

## REPORT ON BOILERS.

No. 83900

11 MAR 1929

Date of writing Report 5-3-1929 When handed in at Local Office 9-3-1929 Port of

No. in Survey held at Jarro

Date, First Survey 15 June

Last Survey 25 Feb 1929

89333 on the S.S. BRITISH CHIVALRY

(Number of Visits) Gross 7227118 Tons Net 4288

Master Built at Jarro By whom built Palmers Co. Ltd. Yard No. 979 When built 1929  
 Engines made at Jarro By whom made Palmers Co. Ltd. Engine No. 979 When made 1929  
 Boilers made at " By whom made Palmers Co. Ltd. Boiler No. 979 When made 1929  
 Nominal Horse Power 553 Owners British Tanker Co. Ltd. Port belonging to London

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

Manufacturers of Steel The Steel Company of Scotland Ltd (Letter for Record Y)  
 Total Heating Surface of Boilers 7656  $\text{ft}^2$  Is forced draught fitted YES Coal or Oil fired OIL  
 No. and Description of Boilers 3 S.E. Cyl. MULTITUBULAR 3 S.B. Working Pressure 225 LBS.  
 Tested by hydraulic pressure to 388 LBS. Date of test 2.11.28 No. of Certificate 333-4-5 Can each boiler be worked separately YES  
 Area of Firegrate in each Boiler OIL FUEL No. and Description of safety valves to each boiler 2 @ 3 1/4" SPRING LOADED  
 Area of each set of valves per boiler (per Rule 15.95" as fitted 16.5" Pressure to which they are adjusted 225 LBS. Are they fitted with easing gear YES  
 In case of donkey boilers, state whether steam from main boilers can enter the donkey boiler No  
 Smallest distance between boilers or uptakes and bunkers or woodwork 2' 0" Is 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 15' 6" Length 11' 6" Shell plates: Material STEEL Tensile strength 30-34 TONS  
 Thickness 1 1/2" Are the shell plates welded or flanged No Description of riveting: circ. seams (end D.R.L. inter. 5.259" Pitch of rivets 10.5"  
 long. seams T.R.D.B.S. Diameter of rivet holes in (circ. seams 1 1/8" long. seams 1 3/8"  
 Percentage of strength of circ. end seams (plate 67.9% rivets 45.3% Percentage of strength of circ. intermediate seam (plate 85.1% rivets 87.6% combined 87.7% Working pressure of shell by Rules 225 LBS.  
 Thickness of butt straps (outer 1 5/8" inner 1 3/8" No. and Description of Furnaces in each Boiler 3 CORRUGATED DEIGHTON SECTION  
 Material STEEL Tensile strength 26-30 TONS Smallest outside diameter 3' 10 1/8"  
 Length of plain part (top 10 1/2" bottom 10 1/2" Thickness of plates (crown 23/32" bottom 23/32" Description of longitudinal joint WELD  
 Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 226 LBS.  
 End plates in steam space: Material STEEL Tensile strength 26-30 TONS Thickness 1 3/8" Pitch of stays 21 1/2" x 20 1/2"  
 How are stays secured DOUBLE NUTS & WASHERS Working pressure by Rules 228 LBS.  
 Tube plates: Material (front STEEL back " Tensile strength 26-30 TONS Thickness 1 1/8" 29/32"  
 Mean pitch of stay tubes in nests 10 5/8" Pitch across wide water spaces 1' 2 1/4" Working pressure (front 226 LBS. back 234  
 Girders to combustion chamber tops: Material STEEL Tensile strength 28-32 TONS Depth and thickness of girder at centre 9" x 1 1/2" Length as per Rule 2' 8 9/32" Distance apart 8' No. and pitch of stays in each 3 @ 9" Working pressure by Rules 240 LBS.  
 Tensile strength 26-30 TONS Thickness: Sides 23/32" Back 13/16" Top 23/32" Bottom 15/16" Combustion chamber plates: Material STEEL  
 Pitch of stays to ditto: Sides 9" x 8 3/4" Back 8 1/4" x 8" Top 9" x 8" Are stays fitted with nuts or riveted over BOTH  
 Working pressure by Rules 230 LBS. Front plate at bottom: Material STEEL Tensile strength 26-30 TONS  
 Thickness 1 1/8" Lower back plate: Material STEEL Tensile strength 26-30 TONS Thickness 1"  
 Pitch of stays at wide water space d = 19.375" Are stays fitted with nuts or riveted over NUTS  
 Working Pressure 225 LBS. Main stays: Material STEEL Tensile strength 28-32 TONS  
 Diameter (At body of stay, or Over threads 3 5/8" No. of threads per inch 6 Area supported by each stay 440.75  
 Working pressure by Rules 232 LBS. Screw stays: Material W. IRON Tensile strength 21 1/2 TONS MIN.  
 Diameter (At turned off part, or Over threads 1 5/8" No. of threads per inch 9 Area supported by each stay 66



Working pressure by Rules **213 LBS** Are the stays drilled at the outer ends **No** Margin stays: Diameter { At turned off part. **1 3/4", 1 3/8", 2 1/8"** Over threads **1 3/4", 1 3/8", 2 1/8"** ✓  
 No. of threads per inch **9** ✓ Area supported by each stay **78.75** ✓ Working pressure by Rules **230 LBS** ✓  
 Tubes: Material **W. IRON** External diameter { Plain **3"** ✓ Thickness { **8 LSG** ✓ No. of threads per inch **9** Stay **3"** ✓  
 Pitch of tubes **4 1/4" x 4 1/4"** Working pressure by Rules **250 LBS** ✓ Manhole compensation: Size of opening **36 @ 1 9/16"** ✓  
 shell plate **20" x 16"** ✓ Section of compensating ring **3.3 7/8" x 3.0 3/16", 1 1/2"** No. of rivets and diameter of rivet holes **36 @ 1 9/16"** ✓  
 Outer row rivet pitch at ends **10 1/2"** ✓ Depth of flange if manhole flanged **4 1/2"** ✓ Steam Dome: Material **-**  
 Tensile strength **85000** ✓ Thickness of shell **3/16"** ✓ Description of longitudinal joint **-**  
 Diameter of rivet holes **1 1/8"** ✓ Pitch of rivets **2"** ✓ Percentage of strength of joint **85%** ✓  
 Internal diameter **24"** ✓ Working pressure by Rules **250 LBS** ✓ Thickness of crown **3/16"** ✓ No. and diameter of stays **12 @ 1 1/8"** ✓ Working pressure by Rules **250 LBS** ✓  
 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 **ROBINSONS (SMOKE BOX)** Manufacturers of { Tubes **✓** Steel castings **✓**  
 Number of elements **132** ✓ Material of tubes **S. D. STEEL** Internal diameter and thickness of tubes **-**  
 Material of headers **C. STEEL** Tensile strength **85000** ✓ Thickness **3/16"** Can the superheater be shut off and the boiler be worked separately **YES** ✓  
 Is a safety valve fitted to every part of the superheater which can be shut off from the boiler **YES** ✓  
 Area of each safety valve **1.767** ✓ Are the safety valves fitted with easing gear **YES** ✓ Working pressure as per Rules **225 LBS** ✓  
 Pressure to which the safety valves are adjusted **225 LBS** ✓ Hydraulic test pressure **281.25 LBS** ✓  
 tubes **675 LBS** ✓ castings **675 LBS** ✓ and after assembly in place **675 LBS** ✓ Are drain cocks or valves fitted to free the superheater from water where necessary **YES** ✓  
 Have all the requirements of Sections 14 to 22 inclusive for boilers been complied with **YES** ✓

*Palmer's Foregoing is a correct description,*

*N. Brown*

*Manager, Engine Works.*

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

GENERAL REMARKS (State quality of workmanship, opinions as to class, &c.) **This boiler has been built under Special Survey, the materials and workmanship are good.**

Survey Fee **£ 100** When applied for, **192**  
 Travelling Expenses (if any) **£ 100** When received, **192**

*Thomas Napier*

Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

FRI. 15 MAR 1929

Assigned

*See Minute on New Rpt. P3900*



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