

# 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. 1946 Port of NEWCASTLE-ON-TYNE

No. in Reg. Book. Survey held at NEWCASTLE-ON-TYNE. Date, First Survey (1943) Jan 11 Last Survey 28/2/1946

on the TANKER. M/V "BRITISH CAUTION". (Number of Visits) Gross 8552 Net 4923

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<sup>y</sup> 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 5.6.45. No. of Certificate 1162. 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 D. as fitted 7.95 D.) 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.

long. seams T.R. D.B.S. Diameter of rivet holes in circ. seams 15/16". Pitch of rivets 3'08". long. seams 7/8". 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.)

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 15/32". bottom 15/32".) 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 (front 15/16". 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".

Combustion chamber plates: Material STEEL. 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 BACK & MARGINAL & SIDE STAYS 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.



Are the stays drilled at the outer ends  NO. Margin stays: Diameter  At turned off part,  Over threads **1 5/8" 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 **1 7/2" x 1 3/16"** 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

How connected to shell  Inner radius of crown

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 casing 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. Juddy* Manufacturer.  
 DRETON.

Dates of Survey  During progress of work in shops - -  *See Machinery Report*  Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.) **YES.**

During erection on board vessel - - -  Total No. of visits

Is this Boiler a duplicate of a previous case **YES.** If so, state Vessel's name and Report No. **BRITISH VIRTUE SH-NR 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 Mch's Report* When applied for, 19

Travelling Expenses (if any) £ : : When received, 19

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

Committee's Minute **FRI. 5 APR 1946**

Assigned */ See F.E. Macky rpt.*

