

REPORT ON BOILERS.

No. 87874

21 DEC 1931

Received at London Office

NEWCASTLE-ON-TYNE

19 DEC 1931

Report

When handed in at Local Office

Port of

Survey held at St. Peter's & Wallsend Date, First Survey 3rd April 1930 Last Survey 11th Dec 1931

(Number of Visits —) Tons { Gross 8236
Net 4828

0.4.30 the two donkey boilers for the T.S.M.S. "GARDIUM."

Built at Wallsend By whom built Swan Hunter & W. R. Ward No. 1485 When built 1931.

at St. Peter's. By whom made Hawthorn Leslie & Co. Engine No. 3784 When made 1931.

at St. Peter's. By whom made Hawthorn Leslie & Co. Boiler No. 3784 When made 1931.

orse Power 413.3 Owners Anglo Saxon Ind. Co. Port belonging to London.

TUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

ers of Steel The Steel Co. of Scotland & D. Colville & Sons. (Letter for Record 6)

ing Surface of Boilers 1137 sq ft each Is forced draught fitted yes Coal or Oil fired Oil.

Description of Boilers Two cylindrical marine Working Pressure 150 lbs

Hydraulic pressure to 245 lbs Date of test 18.11.30 No. of Certificate 522. Can each boiler be worked separately yes.

regate in each Boiler — No. and Description of safety valves to each boiler Two springloaded, I. H. L.

ch set of valves per boiler { per Rule 4.625
as fitted 9.925 Pressure to which they are adjusted 150 lbs Are they fitted with easing gear yes

donkey boilers, state whether steam from main boilers can enter the donkey boiler —

stance between boilers or uptakes and bunkers or woodwork — Is oil fuel carried in the double bottom under boilers —

ing — Is the bottom of the boiler insulated yes.

ernal dia. of boilers 10'-6" Length 10'-6" Shell plates: Material S. Tensile strength 30/33 T.

25/32 Are the shell plates welded or flanged yes Description of riveting: circ. seams { end D. R. Lap.
inter. 3"

T. R. D. B. S. Diameter of rivet holes in { circ. seams 1"
long. seams 1" Pitch of rivets { 5 1/8"

of strength of circ. end seams { plate 66.6
rivets 51.9 Percentage of strength of circ. intermediate seam { plate —
rivets —

of strength of longitudinal joint { plate 80.5
rivets 80.5 Working pressure of shell by Rules 160 lbs

of butt straps { outer 1 1/16"
inner 13/16" No. and Description of Furnaces in each Boiler 2 Morrison Section.

S. Tensile strength 26/30 T Smallest outside diameter 33 7/8"

plain part { top —
bottom — Thickness of plates { crown 4/16"
bottom — Description of longitudinal joint Weld.

is of stiffening rings on furnace or c.c. bottom none. Working pressure of furnace by Rules 193 lbs

es in steam space: Material S. Tensile strength 26/30 T Thickness 29/32 Pitch of stays 15 1/2" x 15"

stays secured D. G. H. S. Working pressure by Rules 162 lbs

tes: Material { front Steel.
back — Tensile strength { 26/30 T. Thickness { 25/32

ch of stay tubes in nests 4 7/8" x 4 7/8" Pitch across wide water spaces 13 1/2" Working pressure { front 261 lbs
back 340 lbs

o combustion chamber tops: Material S. Tensile strength 28/32 T. Depth and thickness of girder

2 @ 4 1/2" Length as per Rule 25 1/2" Distance apart 4 1/2" No. and pitch of stays

2 @ 8" Working pressure by Rules 168 lbs Combustion chamber plates: Material S.

strength 26/30 T. Thickness: Sides 21/32 Back 21/32 Top 21/32 Bottom 21/32

stays to ditto: Sides 8 x 4 1/2" Back 8 1/4 x 4 1/4" Top 8 x 4 1/2" Are stays fitted with nuts or riveted over side-plate.

pressure by Rules 166 lbs Front plate at bottom: Material S. Tensile strength 26/30 T.

29/32 Lower back plate: Material S. Tensile strength 26/30 T. Thickness 29/32

stays at wide water space 15 x 4 1/4" Are stays fitted with nuts or riveted over Mar. H. S. & side-plate.

Pressure 148 lbs Main stays: Material S. Tensile strength 28/32 T.

{ At body of stay, 2 3/8" No. of threads per inch 6 Area supported by each stay 232 sq

{ Over threads — Screw stays: Material S. Tensile strength 26/30 T.

pressure by Rules 169 No. of threads per inch 9 Area supported by each stay 60 sq

{ At turned off part, 13/8" No. of threads per inch 9 Area supported by each stay 60 sq

{ Over threads — No. of threads per inch 9 Area supported by each stay 60 sq

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Lloyd's Register
Foundation

Working pressure by Rules 16800 Are the stays drilled at the outer ends Yes Margin stays: Diameter { At turned off part, 1 1/2" or Over threads }
No. of threads per inch 9 Area supported by each stay 8 1/2 sq ft Working pressure by Rules 14800
Tubes: Material Steel External diameter { Plain } 8 3/4" Thickness { 1 1/4" } No. of threads per inch 9
Pitch of tubes 3 1/2" = 3 1/2" Working pressure by Rules 21500 Manhole compensation: Size 3.
shell plate 31" x 14" Section of compensating ring 8" x 29/32" No. of rivets and diameter of rivet holes 36 @ 1 1/2"
Outer row rivet pitch at ends 6 1/8" Depth of flange if manhole flanged 3 1/2" Steam Dome: Material Steel
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 Book.
stays Inner radius of crown Working pressure by Rules 4
How connected to shell Size of doubling plate under dome Diameter of rivet holes
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
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
Rules Pressure to which the safety valves are adjusted Hydraulic test or
tubes, castings and after assembly in place Are drain cocks or
to free the superheater from water where necessary

Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with

For The & W. HAWTHORN, LESLIE & CO. LTD.
P. B. Johnson
GENERAL MANAGER.

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

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 Boilers have been built under special survey in accordance with the Rules of the Society & the approved plans & have been securely fitted on board the vessel & their safety valves adjusted under steam to working pressure. The workmanship & materials are of good quality throughout.

Survey Fee ... £ 4000
Travelling Expenses (if any) £ Report
When applied for, 19
When received, 19

Gen. A. Ferguson
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute TUE 22 DEC 1917
Assigned See F.R. Rpt