

# REPORT ON BOILERS.

No. 100,073

Received at London Office

- 9 JAN 1942

Date of writing Report

19

When handed in at Local Office

3/11 1942

Port of

NEWCASTLE-ON-TYNE

No. in Reg. Book

Survey held at Newcastle on Tyne

Date, First Survey 29/11/41

Last Survey 31/12/1941

on the M.V. "BRITISH CHARACTER"

(Number of Visits)

Gross Tons 8453  
Net Tons 4897

Master Built at Newcastle By whom built Swan, Hunter & Wigham Richardson Yard No. 1698 When built 1941-

Engines made at Newcastle By whom made ditto Engine No. 1698 When made 1941-

Boilers made at Newcastle By whom made ditto Boiler No. 1698 When made 1941-

Nominal Horse Power 235 Owners British Tanker Co. Ltd Port belonging to London

## MULTITUBULAR BOILERS MAIN, AUXILIARY, OR DONKEY.

Manufacturers of Steel Steel Coy. of Scotland (Letter for Record 5)

Total Heating Surface of Boilers 3530 sq ft Is forced draught fitted Yes Coal or Oil fired oil fired or tub. waste gases

No. and Description of Boilers Two Single ended Working Pressure 150 lbs/sq in

Tested by hydraulic pressure to 275 lb Date of test 1/3/41 No. of Certificate 90A Can each boiler be worked separately Yes

Area of Firegrate in each Boiler oil fired No. and Description of safety valves to each boiler Two 2 1/2" dia Cochran's Imp High Lift

Area of each set of valves per boiler per Rule 7.56 sq in as fitted 7.95 Pressure to which they are adjusted 150 lb Are they fitted with easing gear Yes

In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler no main Boilers

Smallest distance between boilers or uptakes and bunkers or woodwork 2'3" but bottom of boiler + O.F. bunker top oil fuel carried in the double bottom under boilers Yes

Smallest distance between shell of boiler and tank top plating 2'3" Is the bottom of the boiler insulated Yes

Largest internal dia. of boilers 12'4 3/8" Length 11'0" Shell plates: Material Steel Tensile strength 30 to 34 tons

Thickness 13/16" Are the shell plates welded or flanged No Description of riveting: circ. seams end D.R. overlap inter. none

long. seams T.R. Dille butt straps Diameter of rivet holes in circ. seams 15/16" long. seams 7/8" Pitch of rivets 3.08 6 3/16" (Rule max. 6 1/2")

Percentage of strength of circ. end seams plate 69.59 rivets 42.24 Percentage of strength of circ. intermediate seam plate rivets none

Percentage of strength of longitudinal joint plate 85.85 rivets 85.96 combined 88.91 Working pressure of shell by Rules 151 lbs

Thickness of butt straps outer 5/8" inner 3/4" No. and Description of Furnaces in each Boiler Two "Deighton" Corrugated

Material S. Tensile strength 26 to 30 tons Smallest outside diameter 4 3/16"

Length of plain part top bottom Thickness of plates crown 15/32" bottom Description of longitudinal joint Fire welded

Dimensions of stiffening rings on furnace or c.c. bottom None Working pressure of furnace by Rules 156 lbs

End plates in steam space: Material S. Tensile strength 26 to 30 tons Thickness 15/16" Pitch of stays 17 3/4" x 14 5/8"

How are stays secured Nuts inside & outside Working pressure by Rules 152 lbs

Tube plates: Material front back S. Tensile strength 26 to 30 tons Thickness 15/16" 3/4"

Mean pitch of stay tubes in nests 7 1/2" x 11 1/4" Pitch across wide water spaces 13 1/2" Working pressure front 183 lbs back 228 lbs

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

at centre 7 3/4" x 7/8" x two Length as per Rule 30 1/2" Distance apart 9" No. and pitch of stays

in each Two @ 9 3/8" Working pressure by Rules 153 lbs Combustion chamber plates: Material Steel

Tensile strength 26 to 30 tons Thickness: Sides 5/8" Back 3/4" Top 5/8" Bottom 5/8"

Pitch of stays to ditto: Sides 9 3/8" x 9" Back 7 1/2" x 9" Top 9 3/8" x 9" Are stays fitted with nuts or riveted over

Working pressure by Rules 160 lbs min Front plate at bottom: Material S. Tensile strength 26 to 30 tons

Thickness 15/16" Lower back plate: Material S. Tensile strength 26 to 30 tons Thickness 15/16"

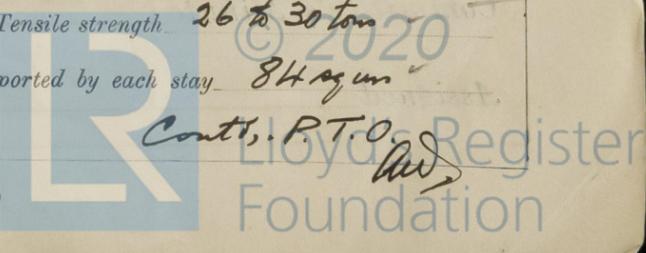
Pitch of stays at wide water space 13 1/2" x 9" Are stays fitted with nuts or riveted over with nuts

Working Pressure 155 lbs min Main stays: Material S. Tensile strength 28 to 32 tons

Diameter At body of stay or Over threads 2 3/8" No. of threads per inch 6 Area supported by each stay 246.4 sq in

Working pressure by Rules 159 lbs Screw stays: Material S. Tensile strength 26 to 30 tons

Diameter At turned off part or Over threads 1 1/2" No. of threads per inch 9 Area supported by each stay 84 sq in



Working pressure by Rules 15 1/4 Are the stays drilled at the outer ends No Margin stays: Diameter <sup>At turned off part.</sup> 1 5/8 x 3/4  
 No. of threads per inch 9 Area supported by each stay 92.8 sq in Working pressure by Rules 163 lb  
 Tubes: Material S. External diameter <sup>Plain</sup> } 2 1/2 Thickness <sup>Stay</sup> } 10 wt. 4 + 5/16 No. of threads per inch 9  
 Pitch of tubes 3 3/4 x 3 3/4 Working pressure by Rules 166 lb min Manhole compensation: Size of opening in  
 shell plate 20" x 16" Section of compensating ring 17 1/2 x 1 1/16 No. of rivets and diameter of rivet holes 38 of 1/8 dia  
 Outer row rivet pitch at ends 8 Depth of flange if manhole flanged 2 1/2 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 <sup>Plate</sup> \_\_\_\_\_  
 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 <sup>Tubes</sup> \_\_\_\_\_  
 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 \_\_\_\_\_ 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

The foregoing is a correct description,  
 SWAN, HUNTER, & WIGHAM RICHARDSON, LTD. Manufacturers.

Dates of Survey <sup>During progress of work in shops - - -</sup> \_\_\_\_\_  
 while building <sup>During erection on board vessel - - -</sup> See Machy Report Are the approved plans of boiler and superheater forwarded herewith 9/9/40  
 (If not state date of approval.)  
 Total No. of visits \_\_\_\_\_

Is this Boiler a duplicate of a previous case Yes If so, state Vessel's name and Report No. British Harmony, S. H. Hull, Yard No 1696  
New Rpt. No

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.)  
These Donkey Boilers have been constructed under special survey in accordance with the approved plans and the Society's Rules, and the materials and workmanship are good.  
The Boilers have been efficiently fitted on board and tested under steam under working conditions with satisfactory results.  
See also Machinery Rpt. H. 6

Survey Fee ... £ See Rpt. H. 6 } When applied for, 19  
 Travelling Expenses (if any) £ See Machy } When received, 19

A Watt  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 23 JAN 1942  
 Assigned See J.E. Machy Rpt.

