

REPORT ON MACHINERY.

No. 69910

Received at London Office

THU. 31 MAY 1917

Date of writing Report 26th April 1917 When handed in at Local Office 10 Port of NEWCASTLE-ON-TYNE.No. in Survey held at Newcastle Date, First Survey 17th Nov 1915 Last Survey 17th Apr 1917
Reg. Book.on the S.S. "British Princess" Tons Gross 7035 Net 4832
Master Built at Newcastle By whom built See W. J. Armstrong Whitehead & Co. when built 1917

Engines made at Newcastle By whom made H. E. Mainwaring & Co. Ltd when made 1917

Boilers made at Newcastle By whom made H. E. Mainwaring & Co. Ltd when made 1917

Registered Horse Power Owners British Tanker Co. Ltd Port belonging to London

Nom. Horse Power as per Section 28 618 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 27"-45"-74" Length of Stroke 54" Revs. per minute 68 Dia. of Screw shaft 15.4" Material of screw shaft Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight

in the propeller boss Yes If the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two

liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 5'-5 3/4"

Dia. of Tunnel shaft 13.25" Dia. of Crank shaft journals 14.4" Dia. of Crank pin 15" Size of Crank webs 21 3/4" x 9 5/8" Dia. of thrust shaft under

collars 15" Dia. of screw 18'-9" Pitch of Screw 18'-0" No. of Blades 4 State whether moveable Yes Total surface 100 sq

No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 30" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 30" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 8"x5 1/2"x8", 6"x8"x8", 7"x5"x8" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3 1/2" In Holds, &c. bil vessel

No. of Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible None

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes Are the Discharge Pipes above or below the deep water line Both

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Yes Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes

What pipes are carried through the bunkers bil vessel How are they protected Yes

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

Dates of examination of completion of fitting of Sea Connections 29-11-16 of Stern Tube 29-11-16 Screw shaft and Propeller 6-2-17

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record R) Manufacturers of Steel J. Spence & Sons

Total Heating Surface of Boilers 26390 Is Forced Draft fitted Yes No. and Description of Boilers 3 single-ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 27-11-16 No. of Certificate 8916

Can each boiler be worked separately Yes Area of fire grate in each boiler 68 sq No. and Description of Safety Valves to

each boiler Two Spring Area of each valve 11.04 sq Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers on woodwork 22" Mean dia. of boilers 16'-6 1/2" Length 12'-0" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 29 3/4 - 33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 8 Lap

long. seams 8 S S F Rivet Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 9 1/4" Lap of plates or width of butt straps 19 3/8"

Per centages of strength of longitudinal joint rivets 87.03 Working pressure of shell by rules 181 lbs Size of manholes in end 16" x 12"

Size of compensating ring Flanged No. and Description of Furnaces in each boiler 4 - Brighton Material Steel Outside diameter 44 1/2"

Length of plain part top 17 bottom 32 Thickness of plates crown 17 bottom 32 Description of longitudinal joint welded No. of strengthening rings 15

Working pressure of furnace by the rules 183 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 23/32 Top 23/32 Bottom 15/16"

Pitch of stays to ditto: Sides 10 1/2" x 9" Back 10 1/2" x 9" Top 10 1/2" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 186 lbs

Material of stays Steel Diameter at smallest part 2.36" Area supported by each stay 94.5 sq Working pressure by rules 187 lbs End plates in steam space:

Material Steel Thickness 1 5/32" Pitch of stays 19 1/2" x 17 1/2" How are stays secured nuts & washers Working pressure by rules 185 lbs Material of stays Steel

Diameter at smallest part 5.94" Area supported by each stay 341 sq Working pressure by rules 181 lbs Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 29/32" Greatest pitch of stays 14 1/2" Working pressure of plate by rules 195 lbs

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" Material of tube plates Steel Thickness: Front 1" Back 13/16" Mean pitch of stays 7 1/2"

Pitch across wide water spaces 14 1/2" Working pressure by rules 182 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 8 1/2" x 1 3/4" Length as per rule 34" Distance apart 9" Number and pitch of stays in each 2-10 1/2"

Working pressure by rules 187 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

separately Yes Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed

Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear Yes

W1006-0037

IS A DONKEY BOILER FITTED? *no* ✓

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— *Two top-end, two bottom-end & two main bearing bolts & nuts, one set of coupling bolts, one set of fixed bilge pump valves, a quantity of assorted bolts nuts & iron, two propeller blades.*

The foregoing is a correct description
per pro NORTH EASTERN MARINE ENGINEERS LTD.

J. J. Harrison
Secretary. Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1915 Jan. 17-26 Dec. 1 Jan. 17-26 Feb. 4-8 17-18 Mar. 10 Apr. 27 May 8-23 26-31 Jun. 1-29 Jul. 6-7 12-21 31
During erection on board vessel -- 18-25 Feb. 4-20 25-26 28 Oct. 3-4 6-10 13-16 18-19 23-25 26-27 Nov. 2-6 7-9 13-16 20-22 24-27 29 1917
Total No. of visits 71

Is the approved plan of main boiler forwarded herewith *yes* ✓

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 4-9-16 Slides 13-11-16 Covers 2-11-16 Pistons 2-11-16 Rods 10-3-16

Connecting rods 10-3-16 Crank shaft 11-8-16 Thrust shaft 3-10-16 Tunnel shafts 13-10-16 Screw shaft 23-10-16 Propeller 6-10-

Stern tube 13-10-16 Steam pipes tested 7-3-17 Engine and boiler seatings 29-11-16 Engines holding down bolts 22-2-17

Completion of pumping arrangements 3-4-17 Boilers fixed 22-2-17 Engines tried under steam 3-4-17

Main boiler safety valves adjusted 3-4-17 Thickness of adjusting washers P.B. $F\frac{3}{4}$ " A $\frac{5}{16}$ " S.B. $F\frac{1}{2}$ " A $\frac{7}{16}$ " F.B. $F\frac{7}{16}$ "

Material of Crank shaft *Steel* Identification Mark on Do. *L. & L.* 8-16 Material of Thrust shaft *Steel* Identification Mark on Do. *L. & L.* 10-

Material of Tunnel shafts *Steel* Identification Marks on Do. *L. & L.* 10-16 Material of Screw shafts *Iron* Identification Marks on Do. *L. & L.* 10-

Material of Steam Pipes *Iron & copper* ✓ Test pressure 540 lbs & 360 lbs ✓

Is an installation fitted for burning oil fuel *yes* ✓ Is the flash point of the oil to be used over 150°F. *yes* ✓

Have the requirements of Section 49 of the Rules been complied with *yes* ✓

Is this machinery duplicate of a previous case *no* ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boilers of this vessel have been constructed under special survey & the materials & workmanship are found to be good. The engines have been tried under steam & the safety valves adjusted at the working pressure. The machinery is now in good & safe working condition & eligible in my opinion to have the notation of + LMC 4-17. Fitted for oil fuel 4-17 F.P. above 150°F.*

A report on the electric installation will be forwarded when received from the electricians.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 4-17. F.D.

Fitted for oil fuel 4-17 F.P. above 150°F.

The amount of Entry Fee ... £ 3 : 0 : 0
Special ... £ 50 : 18 : 0
Donkey Boiler Fee ...
Travelling Expenses (if any) £
When applied for, 21 MAY 1917
When received, 26 MAY 1917

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute

Assigned

*+ LMC 4-17 F.D.
Fitted for oil fuel 4-17 F.P. above 150°F*

YES

These particulars

Signal Letters (if any)

Official Number.

14029

No., Date, and Port of

Whether British or Foreign Built.

British

Number of Decks

Number of Masts

Rigged ...

Stern ...

Build ...

Galleries ...

Head ...

Framework and description of vessel ...

Number of Bulkheads

Number of water balls and their capacity in

Total to quarter the depth from to bottom of keel

No. of sets of Engines.

Description of Engines.

One

Triple expansion direct acting inverted

No. of Shafts.

Particulars of Engines

One

Description of Engines

Number of Engines

Loaded Pressure

Gross

Under Tonnage Deck

Space or spaces between

Turret or Trunk ...

Forecastle ...

Bridge space Lower

Poop or Break ...

Side Houses ...

Deck Houses ...

Chart House ...

Spaces for machinery, a

Section 78 (2) of the 1894

Excess of Hatchways

Gross Tonnage

Deductions, as per Cont

Registered Ton

NOTE 1.—The tonnage of the

Deck for propelling

NOTE 2.—The undermentio

Open Passageway

Open Spaces in

Name of Master

No. of Owners

Name, Residence, and

British

24, Old

Charles

London

Dated 16th

(830) (71265) Wt. 40422/94