

REPORT ON BOILERS.

No. 44348

Received at London Office 24 DEC 1924

Date of writing Report

192

When handed in at Local Office

15.12.1924

Port of

Glasgow.

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

11th June 1924

Last Survey

13.12.

1924

on the

S.S. "HISTORIAN"

(Number of Visits 51)

Tons

Gross 5074

Net 3450

Master _____ Built at Glasgow By whom built Chas. Connell & Co., Ltd. Yard No. 400 When built 1924
Engines made at Glasgow By whom made David Rowan & Co., Ltd. Engine No. 799 When made 1924
Boilers made at Glasgow By whom made David Rowan & Co., Ltd. Boiler No. 799 When made 1924
Nominal Horse Power _____ Owners J. & J. Harrison Ltd. Port belonging to Liverpool.

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

Manufacturers of Steel W. Beardmore & Co., Ltd., The Lanarkshire Steel Co., Ltd. (Letter for Record 4)
Total Heating Surface of Boilers 1075 sq. ft. Is forced draught fitted No Coal or Oil fired Coal
No. and Description of Boilers One Ringle Ended Working Pressure 120 lbs./sq. in.
Tested by hydraulic pressure to 230 lbs./sq. in. Date of test 24.10.24 No. of Certificate 16641 Can each boiler be worked separately —
Area of Firegrate in each Boiler 33.5 sq. ft. No. and Description of safety valves to each boiler two Spring loaded
Area of each set of valves per boiler {per Rule 4.99 sq. in.
as fitted 6.94 sq. in. Pressure to which they are adjusted 122 Are they fitted with easing gear Yes
In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No.
Smallest distance between boilers or uptakes and bunkers or woodwork well clear Is oil fuel carried in the double bottom under boilers No
Smallest distance between shell of boiler and tank top plating no tank Is the bottom of the boiler insulated No
Largest internal dia. of boilers 11'-6" Length 10'-6" Shell plates: Material Steel Tensile strength 28/32 tons/sq. in.
Thickness $\frac{11}{16}$ " Are the shell plates welded or flanged No Description of riveting: circ. seams {end D.R. LAP
long. seams T.R.D.B.S. Diameter of rivet holes in {circ. seams $\frac{13}{16}$ "
Pitch of rivets {long. seams $\frac{13}{16}$ "
Percentage of strength of circ. end seams {plate 64.9
rivets 53.5 Percentage of strength of circ. intermediate seam {plate —
rivets —
Percentage of strength of longitudinal joint {plate 84.9
rivets 86 Working pressure of shell by Rules 125 lbs./sq. in.
combined 91.4
Thickness of butt straps {outer $\frac{17}{32}$ "
inner $\frac{21}{32}$ " No. and Description of Furnaces in each Boiler two plain
Material Steel Tensile strength 26/30 tons/sq. in. Smallest outside diameter 3'-5½"
Length of plain part {top 6'-5¾"
bottom 9'-2" Thickness of plates {crown $\frac{5}{8}$ "
bottom $\frac{5}{16}$ " + $\frac{5}{8}$ " Description of longitudinal joint weld
Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 124 lbs./sq. in.
End plates in steam space: Material Steel Tensile strength 26/30 tons/sq. in. Thickness $\frac{1}{16}$ " Pitch of stays 23¾" / 15" mean
How are stays secured Drifts Working pressure by Rules 132 lbs./sq. in.
Tube plates: Material {front Steel Tensile strength {26/30 tons/sq. in. Thickness {13/16"
back Steel 23/32"
Mean pitch of stay tubes in nests 11¾" Pitch across wide water spaces 14½" Working pressure {front 152 lbs./sq. in.
back 133 lbs./sq. in.
Girders to combustion chamber tops: Material Steel Tensile strength 28/32 tons/sq. in. Depth and thickness of girder
at centre 6½" x 20 9/16" Length as per Rule 2'-3 23/32" Distance apart 8¾" No. and pitch of stays
in each 209" Working pressure by Rules 124 lbs./sq. in. Combustion chamber plates: Material Steel
Tensile strength 26/30 tons/sq. in. Thickness: Sides 17/32" Back 9/16" Top 17/32" Bottom 15/16"
Pitch of stays to ditto: Sides 10'6" 9'-7½" 4'8½" Back 9'3/8" 9' Top 9' 8¾" Are stays fitted with nuts or riveted over Nuts
Working pressure by Rules 121 lbs./sq. in. Front plate at bottom: Material Steel Tensile strength 26/30 tons/sq. in.
Thickness 13/16" Lower back plate: Material Steel Tensile strength 26/30 tons/sq. in. Thickness 5/8"
Pitch of stays at wide water space 13" Are stays fitted with nuts or riveted over Nuts
Working Pressure 124 lbs./sq. in. Main stays: Material Steel Tensile strength 28/32 tons/sq. in.
Diameter {At body of stay, 2¼" x 2"
or
Over threads — No. of threads per inch 6 Area supported by each stay 356.25 sq. in. + 279 sq. in.
Working pressure by Rules 120 lbs./sq. in. Screw stays: Material Iron Tensile strength 26/30 tons/sq. in.
Diameter {At turned off part, 1 1/8"
or
Over threads 1 1/8" No. of threads per inch 10 Area supported by each stay 84.375 sq. in.

Working pressure by Rules 120 lbs/sq. in. Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, 1 1/2" or Over threads 1 1/2" }
No. of threads per inch 10 Area supported by each stay 100.68 sq. in. Working pressure by Rules 124 lbs/sq. in.
Tubes; Material L.W.W.I. External diameter { Plain 3 1/2" Stay 3 1/2" } Thickness { 9/16" 5/16" } No. of threads per inch 9
Pitch of tubes 4 3/4" - 4 5/8" Working pressure by Rules 165 lbs/sq. in. Manhole compensation: Size of opening
shell plate 19" x 16" Section of compensating ring 6 1/2" x 7/16" No. of rivets and diameter of rivet holes 40 Rivets 13/16" holes
Outer row rivet pitch at ends 5 1/2" Depth of flange if manhole flanged Comp. Ring Flanged 3" To 16" x 12" Manhole 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 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 -

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

Dates of Survey { During progress of work in shops - } See Machinery Report attached
while building { During erection on board vessel - }
Are the approved plans of boiler and superheater forwarded herewith Yes
(If not state date of approval.)
Total No. of visits 51

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 in accordance with the Rules. It has been satisfactorily fired in the vessel and its safety valves adjusted.

Survey Fee ... £ 4 : 4 : 0 } When applied for, 20/12/24 1924
Travelling Expenses (if any) £ : : } When received, 24-12 1924

A. H. Forster S. D. Davis
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 23 DEC 1924

Assigned See accompanying machinery report



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Foundation