

REPORT ON BOILERS.

No. 44480

Received at London Office

11 MAR 1925

6 MAY 1925

Date of writing Report 4th March 1925 When handed in at Local Office 6th March 1925 Port of GLASGOW.

No. in Survey held at Paisley Reg. Book.

Date, First Survey 24th Nov 1924 Last Survey 27th Feb. 1925

on the 2 S.B. Cylindrical Boilers - Green Bow No. 1144-5 for the S.S. "Hullerton Rose" (Number of Visits 18 Tons {Gross 1074 Net 943.

Master Built at Paisley By whom built J. Fullerton & Co. Yard No. 275 When built 1925

Engines made at Glasgow By whom made J. & D. Fullerton Engine No. 1127 When made 1925

Boilers made at Paisley By whom made Bow, Mc Lachlan & Co. Ltd. Boiler No. 1144-5 When made 1925

Nominal Horse Power 226 Owners R. Hughes & Co. Port belonging to Liverpool

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Lanarkshire Steel Co. Ltd. and W. Beardmore & Co. Ltd. (Letter for Record 5.)

Total Heating Surface of Boilers 4366 ft² Is forced draught fitted No Coal or Oil fired coalNo. and Description of Boilers 2 Cylindrical single-ended Return-tube Working Pressure 180 lbs./in²

Tested by hydraulic pressure to 320 lbs. Dates of test {24-2-25 {27-2-25 No. of Certificates {16739 {16741 Can each boiler be worked separately Yes

Area of Firegrate in each Boiler 67.5 ft² No. and Description of safety valves to each boiler 2 Direct Spring (Lockburn High Lift)Area of each set of valves per boiler {per Rule 9.33 ins.² {as fitted 9.82 ins.² Pressure to which they are adjusted 185 lb. 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 None 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 No

Largest internal dia. of boilers 14'-6" Length 10'-9" Shell plates: Material steel Tensile strength 28-32 tons

Thickness 1 7/32" Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R. Lap {inter. none

long. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams 1 1/2" {long. seams 1 1/4" Pitch of rivets {4 1/2" {8 7/8" ✓

Percentage of strength of circ. end seams {plate 68.5 {rivets 50.2 Percentage of strength of circ. intermediate seam {plate {rivets ✓

Percentage of strength of longitudinal joint {plate 85.9 {rivets 87.5 {combined 89.3 Working pressure of shell by Rules 186 lbs./in²

Thickness of butt straps {outer 1 5/16" {inner 1 1/16" No. and Description of Furnaces in each Boiler 3 corrugated - Deighton Section

Material steel Tensile strength 26-30 tons Smallest outside diameter 3'-9 1/8" ✓

Length of plain part {top {bottom Thickness of plates {crown 9 1/16" {bottom 9 1/16" Description of longitudinal joint weld ✓

Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 181 lbs./in²

End plates in steam space: Material steel Tensile strength 26-30 tons Thickness 1 1/8" Pitch of stays {16" x 16" {16" x 16" {P.C.S. = 2'-2"

How are stays secured 2 nuts Working pressure by Rules 181 lbs./in²

Tube plates: Material {front {back steel Tensile strength {26-30 tons Thickness {1 3/16" {1 3/16" ✓

Mean pitch of stay tubes in nests 11 1/4" Pitch across wide water spaces 1'-2" x 9" Working pressure {front 180 lbs./in² {back 188 lbs./in²

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

at centre 2 @ 8 1/2" x 1 1/16" Length as per Rule 2'-7 1/32" Distance apart 8 1/2" No. and pitch of stays

in each 3 @ 8" Working pressure by Rules 184 lbs./in² Combustion chamber plates: Material steel

Tensile strength 26-30 tons Thickness: Sides 1 1/16" Back 1 9/32" Top 1 1/16" Bottom 1 1/16" (both ends)

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

Working pressure by Rules 190 lbs./in² Front plate at bottom: Material steel Tensile strength 26-30 tons

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

Pitch of stays at wide water space 14" x 8" Are stays fitted with nuts or riveted over nuts

Working Pressure 190 lbs./in² Main stays: Material steel Tensile strength 28-32 tonsDiameter {At body of stay 2 7/8" {Over threads No. of threads per inch 6 Area supported by each stay 324 ins.²Working pressure by Rules 188 lbs./in² Screw stays: Material steel Tensile strength 26-30 tonsDiameter {At turned off part 1 1/2" {Over threads No. of threads per inch 9 Area supported by each stay 68 ins.²

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Working pressure by Rules 184 lb./in^2 Are the stays drilled at the outer ends *no* Margin stays: Diameter { At turned off part, $1\frac{3}{4}" + 2"$ ✓
 No. of threads per inch $9 \checkmark$ Area supported by each stay 88 ins^2 Working pressure by Rules 205 lb./in^2
 Tubes: Material *L. W. W. I.* External diameter { Plain $3\frac{1}{4}"$ ✓ Thickness { $9 \text{ L. S. G. } \frac{1}{2}" 3\frac{1}{2}" + \frac{5}{16}"$ ✓ No. of threads per inch $9 \checkmark$
 Pitch of tubes $4\frac{1}{2}" \times 4\frac{1}{2}" \checkmark$ Working pressure by Rules 180 lb./in^2 Manhole compensation: Size of opening in
 shell plate $16" \times 12"$ Section of compensating ring $7\frac{1}{2}" \times 1\frac{1}{2}"$ No. of rivets and diameter of rivet holes $32 @ 1\frac{3}{16}"$
 Outer row rivet pitch at ends $8\frac{1}{2}" \checkmark$ Depth of flange if manhole flanged ☒ 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 *None fitted* 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 23 inclusive for boilers been complied with *yes*

The foregoing is a correct description,
J. Macmillan Manufacturer.

Dates of Survey { During progress of *1924 Nov 24 Dec 5-10-19-23-30 1925* Are the approved plans of boiler and superheater forwarded herewith *yes*
 while work in shops - - -
 building { During erection on *Jan 8-15-19-23 Feb 3-6-10-12-16-20-24 27*
 board vessel - - -
 Total No. of visits *18*

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) *These Boilers have been built under Special Survey in accordance with the Rules + the approved plan. The material + workmanship are good. They will be fitted on board the S.S. "Fullerton Rose" at Glasgow — Messrs. Ross & Duncan's Engines N° 1127.*

These boilers have been satisfactorily fitted on board the above named
W. Lane
Glasgow, 25/4/25.

Survey Fee ... £ *27: 1/-* ✓ When applied for, *10/3/1925*
 Travelling Expenses (if any) £ - : - : When received, *10/5/1925*

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

Committee's Minute *GLASGOW 10 MAR 1925*

Assigned *Deferred*

GLASGOW 5-MAY 1925

See G. Rpt. No. 444620