

REPORT ON MACHINERY.

No. 20754

Port of Hull

TUES 15 DEC 1908

Received at London Office

No. in Survey held at Goole & Hull Date, first Survey July 16th Last Survey 8th Dec 1904
 Reg. Book. Steel Sec. No. Josephine I (Number of Visits 37)
 Master Goole Built at Goole By whom built Goode & B. R. Co. Ltd Tons { Gross 266
 Engines made at } Hull By whom made } Messrs Earle's Co. Ltd when made 1908 Net 103
 Boilers made at } " By whom made } when made 1908
 Registered Horse Power _____ Owners J. Mace & Sons Port belonging to Fleetwood
 Nom. Horse Power as per Section 28 87 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 12 1/2" - 21" - 35" Length of Stroke 26" Revs. per minute 100 Dia. of Screw shaft 7.55" 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
 Is the propeller boss Yes If the liner is in more than one length are the joints burned one length 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 _____ If two
 liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 39 1/2"
 Dia. of plain part as per rule 6.57" Dia. of Crank shaft journals as per rule 6.89" Dia. of Crank pin 7 1/8" Size of Crank webs 13 3/4" x 4 1/2" Dia. of thrust shaft under
 collars 7 1/8" Dia. of screw 9'-6" Pitch of Screw 11'-9" men No. of Blades 4 State whether moveable No Total surface 32 sq ft
 No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines one Sizes of Pumps 6" x 3" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 in Engine Room one 2" one 3" In Holds, &c. One 2 1/2" to fore slush well, one
2 1/2" to aft slush well, & Gectors suction from all parts of vessel.
 No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump pump 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 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 hold 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 13.11.08 of Stern Tube 13.11.08 Screw shaft and Propeller 13.11.08
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door _____ worked from _____

OILERS, &c.—(Letter for record 5) Manufacturers of Steel Messrs W Beardmore Co. & Steel Co. of Scotland
 Total Heating Surface of Boilers 1600 sq ft Is Forced Draft fitted No No. and Description of Boilers One cyl. Multi
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 20.10.08 No. of Certificate 1683
 Can each boiler be worked separately _____ Area of fire grate in each boiler 47.2 sq ft No. and Description of Safety Valves to
 each boiler Two Spring Area of each valve 4.9 sq in 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 5 1/2" Mean dia. of boilers 13'-6" Length 11'-0" Material of shell plates 5"
 Thickness 1 1/2" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.
 long. seams D.B.S.I.R. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 7 1/6" Lap of plates or width of butt straps 16 1/2"
 Per centages of strength of longitudinal joint rivets 85.4 Working pressure of shell by rules 185 lbs Size of manhole in shell 16" x 12"
 plate 85.3 Size of compensating ring 31" x 28" x 1 1/2" No. and Description of Furnaces in each boiler 3 plain Material Steel Outside diameter 40"
 Length of plain part top 7'-1 1/2" Thickness of plates orow 4.9" Description of longitudinal joint Welded No. of strengthening rings _____
 bottom _____ Working pressure of furnace by the rules 180 lbs Combustion chamber plates: Material Steel Thickness: Sides 2 1/2" Back 5" Top 2 1/2" Bottom 2 1/2"
 Pitch of stays to ditto: Sides 8 1/2" x 9" Back 8" x 8 1/2" Top 9" x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 183 lbs
 Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 64 sq in Working pressure by rules 221 lbs End plates in steam space:
 Material Steel Thickness 1 1/2" Pitch of stays 17 1/2" x 18" How are stays secured D. No Working pressure by rules 181 lbs Material of stays Steel
 Diameter at smallest part 2 1/6" Area supported by each stay 31.275 sq in Working pressure by rules 207 lbs Material of Front plates at bottom Steel
 Thickness 2 1/2" Material of Lower back plate Steel Thickness 2" Greatest pitch of stays 14" x 8" Working pressure of plate by rules 203 lbs
 Diameter of tubes 3 1/2" Pitch of tubes 4 1/2" x 5" Material of tube plates Steel Thickness: Front 2 1/2" Back 1 1/2" Mean pitch of stays 9 1/2"
 Pitch across wide water spaces 14" Working pressures by rules 182 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10 1/2" x 13 1/2" Length as per rule 37 1/2" Distance apart 9" Number and pitch of stays in each Three - 9"
 Working pressure by rules 213 lbs Superheater or Steam chest; how connected to boiler _____ Can the superheater be shut off and the boiler worked
 separately _____ 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 _____

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 each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts + nuts, one set each feed and bilge pump valves, and a quantity of assorted bolts nuts etc.

The foregoing is a correct description,
F. J. Palethorpe Manufacturer.

Dates of Survey while building { During progress of work in shops - - SECRETARY, 1908 - July 16, 20, 25, 30, August 31, Sept. 2, 8, 9, 10, 16, 22, 23, 29, Oct. 2, 7, 9, 13, 19, 21.
 { During erection on board vessel - - Oct 26, 28, 29, Nov 3, 4, 6, 12, 13, 17, 18, 19, 20, 23, 25, Dec 2, 8.
 Total No. of visits 37

Is the approved plan of main boiler forwarded herewith *Yes*
 " " " *donkey* " " "

Dates of Examination of principal parts—Cylinders 29 9 08 Slides 26 10 08 Covers 6 11 08 Pistons 26 10 08 Rods 26 10 08
 Connecting rods 26 10 08 Crank shaft 2 9 08 Thrust shaft 2 9 08 Tunnel shafts _____ Screw shaft 12 11 08 Propeller 12 11 08
 Stern tube 12 11 08 Steam pipes tested 18 11 08 Engine and boiler seatings 28 10 08 Engines holding down bolts 20 11 08
 Completion of pumping arrangements 8 12 08 Boilers fixed 20 11 08 Engines tried under steam 8 12 08
 Main boiler safety valves adjusted 20 11 08 Thickness of adjusting washers $\frac{13}{32}$ & $\frac{12}{32}$

Material of Crank shaft *Steel* Identification Mark on Do. *143 A T G* Material of Thrust shaft *Steel* Identification Mark on Do. *9 A H 61*
 Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts *Iron* Identification Marks on Do. *9 A H 61*
 Material of Steam Pipes *Solid drawn Copper* Test pressure *400 lbs per sq inch*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines and boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are sound and. The boiler tested by hydraulic pressure, & with the Engines secured on board, and tested under steam they are now in good order, and safe working condition and respectfully submitted as being eligible in my opinion to be classed, with the notation of $\frac{13}{32}$ L.M.C. 12.08 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 12.08.

The amount of Entry Fee..	£ 1	0	0	When applied for.	14/12/1908
Special	£ 13	1	0		
Donkey Boiler Fee	£			When received.	16/1/09
Travelling Expenses (if any) £		9	6		

J.W.D. D.P.R.
 15/11/08. 15/12/08
James Barclay
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI. 18 DEC 1908**
 Assigned *+ L.M.C. 12.08*

MACHINERY CERTIFICATE WRITTEN.



Certificate (if required) to be sent to Shell