

# REPORT ON BOILERS.

No. 126744

Received at London Office 17 MAR 1948

Date of writing Report 23. 2. 1948 When handed in at Local Office 19... Port of Liverpool  
No. in Survey held at Birkenhead Date, First Survey 7/2/46 Last Survey 20/2/1948  
No. of Book 4511 on the M.V. "BRITISH DUKE" (Number of Visits 143) Tons Gross 8561.89 Net 4950.30  
Master - Built at Birkenhead By whom built Cannell & Co. Ltd. Yard No. 1148 When built 1948  
Engines made at West Hartlepool By whom made Hebdon, Westgarth & Co. Ltd. Engine No. 3134 When made 1948  
Boilers made at Birkenhead By whom made Cannell & Co. Ltd. Boiler No. 1148 When made 1948  
Nominal Horse Power 240 Owners British Tanker Co. Ltd. Port belonging to London

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

Manufacturers of Steel Bolwilles, Ltd. (Letter for Record (S))  
Total Heating Surface of Boilers 4050 sq. ft. Is forced draught fitted yes Coal or Oil fired Oil & gas  
No. and Description of Boilers Two single ended Scotch type Working Pressure 150 lbs.  
Tested by hydraulic pressure to 245 lbs Date of test 14.2.44 No. of Certificate 2402 Can each boiler be worked separately yes  
Area of Firegrate in each Boiler No. and Description of safety valves to each boiler Improved High lift - Double  
Area of each set of valves per boiler per Rule 4.66 sq. in. as fitted 9.82 sq. in. Pressure to which they are adjusted 150 lbs. Are they fitted with easing gear yes 2 1/2 dia.  
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 well clear Is oil fuel carried in the double bottom under boilers Boilers on upper deck  
Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated yes  
Largest internal dia. of boilers 13'0" Length 11'6" Shell plates: Material Steel Tensile strength 29/33 tons  
Thickness 1/8 Are the shell plates welded or flanged no Description of riveting: circ. seams {end 2.50" inter 6.5"  
Long. seams T.R. - D.B.S. Diameter of rivet holes in {circ. seams 15/16 15/16 long. seams 15/16 Pitch of rivets {2.50" 6.5"  
Percentage of strength of circ. end seams {plate 63 rivets 48 Percentage of strength of circ. intermediate seam {plate none rivets none  
Percentage of strength of longitudinal joint {plate 85.5 rivets 90.0 combined 89.0 Working pressure of shell by Rules 150 lbs.  
Thickness of butt straps {outer 1 1/16 1 3/16 inner 1 1/16 No. and Description of Furnaces in each Boiler 2. Deighton section.  
Material Steel Tensile strength 26-30 tons Smallest outside diameter 3' 11"  
Length of main part {top 14' bottom 32' Thickness of plates {crown 14' bottom 32' Description of longitudinal joint welded  
Dimensions of stiffening rings on furnace or c.c. bottom none Working pressure of furnace by Rules 163 lbs.  
Stays in steam space: Material Steel Tensile strength 26-30 tons Thickness 1" Pitch of stays 18 1/4 x 15 3/4  
Are stays secured Double nuts Working pressure by Rules 158 lbs.  
Stays plates: Material {front Steel Tensile strength 26-30 tons Thickness {13/16 25/32  
{back Steel Tensile strength 26-30 tons Thickness {13/16 25/32  
Pitch of stay tubes in nests 9 5/8 Pitch across wide water spaces 13 1/2 Working pressure {front 190 lbs back 252 lbs  
Access to combustion chamber tops: Material Steel Tensile strength 28-32 tons Depth and thickness of girder  
Centre 9' x 23/32 (Double) Length as per Rule 34 3/4 Distance apart 9 5/8 No. and pitch of stays  
Pitch 3. 8" Working pressure by Rules 154 lbs Combustion chamber plates: Material Steel  
Tensile strength 26-30 tons Thickness: Sides 11/16 Back 11/16 Top 11/16 Bottom 1/8  
Pitch of stays to ditto: Sides 9" x 8" Back 8 1/2 x 4 1/8 Top 9 5/8 x 8 Are stays fitted with nuts or riveted over nuts  
Working pressure by Rules 152 lbs Front plate at bottom: Material Steel Tensile strength 26-30 tons  
Thickness 13/16 Lower back plate: Material Steel Tensile strength 26-30 tons Thickness 13/16  
Pitch of stays at wide water space 14 1/2 Are stays fitted with nuts or riveted over nuts  
Working pressure 189 lbs Main stays: Material Steel Tensile strength 28-32 tons  
Pitch At body of stay 2 1/2 No. of threads per inch 6 Area supported by each stay 18 1/4 x 15 3/4  
Over threads 154 lbs Screw stays: Material Steel Tensile strength 26-30 tons  
Pitch 1 1/2 x 1 1/2 No. of threads per inch 9 Area supported by each stay 44 sq. ins.



Working pressure by Rules 163 lbs. Are the stays drilled at the outer ends no ✓ Margin stays: Diameter { At turned off part, 1 1/8" + 1 1/4" or Over threads 161 lbs.  
No. of threads per inch 9 ✓ Area supported by each stay 95 sq. in. Working pressure by Rules 161 lbs.  
Tubes: Material S.D. Steel ✓ External diameter { Plain 2 1/2" ✓ Thickness { 109 ✓ No. of threads per inch 9 ✓  
Pitch of tubes 3 3/4" x 3 1/8" ✓ Working pressure by Rules 164 lbs. Manhole compensation: Size of opening  
shell plate 21" x 14" ✓ Section of compensating ring 2'10" x 2'4 1/2" x 1" ✓ No. of rivets and diameter of rivet holes 54 ✓  
Outer row rivet pitch at ends 6 1/2" ✓ Depth of flange if manhole flanged 3 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 { Plate ✓ Rivets ✓  
Internal diameter ✓ Working pressure by Rules ✓ Thickness of crown ✓ No. and diameter  
stays ✓ Inner radius of crown ✓ Working pressure by Rules ✓  
How connected to shell ✓ Size of doubling plate under dome ✓ Diameter of rivet holes and  
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  
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  
Rules ✓ Pressure to which the safety valves are adjusted ✓ Hydraulic test press  
tubes ✓ forgings and castings ✓ and after assembly in place ✓ Are drain cock  
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

FOR AND ON BEHALF OF  
CAMMELL LAIRD & CO. LIMITED  
J. P. Anderson  
Manufacture

ENGINEERING MANAGER

Dates of Survey while building { During progress of work in shops - - } Are the approved plans of boiler and superheater forwarded herewith (If not state date of approval.)  
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 BARON" Liv. 125226

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) These boilers have been built under special survey to approved plans in accordance with the Society's Rules. Materials and workmanship are good. They have been properly installed in the above vessel, examined under working conditions and found satisfactory.

Survey Fee ... £ 39 : 0 : 0 } When applied for, 11 MAR 1948  
Travelling Expenses (if any) £ : : } When received 19

L. D. Lenchard  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute LIVERPOOL 16 MAR 1948

Assigned See Minute on J.E. Machinery Report. W.H.



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