

REPORT ON BOILERS.

No. 47666
7 MAR 1928

Received at London Office

Date of writing Report 1928 When handed in at Local Office 25.2.1928 Port of Glasgow
 No. in Survey held at Glasgow "S.S. Oporto" Date, First Survey 7.11.27 Last Survey 22nd Feb. 1928.
 on the Boiler intended for Mess. Ramage & Ferguson's No. 265. (Number of Visits 12) Tons {Gross / Net
 Master _____ Built at Leith By whom built Ramage & Ferguson Ltd Yard No. 365 When built 1928
 Engines made at Leith By whom made Ramage & Ferguson Ltd Engine No. 265 When made 1928
 Boilers made at Glasgow By whom made Balclay Works & Co. Ltd Boiler No. RFH When made 1928
 Nominal Horse Power 269 Owners The Elderar Line, Ltd Port belonging to Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Wm Beardmore (Letter for Record S)
 Total Heating Surface of Boilers 4026 sq ft Is forced draught fitted _____ Coal or Oil fired _____
 No. and Description of Boilers two S.S. Return Loke 25B Working Pressure 220 lbs.
 Tested by hydraulic pressure to 380 lbs Date of test 22-2-28 No. of Certificate 17790 Can each boiler be worked separately _____
 Area of Firegrate in each Boiler 53.6 sq ft No. and Description of safety valves to each boiler _____
 Area of each set of valves per boiler {per Rule / 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 13'-6" Length 12'-0" Shell plates: Material S Tensile strength 28-32 tons
 Thickness 1 1/32" Are the shell plates welded or flanged No. Description of riveting: circ. seams {end D.R. overlap / inter} 1 3/8"
 long. seams 2BS, 3R, 5 mits in pitch Diameter of rivet holes in {circ. seams / long. seams} 1 3/8" Pitch of rivets { 9 1/16"
 Percentage of strength of circ. end seams {plate / rivets} 67.64 / 42.71 Percentage of strength of circ. intermediate seam {plate / rivets} _____
 Percentage of strength of longitudinal joint {plate / rivets / combined} 85.8 / 84.45 / 89.15 Working pressure of shell by Rules 221
 Thickness of butt straps {outer / inner} 1 1/32" / 1 5/32" No. and Description of Furnaces in each Boiler 3 Duglous 2cf.
 Material S Tensile strength 26-30 tons Smallest outside diameter 40 1/4"
 Length of plain part {top / bottom} _____ Thickness of plates {crown / bottom} 5/8" Description of longitudinal joint Weld.
 Dimensions of stiffening rings on furnace or c.c. bottom _____ Working pressure of furnace by Rules 226
 End plates in steam space: Material S Tensile strength 26-30 tons Thickness 1 1/8" Pitch of stays 24"
 How are stays secured double nuts & washers Working pressure by Rules 220
 Tube plates: Material {front / back} S Tensile strength { 26-30 tons Thickness { 1 1/8" / 13/16"
 Mean pitch of stay tubes in nests 8.5" Pitch across wide water spaces 13.45" Working pressure {front / back} 225 / 328
 Girders to combustion chamber tops: Material S Tensile strength 28-32 tons Depth and thickness of girder
 at centre 10 3/8" x 1 5/8" Length as per Rule 35" Distance apart 9" No. and pitch of stays
 in each 3 @ 4 3/4" Working pressure by Rules 235 Combustion chamber plates: Material S
 Tensile strength 26-30 tons Thickness: Sides 1 1/16" Back 2 1/32" Top 1 1/16" Bottom 1 1/16"
 Pitch of stays to ditto: Sides 9 1/4" x 1 3/4" Back 8 3/4" x 1 5/8" Top 9" x 1 3/4" Are stays fitted with nuts or riveted over Nuts
 Working pressure by Rules 223 Front plate at bottom: Material S Tensile strength 26-30 tons
 Thickness 1 1/8" Lower back plate: Material S Tensile strength 26-30 tons Thickness 2 1/32"
 Pitch of stays at wide water space 14 1/2" Are stays fitted with nuts or riveted over Nuts
 Working Pressure 220 Main stays: Material S Tensile strength 28-32 tons
 Diameter {At body of stay, or / Over threads} 2 1/8" No. of threads per inch 6 Area supported by each stay 258 sq in
 Working pressure by Rules 236 Screw stays: Material S Tensile strength 26-30 tons
 Diameter {At turned off part, or / Over threads} 1 5/8" No. of threads per inch 9 Area supported by each stay 66.5 sq in

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Working pressure by Rules 228. Are the stays drilled at the outer ends No. Margin stays: Diameter ^{At turned off part.} 2 1/2 or ^{Over threads} 2 1/8

No. of threads per inch 9 Area supported by each stay 84.75 Working pressure by Rules 252

Tubes: Material Iron External diameter ^{Plain} 3 1/2 Thickness ^{8 L.A.S.} 1/2 No. of threads per inch 9

Pitch of tubes 3 3/8 x 3 3/4 Working pressure by Rules 300 Manhole compensation: Size of opening in shell plate 19 1/2 x 15 1/2 Section of compensating ring 35 1/2 x 31 1/2 x 1 1/2 No. of rivets and diameter of rivet holes 34 @ 1 1/2

Outer row rivet pitch at ends 9 1/16 Depth of flange if manhole flanged 3 1/2 Steam Dome: Material ✓

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

How connected to shell Inner radius of crown Working pressure by Rules

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 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

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 23 inclusive for boilers been complied with

FOR BAROLAY, CURLE & CO., LTD.

John Alexander
ENGINE WORKS MANAGER.

The foregoing is a correct description,

Manufacturer.

Dates of Survey ^{During progress of work in shops - -} 1927 Nov. 7-28 Dec 6-14-19-28 (1928) Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)

^{while building} ^{board vessel - - -} Jan 9-23-31 Feb 8-21-22 Total No. of visits 12

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)

The Boilers have been built under special Survey and in accordance with the Rules. The materials and workmanship are good. On completion they have been tested by hydraulic pressure with satisfactory results. The Boiler has been dispatched to Leth.

2.6
5/3/28

Survey Fee £ 25 : 18 : - ✓
Travelling Expenses (if any) £ : : ✓

When applied for 6 - MAR 1928
When received, 1928

Prof. Minna
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute **GLASGOW 6 - MAR 1928**

Assigned **TRANSMIT TO LONDON**

TUES. 24 JUL 1928

See Lth. 2.8 rpt
No 17424

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