

REPORT ON MACHINERY.

No. 19603

Port of Hull

THUR. 21 NOV 1907

Received at London Office

No. in Survey held at Hull Date, first Survey July 9th Last Survey Nov 14th 1907

Reg. Book. 22 Luff on the S/Hawker BELLONA (Number of Visits 31)

Master Built at Selby By whom built Cochrane & Sons Tons Gross 184 Net 88

Engines made at Hull By whom made Chas. D. Holmes & Co when made 1907

Boilers made at Hull By whom made Hull when made Hull

Registered Horse Power 57 Owners The Commodore Sir Frederick ... belonging to Grimsby

Tom. Horse Power as per Section 28 57 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

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

Dia. of Cylinders 11 1/2 x 14 1/2 x 32 Length of Stroke 23 Revs. per minute 112 Dia. of Screw shaft as per rule 6.67 as fitted 6.37 Material of screw shaft Iron

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 Yes

Is the propeller boss fitted with a continuous liner the whole length of the stern tube 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 No

If two liners are fitted, is the shaft lapped or protected between the liners No Length of stern bush 31

Dia. of Tunnel shaft as per rule 5.96 as fitted 6.4 Dia. of Crank shaft journals as per rule 6.25 as fitted 6.4 Dia. of Crank pin 6.2 Size of Crank webs 12 x 23 Dia. of thrust shaft under collars 6.2

Dia. of screw 8.4 1/2 Pitch of Screw 11.5 No. of Blades 4 State whether moveable No Total surface 24 1/2

No. of Feed pumps 1 Diameter of ditto 2 Stroke 23 Can one be overhauled while the other is at work No

No. of Bilge pumps 1 Diameter of ditto 2 Stroke 23 Can one be overhauled while the other is at work No

No. of Donkey Engines 1 Sizes of Pumps 2 1/2 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps 2-2 (Fore & Aft)

In Engine Room 2-2 (Fore & Aft) In Holds, &c. 2-2 (Stokehold & Mainhold)

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

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 Above

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 Hot suction How are they protected Wood casing

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 19.8.07 of Stern Tube 19.8.07 Screw shaft and Propeller 19.8.07

Is the Screw Shaft Tunnel watertight No Is it fitted with a watertight door No worked from No

OILERS, &c.—(Letter for record 8.) Manufacturers of Steel Steel & of Scotland

Total Heating Surface of Boilers 9304 Is Forced Draft fitted No No. and Description of Boilers 1 S.E. Muschler

Working Pressure 180 lbs. Tested by hydraulic pressure to 360. Date of test 31.10.07 No. of Certificate 1609

Can each boiler be worked separately Yes Area of fire grate in each boiler 294 No. and Description of Safety Valves to each boiler 2 Spring loaded

Area of each valve 3.97 Pressure to which they are adjusted 185 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 11.6" Length 9.6" Material of shell plates Steel

Thickness 3/32 Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams SA. lap

long. seams 3 R.S. rivets Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 7/8" Lap of plates or width of butt straps 15"

Per centages of strength of longitudinal joint rivets 90 plate 86.5 Working pressure of shell by rules 184 Size of manhole in shell 17 x 13

Size of compensating ring 7 1/2 x 3/2 No. and Description of Furnaces in each boiler 2 plain Material Steel Outside diameter 3 1/2

Length of plain part top 5.7 bottom 5.04 Thickness of plates crown 3/4 Description of longitudinal joint welded No. of strengthening rings 1

Working pressure of furnace by the rules 197 Combustion chamber plates Material Steel Thickness: Sides 3/8 Back 1/2 Top 1/2 Bottom 23/32

Pitch of stays to ditto: Sides 9 x 9 Back 9 3/8 x 9 Top 8 x 7 1/2 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 194

Material of stays Steel Diameter at smallest part 1 5/8 Area supported by each stay 84.5 Working pressure by rules 221 End plates in steam space: Material Steel

Thickness 1 1/2 Pitch of stays 15 x 10 How are stays secured 5/8" wash Working pressure by rules 185 Material of stays Steel

Diameter at smallest part 4 7/8 Area supported by each stay 225 Working pressure by rules 211 Material of Front plates at bottom Steel

Thickness 3/32 Material of Lower back plate Steel Thickness 7/8 Greatest pitch of stays 16 Working pressure of plate by rules 180

Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 3/8 Back 1/2 Mean pitch of stays 9 1/2

Lloyd's Register Foundation

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____
 Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety Valves _____
 No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____
 If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____
 Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____
 Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____
 Working pressure of shell by rules _____ Thickness of shell crown plates _____ Radius of do. _____ No. of stays to do. _____ Dia. of stays _____
 Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____
 Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____
 Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied: — *Two top & two bottom end connecting rods, two main steering bolts, one set of coupling bolts & nuts, one set of feet & large pump valves, one main & one donkey sea chest valve, assorted bolts & nuts etc.*

The foregoing is a correct description,
Charles O. Sturtevant Manufacturer.

Dates of Survey: During progress of work in shops — 1907: July 9. 24. 26. 30. Aug 9. 19. 20. 28. Sep 5. 9. 13. 14. 16. 17. 21. 25. 28. Oct 1. 5. 7. 9.
 During erection on board vessel — Oct 15. 18. 22. 25. 29. 31. Nov 5. 6. 8. 9. 14.
 Total No. of visits 32

Is the approved plan of main boiler forwarded herewith *R/L No 14*
 " " " donkey " " " "
 Dates of Examination of principal parts—Cylinders 25.10.07 Slides 31.10.07 Covers 26.10.07 Pistons 22.10.07 Rods 23.10.07
 Connecting rods 23.10.07 Crank shaft 18.10.07 Thrust shaft 15.10.07 Tunnel shafts ✓ Screw shaft 30.7.07 Propeller 30.7.07
 Stern tube 24.7.07 Steam pipes tested 8.11.07 Engine and boiler seatings 19.8.07 Engines holding down bolts 6.11.07
 Completion of pumping arrangements 14.11.07 Boilers fixed 6.11.07 Engines tried under steam 9.11.07
 Main boiler safety valves adjusted 9.11.07 Thickness of adjusting washers *F 1/4 A 1/4*
 Material of Crank shaft *Iron* Identification Mark on Do. *356 S.W. 6 31.10.07* Material of Thrust shaft *Iron* Identification Mark on Do. *356 31.10.07*
 Material of Tunnel shafts ✓ Identification Marks on Do. — Material of Screw shafts *Iron* Identification Marks on Do. *356 30.7.07*
 Material of Steam Pipes *Solid drawn copper* Test pressure *360 lbs ✓*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery & trials of this vessel have been conducted under Special Survey, and of good material & workmanship, & have been fitted & secured in accordance with the Rules. They are now in good working condition, & eligible in my opinion to have the Notation 'L.M.C. 11.07' in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. *L.M.C. 11.07*

J.W. Gwynne
 21.11.07
 21.11.07

The amount of Entry Fee... £ 8 11
 Special... £
 Donkey Boiler Fee... £
 Travelling Expenses (if any) £ 4

John W. Gwynne
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
 Assigned + *L.M.C. 11.07*
 FRI. 22 NOV 1907



Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.