940" ✓ Working pressure by Rules 263 ✓  
 Tubes: Material Iron ✓ External diameter { Plain 3" ✓ Stay 3" ✓ Thickness { 8/16 3/8 7/16 ✓ No. of threads per inch 9 ✓  
 Pitch of tubes 4 3/16 x 4 1/8" ✓ Working pressure by Rules 250 ✓ Manhole compensation: Size of opening in shell plate 16x12 ✓ Section of compensating ring - No. of rivets and diameter of rivet holes -  
 Outer row rivet pitch at ends - Depth of flange if manhole flanged 4" ✓ 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 of 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 Smoke tube Manufacturers of { Tubes For particulars see Mech cert F 789-90 ✓ Steel castings copy herewith. ✓  
 Number of elements - Material of tubes Steel Internal diameter and thickness of tubes 16 1/2" 2.5" per  
 Material of headers Steel Tensile strength - Thickness 5/8 Can the superheater be shut off and the boiler be worked separately yes  
 Is a safety valve fitted to every part of the superheater which can be shut off from the boiler yes  
 Area of each safety valve 1.760" ✓ Are the safety valves fitted with easing gear yes ✓ Working pressure as per Rules 230 ✓ Pressure to which the safety valves are adjusted 1000 lb ✓ Hydraulic test pressure 460 lb ✓  
 tubes 1000 lb castings 690 lb and after assembly in place 460 lb ✓ Are drain cocks or valves fitted to free the superheater from water where necessary yes ✓  
 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  
 Archd. H. Grierson

Dates of Survey { During progress of work in shops - - - while building { During erection on board vessel - - - }  
 Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) yes  
**SEE ACCOMPANYING MACHINERY REPORT.**  
 Total No. of visits 151

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 boilers have been constructed under special survey, satisfactorily fitted in the vessel and their safety valves adjusted under steam.  
3/8/36

Survey Fee ... £ See Machinery Rpt. When applied for, 19  
 Travelling Expenses (if any) £ See Machinery Rpt. When received, 19

S. J. D. Lewis  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 4 = AUG 1936

Assigned SEE ACCOMPANYING MACHINERY REPORT

