

# REPORT ON BOILERS.

No. 83900

11 MAR 1929

Received at London Office

NEWCASTLE-ON-TYNE

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

No. in Survey held at Jarrow Date, First Survey 15 June 1927 Last Survey 25 Feb 1929

89333 on the S.S. BRITISH CHIVALRY (Number of Visits) Gross 720 7118 Net 4288

Master Built at Jarrow By whom built Palmers Co. Ltd. Yard No. 979 When built 1929

Engines made at Jarrow By whom made Palmers Co. Ltd. Engine No. 979 When made 1929

Boilers made at By whom made 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)

Total Heating Surface of Boilers 1093 Is forced draught fitted No Coal or Oil fired OIL

No. and Description of Boilers 1 S.E. CYL. MULTITUBULAR Working Pressure 120 LBS

Tested by hydraulic pressure to 230 LBS Date of test 8-11-28 No. of Certificate 336 Can each boiler be worked separately

Area of Firegrate in each Boiler No. and Description of safety valves to each boiler TWO SPRING LOADED

Area of each set of valves per boiler per Rule 12.14 as fitted 14.1 Pressure to which they are adjusted 120 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 FITTED UPPER DECK Is oil fuel carried in the double bottom under boilers

Smallest distance between shell of boiler and tank top plating Is the bottom of the boiler insulated YES

Largest internal dia. of boilers 10' 6" Length 10' 6" Shell plates: Material STEEL Tensile strength 28-32 TONS

Thickness 21/32 Are the shell plates welded or flanged No Description of riveting: circ. seams end D-RL

long. seams TRDBS Diameter of rivet holes in circ. seams 1/8 long. seams 7/8 Pitch of rivets 3 3/4

Percentage of strength of circ. end seams plate 69.0% rivets 60.5% Percentage of strength of circ. intermediate seam plate 81.0% rivets 91.6%

Percentage of strength of longitudinal joint plate 81.0% rivets 91.6% Working pressure of shell by Rules 124 LBS

Thickness of butt straps outer 7/16 inner 9/16 No. and Description of Furnaces in each Boiler TWO DEIGHTON SECTION

Material STEEL Tensile strength 26-30 TONS Smallest outside diameter 2' 10"

Length of plain part top 10 1/2 bottom 10 1/2 Thickness of plates crown 3/8 bottom 3/8 Description of longitudinal joint WELD

Dimensions of stiffening rings on furnace or c.c. bottom Working pressure of furnace by Rules 155 LBS

End plates in steam space: Material STEEL Tensile strength 26-30 TONS Thickness 1 1/2 Pitch of stays 23 1/2 x 19

How are stays secured DOUBLE NUTS & WASHERS Working pressure by Rules 120 LBS

Tube plates: Material front STEEL Tensile strength 26-30 TONS Thickness 25/32 back 23/32

Mean pitch of stay tubes in nests 10 5/8 Pitch across wide water spaces 1' 2 1/4 Working pressure front 130 LBS back 121

Girders to combustion chamber tops: Material STEEL Tensile strength 28-32 TONS Depth and thickness of girder

at centre 6" x 1" Length as per Rule 2' 1 25/32 Distance apart 8 1/2 No. and pitch of stays

in each 2 @ 10" Working pressure by Rules 124 LBS Combustion chamber plates: Material STEEL

Tensile strength 26-30 TONS Thickness: Sides 19/32 Back 3/4 Top 19/32 Bottom 19/32

Pitch of stays to ditto: Sides 10" x 10" Back 9 1/2" x 11" Top 10" x 8 1/2" Are stays fitted with nuts or riveted over BOTH

Working pressure by Rules 121 LBS Front plate at bottom: Material STEEL Tensile strength 26-30 TONS

Thickness 25/32 Lower back plate: Material STEEL Tensile strength 26-30 TONS Thickness 3/4

Pitch of stays at wide water space d=19" Are stays fitted with nuts or riveted over NUTS

Working Pressure 130 LBS Main stays: Material STEEL Tensile strength 28-32 TONS

diameter At body of stay, Over threads 2 3/4 No. of threads per inch 6 Area supported by each stay 446.5

Working pressure by Rules 123 LBS Screw stays: Material IRON Tensile strength 21 1/2 TONS MIN.

diameter At turned off part, Over threads 1 1/2 No. of threads per inch 9 Area supported by each stay 104.5



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Working pressure by Rules **120 LBS.** Are the stays drilled at the outer ends **No** Margin stays: Diameter { At turned off part, Over threads **1 7/8", 1 3/4", 1 1/2"** ✓

No. of threads per inch **9** Area supported by each stay **157.34, 130, 125.87** Working pressure by Rules **120 LBS.**

**Tubes:** Material **W IRON** External diameter { Plain **3"** Stay **3"** Thickness { **10 LGS** **5/16", 3/8"** No. of threads per inch

Pitch of tubes **4 1/4" x 4 1/4"** Working pressure by Rules **140 LBS.** Manhole compensation: Size of opening in shell plate **20" x 16"** Section of compensating ring **2' 8 1/2", 2' 6" x 3 1/2"** No. of rivets and diameter of rivet holes **36 @ 1"**

Outer row rivet pitch at ends **5 1/2"** Depth of flange if manhole flanged **3 5/8"** 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 Working pressure by Rules Thickness of crown No. and diameter of stays

How connected to shell Inner radius of crown Working pressure by Rules

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

Manufacturers of { Tubes 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 Working pressure as per Rules Pressure to which the safety valves are adjusted Hydraulic test pressure: tubes 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

*Palmer's Shipbuilding & Iron Co., Ltd.*  
The foregoing is a correct description,  
**N. Brown** Manufacturer.  
*Manager, Engine Works*

Dates of Survey { During progress of work in shops - - - 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

**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 ... £ : When applied for, 192

Travelling Expenses (if any) £ : When received, 192

*Thomas Napier*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

MAR 15 1929

Assigned *See minute on hwc. R/P*  
*83900*



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