

REPORT ON BOILERS.

No. 44362

Received at London Office 12 MAR 1952

Report of writing Report FEB 23 1952 When handed in at Local Office 6.3.52 Port of Glasgow

No. in Survey held at MOTHERWELL Date, First Survey 21st Sept. 1951 Last Survey 18th February 52

g. Book. on the s/s MOONLIGHT

Master Built at Northwich By whom built W.J. Yarwood & Son Yard No. 878 When built 1952

Engines made at Northwich By whom made W.J. Yarwood & Son Engine No. 228 When made 1952

Boilers made at CARFIN, MOTHERWELL By whom made MARSHALL & ANDERSON LTD Boiler No. 4222 When made JAN 1952

Nominal Horse Power Owners Port belonging to

MULTITUBULAR BOILERS—MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel COLVILLES LTD. (Letter for Record)

Total Heating Surface of Boilers 630 ft^2 Is forced draught fitted No Coal or Oil fired Coal

No. and Description of Boilers ONE CYLINDRICAL MULTITUBULAR Working Pressure 140 $\text{lbs}/\text{sq. in.}$

Tested by hydraulic pressure to 260 $\text{lbs}/\text{sq. in.}$ Date of test 18-2-52 No. of Certificate 23603 Can each boiler be worked separately.

Area of Firegrate in each Boiler 28.75 ft^2 No. and Description of safety valves to each boiler 1-2" DOUBLE, SPRING LOADED

Area of each set of valves per boiler { per Rule 5.08 ft^2 as fitted 6.28 ft^2 Pressure to which they are adjusted 140 lbs 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 12" Is oil fuel carried in the double bottom under boilers No

Smallest distance between shell of boiler and tank top plating 22" Is the bottom of the boiler insulated No

Largest internal dia. of boilers 9'3" Length 8'6" Shell plates: Material STEEL Tensile strength 28-32

Thickness 2 1/32" Are the shell plates welded or flanged No Description of riveting: circ. seams { end DOUBLE RIVETED LAP inter. 2.74" }
long. seams TREBLE RIVETED DOUBLE BUTT STRAP Diameter of rivet holes in { circ. seams 13/16" long. seams 13/16" } Pitch of rivets 5-4.66"

Percentage of strength of circ. end seams { plate 70.3 rivets 47.3 } Percentage of strength of circ. intermediate seam { plate 85.25 rivets 111.0 } Working pressure of shell by Rules 92.75

Percentage of strength of longitudinal joint { plate 85.25 rivets 111.0 combined 92.75 }

Thickness of butt straps { outer 17/32" inner 2 1/32" } No. and Description of Furnaces in each Boiler 2- PLAIN CYLINDRICAL

Material STEEL Tensile strength 26-30 Smallest outside diameter 3'0"

Length of plain part { top 6'3 29/32" bottom 6'3 29/32" } Thickness of plates { crown 2 1/32" bottom 2 1/32" } Description of longitudinal joint FUSION WELDED

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

End plates in steam space: Material STEEL Tensile strength 26-30 Thickness 7/8" Pitch of stays 16" & 14 1/2"

How are stays secured NUTS BOTH SIDES PLATE WASHERS OUTSIDE Working pressure by Rules 7/8"

Tube plates: Material { front STEEL back STEEL } Tensile strength 26-30 Thickness 2 1/32"

Mean pitch of stay tubes in nests 8 1/2" x 10 9/16" Pitch across wide water spaces 13" Working pressure { front back }

Girders to combustion chamber tops: Material STEEL Tensile strength 26-30 Depth and thickness of girder at centre 5 1/2" x (17/32" + 1/32") Length as per Rule 22 13/16" Distance apart 7 1/2" No. and pitch of stays in each 2 - 7" Working pressure by Rules Combustion chamber plates: Material STEEL

Tensile strength 26-30 Thickness: Sides 17/32" Back 17/32" Top 17/32" Bottom 1"

Pitch of stays to ditto: Sides 9 1/8" Back 8 1/4" x 7 1/2" Top 7" Are stays fitted with nuts or riveted over AT OUTER ENDS OTHERS NUTS

Working pressure by Rules Front plate at bottom: Material STEEL Tensile strength 26-30 Thickness 7/8" Lower back plate: Material STEEL Tensile strength 26-30 Thickness 7/8"

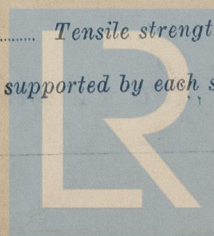
Pitch of stays at wide water space 7 7/8" Are stays fitted with nuts or riveted over NUTS

Working pressure Main stays: Material STEEL Tensile strength 28-32

Diameter { At body of stay or over threads 2 1/2" } No. of threads per inch 6 Area supported by each stay

Working pressure by Rules Screw stays: Material STEEL Tensile strength 26-30

Diameter { At turned off part or over threads 1 3/4", 1 1/2", 1 3/8" } No. of threads per inch 9 Area supported by each stay



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Working pressure by Rules. 9 Are the stays drilled at the outer ends. No Margin stays: Diameter 1 1/2" At turned off part 1 1/2"
No. of threads per inch 9 Area supported by each stay 3 1/4" Working pressure by Rules. 9
Tubes: Material H F S D STEEL External diameter 3 1/4" Thickness 3/16" No. of threads per inch 9
Pitch of tubes 4 1/4" x 4 1/4" Working pressure by Rules. 9 Manhole compensation: Size of opening 4 1/2" x 15 1/2"
shell plate 19 1/2" x 15 1/2" Section of compensating ring 7" x 3/4" No. of rivets and diameter of rivet holes 44 - 13/16"
Outer row rivet pitch at ends 5 1/2" Depth of flange if manhole flanged 3" Steam Dome: Material —
Tensile strength — Thickness of shell — Description of longitudinal joint —
Diameter of rivet holes — Pitch of rivets — Percentage of strength of joint —
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 — Manufacturers of —
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 casing gear — Working pressure as per
Rules — Pressure to which the safety valves are adjusted — Hydraulic test pressure —
tubes — forgings and 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 Yes.

MARSHALL & ANDERSON LTD.

Dates of Survey while building { During progress of work in shops - - 1951. Sep. 21 - Nov. 9. 22. Dec. 3. 20.
During erection on board vessel - - - 1952. Jan. 3. 17. 31. Feb. 12. 13.

Are the approved plans of boiler and superheater forwarded herewith Yes.
(If not state date of approval.)
Total No. of visits 10.

Is this Boiler a duplicate of a previous case — If so, state Vessel's name and Report No. —

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

The boiler has been built under Special Survey in accordance with the approved plan and the Rules of the Society for Boilers
The materials have been tested under the supervision of the Society's Surveyors, and so far as could be seen were found to be sound and free from defects.
The workmanship is good
The boiler is intended for installation in the s/p "Moonlight" being built for Ross & Marshall Ltd by W. G. Yarwood & Sons Ltd.

Accumulation test held.

Fitted on board
C. W. Reed

Liv. 19.4.52

Survey Fee ... £ 10 : - : - When applied for 11 MAR 1952
Travelling Expenses (if any) £ - : 6 : - When received 19.

G. Rundle.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

GLASGOW 11 MAR 1952

Assigned

Deferred for completion



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