

# REPORT ON BOILERS.

No. 87874

21 DEC 1931

Received at London Office

19 DEC 1931

NEWCASTLE-ON-TYNE

Report 19 When handed in at Local Office 10 Port of

Survey held at St. Peter's + Wallsend Date, First Survey 3<sup>rd</sup> April 1930 Last Survey 11<sup>th</sup> Dec 1931

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

the two donkey boilers for the T.S.M.S. "BARDIUM"

Built at Wallsend By whom built Swan Hunter + W. R. Ward No. 1455 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 & Co. (Letter for Record 5)

ing Surface of Boilers 113 sq ft each Is forced draught fitted yes Coal or Oil fired Oil

scription of Boilers Two cylindrical marine Working Pressure 150 lbs

draulic 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 spring loaded, I.H.L.

ch set of valves per boiler per Rule 4.620 Pressure to which they are adjusted 150 lbs Are they fitted with easing gear yes

lonkey 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 —

istance between shell of boiler and tank top plating on main deck 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 no Description of riveting: circ. seams { end D.R. Lap. inter. —

T.R.D.B.S. Diameter of rivet holes in { circ. seams 1" Pitch of rivets { 3" long. seams 1"

of strength of circ. end seams { plate 66.6 Percentage of strength of circ. intermediate seam { plate — rivets 81.9

of strength of longitudinal joint { plate 80.5 Working pressure of shell by Rules 160 lbs rivets 85.5 combined 89.5

of butt straps { outer 1 1/16" No. and Description of Furnaces in each Boiler 2 Morrison section. inner 13/16" Tensile strength 26/30 T. Smallest outside diameter 33 7/8"

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

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. nuts Working pressure by Rules 162 lbs 29/32"

es: Material { front Steel. Tensile strength { 26/30 T. Thickness { 25/32" back — Working pressure { front 201 lbs back 340 lbs

h of stay tubes in nests 4 7/8" = 4 1/2" Pitch across wide water spaces 13 1/2" Working pressure { front 201 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. Thickness: Sides 2 1/32" Back 2 1/32" Top 2 1/32" Bottom 2 1/32"

strength 26/30 T. Tensile strength 26/30 T. Thickness 29/32" Are stays fitted with nuts or riveted over Riveted.

stays to ditto: Sides 8" x 4 1/2" Back 8 1/4" x 4 1/4" Top 8" x 4 1/2" Working pressure by Rules 166 lbs Front plate at bottom: Material S. Tensile strength 26/30 T. Thickness 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 W.R. Nuts, Riveted.

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" or Over threads

pressure by Rules 169 Screw stays: Material S. Tensile strength 26/30 T.

{ At turned off part, 1 3/8" No. of threads per inch 9 Area supported by each stay 60 sq" or Over threads

Working pressure by Rules **1690lb** Are the stays drilled at the outer ends **yes** Margin stays: Diameter **1 1/2"** (At turned off part, or Over threads)  
 No. of threads per inch **9** Area supported by each stay **8 1/2 sq ft** Working pressure by Rules **1490lb**  
 Tubes: Material **Steel** External diameter **3 3/4"** Thickness **9/16"** No. of threads per inch **11**  
 Pitch of tubes **3 1/2" = 3 1/2"** Working pressure by Rules **2150lb** Manhole compensation: Size **3"**  
 shell plate **3 1/2" x 14"** Section of compensating ring **8" x 29/32"** No. of rivets and diameter of rivet holes **36 @ 1"**  
 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  
 stays Inner radius of crown Working pressure by Rules  
 How connected to shell Size of doubling plate under dome Diameter of rivet ho  
 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 **W. H. HAYTHORN, 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 Machinery 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 ... .. £ **as above** When applied for, 19  
 Travelling Expenses (if any) £ **Report** When received, 19

**Geo. A. Burgess**  
 Engineer Surveyor to Lloyd's Register of Shipping

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

