

## REPORT ON BOILERS.

No 103564

21 MAR 1946

Received at London Office

Date of writing Report 19 When handed in at Local Office 9. 3. 46 Port of **NEWCASTLE-ON-TYNE**

No. in Survey held at **NEWCASTLE-ON-TYNE.** Date, First Survey (1943) **Jan'y 11** Last Survey **28/2/46**

Reg. Book. (Number of Visits) **8552** Tons Gross **8552** Net **4923**

on the **TANKER. M/V "BRITISH CAUTION"**

Built at **NEWCASTLE.** By whom built **SWAN HUNTER & WIGHAM RICHARDSON, LD.** Yard No. **1764.** When built **1946.**

Engines made at **NEWCASTLE.** By whom made **S.H.W.R.** Engine No. **1764.** When made **1946.**

Boilers made at **NEWCASTLE.** By whom made **S.H.W.R.** Boiler No. **1764.** When made **1946.**

Nominal Horse Power Owners **BRITISH TANKER CO. LD.** Port belonging to **LONDON.**

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

Manufacturers of Steel **STEEL COM'Y OF SCOTLAND.** (Letter for Record **S.**)

Total Heating Surface of Boilers **3530 SQ. FT.** Is forced draught fitted **YES.** Coal or Oil fired **OIL OR WASTEGAS.**

No. and Description of Boilers **TWO SINGLE ENDED. MULTITUBULAR.** Working Pressure **150 LBS/SQ. IN.**

Tested by hydraulic pressure to **275 LBS/SQ. IN.** Date of test **28. 3. 45.** No. of Certificate **1161.** Can each boiler be worked separately **YES.**

Area of Firegrate in each Boiler **OIL FIRED.** No. and Description of safety valves to each boiler **2 — 2 1/4" DIAM COCKBURNS IMPROVED HIGH LIFT.**

Area of each set of valves per boiler (per Rule **7.56 SQ. IN.** as fitted **7.95 SQ. IN.**) Pressure to which they are adjusted **150 LBS/SQ. IN.** 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 **2'-3".** Is oil fuel carried in the double bottom under boilers **YES.**

Smallest distance between shell of boiler and tank top plating **✓** 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 **30/34 T.**

Thickness **13/16".** Are the shell plates welded or flanged **NO.** Description of riveting: circ. seams (end **D.R. OVERLAP.** inter. **3'08".**)

long. seams **T.R. D.B.S.** Diameter of rivet holes in (circ. seams **15/16".** long. seams **7/8".**) Pitch of rivets **6 3/16".**

Percentage of strength of circ. end seams (plate **69.59.** rivets **42.24.**) Percentage of strength of circ. intermediate seam (plate **85.85.** rivets **85.96.** combined **88.91.**)

Percentage of strength of longitudinal joint (plate **85.85.** rivets **85.96.** combined **88.91.**)

Thickness of butt straps (outer **5/8".** inner **3/4".**) No. and Description of Furnaces in each Boiler **TWO — DEIGHTON CORRUGATED.**

Material **STEEL.** Tensile strength **26/30 T.** Smallest outside diameter **3'-7 1/16".**

Length of plain part (top **✓** bottom **✓**) Thickness of plates (crown **15/32".** bottom **15/32".**) Description of longitudinal joint **FIRE WELDED.**

Dimensions of stiffening rings on furnace or c.c. bottom **NONE.**

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

How are stays secured **NUTS INSIDE & OUTSIDE.**

Tube plates: Material (front **STEEL.** back **STEEL.**) Tensile strength (front **26/30 T.** back **26/30 T.**) Thickness **15/16".** (front **3/4".** back **3/4".**)

Mean pitch of stay tubes in nests **7 1/2" x 11 1/4".** Pitch across wide water spaces **13 1/2".**

Girders to combustion chamber tops: Material **STEEL.** Tensile strength **28/32 T.** Depth and thickness of girder at centre **7 3/4" x 5/8" x 2.** Length as per Rule **30 1/2".** Distance apart **9".** No. and pitch of stays in each **2 AT 9 3/8".**

Tensile strength **26/30 T.** 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 **NUTTED BOTH ENDS. REMAINDER OF BACK STAYS RIVETED INSIDE & NUTTED OUTSIDE.**

Front plate at bottom: Material **STEEL.** Tensile strength **26/30 T.** Thickness **15/16".**

Lower back plate: Material **STEEL.** Tensile strength **26/30 T.** Thickness **15/16".**

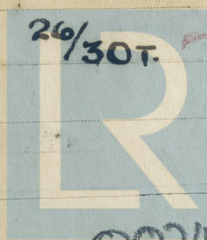
Pitch of stays at wide water space **13 1/2" x 9".** Are stays fitted with nuts or riveted over **NUTS.**

Main stays: Material **STEEL.** Tensile strength **28/32 T.**

Diameter (At body of stay, or Over threads) **2 3/8".** No. of threads per inch **6.**

Screw stays: Material **STEEL.** Tensile strength **26/30 T.**

Diameter (At turned off part, or Over threads) **1 1/2".** No. of threads per inch **9.**



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Are the stays drilled at the outer ends ☒ NO. Margin stays: Diameter { At turned off part, 1 5/8" or Over threads 1 3/4" No. of threads per inch 9 Tubes: Material STEEL External diameter { Plain 2 1/2" Stay 2 1/2" Thickness { 10wg 1/4" 5/16" No. of threads per inch 9 Pitch of tubes 3 3/4" x 3 3/4" Manhole compensation: Size of opening in shell plate 20" x 16" Section of compensating ring 17 1/2" x 13 1/16" No. of rivets and diameter of rivet holes 38 - 1 1/8" diam. Outer row rivet pitch at ends 8" Depth of flange if manhole flanged 2 1/2" Steam Dome: Material 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 Thickness of crown No. and diameter of stays Inner radius of crown 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 forgings 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 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,  
G. J. Dwyer Manufacturer.

Dates of Survey { During progress of work in shops - - - See Machinery Report while building { During erection on board vessel - - - Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) YES. Total No. of visits 1

Is this Boiler a duplicate of a previous case YES. If so, state Vessel's name and Report No. BRITISH VIRTUE SH-1762.

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 installed on board, and tested under steam, with satisfactory results.

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

A. E. Dwyer Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute FRI. 5 APR 1946

Assigned / See F.E. Macky rpt.



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