

REPORT ON MACHINERY.

No. 20,563

Date of writing Report 18.9.08 When handed in at Local Office 21.9.08 Port of Hull Received at London Office 30 SEP 1908
No. in Survey held at Goole & Hull Date, First Survey June 3rd Last Survey Sep. 15th 1908
Reg. Book. 8000 on the Steel Se. K. Delta. A. (Number of Visits 22)
Master Built at Goole By whom built Goole S. & R. G. Ld. Tons Gross 250 Net 112
Engines made at Hull By whom made Earle's S. & E. Co. Ld. When built 1908
Boilers made at " By whom made do when made 1908
Registered Horse Power 73 Owners Societe Anonyme Delta Port belonging to Ostend
Nom. Horse Power as per Section 28 73.57 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 12 $\frac{1}{2}$ " - 21" - 34" Length of Stroke 24" Revs. per minute 108 Dia. of Screw shaft as per rule 7 $\frac{1}{4}$ " 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
in 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 30 $\frac{1}{2}$ "
Dia. of Tunnel shaft as per rule 6 $\frac{3}{4}$ " Dia. of Crank shaft journals as per rule 6 $\frac{3}{4}$ " Dia. of Crank pin 6 $\frac{3}{4}$ " Size of Crank webs 13 $\frac{1}{2}$ " x 4 $\frac{1}{2}$ " Dia. of thrust shaft under
collars 6 $\frac{3}{4}$ " Dia. of screw 8" - 9" Pitch of Screw 11" - 6" No. of Blades 4 State whether moveable No Total surface 27 sq ft
No. of Feed pumps 2 Diameter of ditto 2 $\frac{1}{4}$ " Stroke 12" Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 2 $\frac{1}{4}$ " Stroke 12" Can one be overhauled while the other is at work Yes
No. of Donkey Engines 1 Sizes of Pumps 5" x 2 $\frac{1}{2}$ " x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room One 2" One 2 $\frac{1}{2}$ " In Holds, &c. One 2" to aft. St. Well, one 2" to fore slush well,
One 2" to fish room, two 2" to tank, & ejector suction from all parts.
No. of Bilge Injections 1 sizes 3 $\frac{1}{2}$ " Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 2 $\frac{1}{2}$ "
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 27.8.08 of Stern Tube 27.8.08 Screw shaft and Propeller 27.8.08
Is the Screw Shaft Tunnel watertight No Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record 6) Manufacturers of Steel Messrs Beardmore Son
Total Heating Surface of Boilers 1300 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 15.8.08 No. of Certificate 1665
Can each boiler be worked separately Area of fire grate in each boiler 32.5 sq ft No. and Description of Safety Valves to
each boiler Two Spring Area of each valve 3.98 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 12" Mean dia. of boilers 12" - 6" Length 10' - 3" Material of shell plates Steel
Thickness 1 $\frac{1}{16}$ " Range of tensile strength 28,320 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.
long. seams D.D.S. & R. Diameter of rivet holes in long. seams 1 $\frac{1}{16}$ " Pitch of rivets 7" Lap of plates or width of butt straps 15 $\frac{3}{4}$ "
Per centages of strength of longitudinal joint rivets 89. plate 84.8 Working pressure of shell by rules 186 lbs Size of manhole in shell 16" x 12"
Size of compensating ring 31" x 28" x 1 $\frac{1}{16}$ " No. and Description of Furnaces in each boiler Two plain Material Steel Outside diameter 41 $\frac{1}{2}$ "
Length of plain part top 6' - 3" Thickness of plates crown 49" bottom 64" Description of longitudinal joint Welded No. of strengthening rings 0
Working pressure of furnace by the rules 184 lbs Combustion chamber plates: Material Steel Thickness: Sides $\frac{1}{16}$ " Back $\frac{5}{8}$ " Top $\frac{5}{8}$ " Bottom $\frac{1}{16}$ "
Pitch of stays to ditto: Sides 8 $\frac{1}{4}$ " x 8 $\frac{1}{2}$ " Back 8" x 8 $\frac{3}{4}$ " Top 8 $\frac{1}{2}$ " x 8 $\frac{1}{2}$ " If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 187 lbs
Material of stays Steel Diameter at smallest part 1 $\frac{1}{2}$ " Area supported by each stay 70 sq in Working pressure by rules 200 lbs End plates in steam space:
Material Steel Thickness 1 $\frac{1}{16}$ " Pitch of stays 17" x 17" How are stays secured O. 7 washers 6 $\frac{3}{8}$ " x $\frac{3}{4}$ " Working pressure by rules 185 lbs Material of stays Steel
Diameter at smallest part 2 $\frac{3}{16}$ " Area supported by each stay 289 sq in Working pressure by rules 224 lbs Material of Front plates at bottom Steel
Thickness $\frac{15}{16}$ " Material of Lower back plate Steel Thickness $\frac{7}{8}$ " Greatest pitch of stays 14 $\frac{1}{2}$ " x 8 $\frac{3}{4}$ " Working pressure of plate by rules 185 lbs
Diameter of tubes 3 $\frac{1}{2}$ " Pitch of tubes 4 $\frac{15}{16}$ " x 4 $\frac{15}{16}$ " Material of tube plates Steel Thickness: Front $\frac{15}{16}$ " Back $\frac{7}{8}$ " Mean pitch of stays 9 $\frac{1}{8}$ "
Pitch across wide water spaces 14 $\frac{1}{2}$ " Working pressures by rules 182 lbs Girders to Chamber tops: Material Steel Depth and
thickness of girder at centre 9" x 13 $\frac{1}{4}$ " Length as per rule 2' - 11 $\frac{1}{2}$ " Distance apart 8 $\frac{1}{2}$ " Number and pitch of stays in each 3 - 8 $\frac{1}{2}$ "
Working pressure by rules 188 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 and nuts, one set each, air, feed and bilge pump valves and a quantity assorted bolts nuts etc.

The foregoing is a correct description.

F. J. Salthorpe Manufacturer.

Dates During progress of work in shops:— 1908. Jan 3. 25. July 4. 9. 16. 20. 25. 30. 31 Aug 15. 21. 22. 26. 27. 28.
 of Survey During erection on board vessel:— Aug 31. Sep 1. 2. 4. 8. 11. 15.
 while building Total No. of visits:— 22

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 21.8.08 Slides 21.8.08 Covers 21.8.08 Pistons 25.7.08 Rods 25.7.08
 Connecting rods 21.8.08 Crank shaft 25.7.08 Thrust shaft 25.7.08 Tunnel shafts Screw shaft 22.8.08 Propeller 22.8.08
 Stern tube 22.8.08 Steam pipes tested 1.9.08 Engine and boiler seatings 26.8.08 Engines holding down bolts 4.9.08
 Completion of pumping arrangements 15.9.08 Boilers fixed 4.9.08 Engines tried under steam 4.9.08
 Main boiler safety valves adjusted 4.9.08 Thickness of adjusting washers 3/8 3/8
 Material of Crank shaft Steel Identification Mark on Do. 1415AH Material of Thrust shaft Steel Identification Mark on Do. 56GAH
 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Iron Identification Marks on Do. 56GAH
 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 the materials and workmanship are good. The boiler tested by hydraulic pressure and with the engines fitted and secured on board, and tried under steam. They are now in good order and safe working condition and respectfully submitted as being eligible in our opinion to be classed with the notation of *L.M.C. 9.08* in the Register Book.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 9.08.

F.R.R.
30.9.08

H.C. 30-9-08

The amount of Entry Fee .. £ 1 : . :
 Special .. £ 11 : 2 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ 6 : 4 :
 £ 12 : 8 : 4

When applied for, 29.9.1908
 When received, 15.10.1908

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

Committee's Minute

FRI 2 OCT 1908

MACHINERY CERTIFICATE WRITTEN.

Assigned

+ L.M.C. 9.08



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