

REPORT ON MACHINERY.

No. 20,656

Port of Hull

Received at London **10 NOV 1908**

No. in Survey held at Hull Date, first Survey June 3rd Last Survey 7th Nov 1908
 Reg. Book. 14 on the Steel S.S. Kilnsea (Number of Visits 39)
 Master Hull Built at Hull By whom built Messrs Earles & Co. Ltd Tons { Gross 3269
 Engines made at } Hull By whom made } Messrs when made 1908
 Boilers made at } Hull By whom made } Earles & Co. Ltd when made 1908
 Registered Horse Power 307 Owners W^m Brown, Atkinson & Co. Ltd. Port belonging to Hull
 Nom. Horse Power as per Section 28 307 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 24" - 39" - 66" Length of Stroke 45" Revs. per minute 65 Dia. of Screw shaft as per rule 13.5" Material of Steel
 as fitted 14" screw shaft

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 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 ✓ If two

liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 61 1/2"

Dia. of Tunnel shaft as per rule 12.07" Dia. of Crank shaft journals as per rule 12.67" Dia. of Crank pin 13" Size of Crank webs 19 1/2" x 8 1/2" Dia. of thrust shaft under

collars 13" Dia. of screw 16" - 6" Pitch of Screw 16" - 8 5/8" No. of Blades 4 State whether moveable No Total surface 88 sq

No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps one 7" x 4 1/2" x 10" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Four 3 1/2" In Holds, &c. One 2 1/2" to F.P. Two each 3 1/2" to each of 1.2 & 4 holds

Four 3 1/2" to 1.3 hold. One 3" tunnel well. One ea. 3 1/2" to 1.5 tanks, two 3" one 3 1/2" to 1.2 tank, Two 3 1/2" to 1.6 tank, Three 3 1/2" to 1.4 tank, one 2 1/2" to 1.6 tank.

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating 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 13.10.08 of Stern Tube 13.10.08 Screw shaft and Propeller 13.10.08

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform

BOILERS, &c.—(Letter for record 6) Manufacturers of Steel Phoenix A&S. G.S. Alb. Hoenders Vireia

Total Heating Surface of Boilers 4590 sq Is Forced Draft fitted No No. and Description of Boilers 3 Multi. Single Ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 13.10.08 No. of Certificate 1680

Can each boiler be worked separately Yes Area of fire grate in each boilers 125 1/4 sq No. and Description of Safety Valves to

each boiler Two Spring Area of each valve 4.91 sq 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 38" Mean dia. of boilers 13" - 6" Length 10' - 9" Material of shell plates Steel

Thickness 1 3/32" Range of tensile strength 28.32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.

long. seams O.A.S.Y.R. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 1/8" Lap of plates or width of butt straps 16 3/4"

Per centages of strength of longitudinal joint rivets 85.8 Working pressure of shell by rules 180 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 31" x 28" x 1 3/32" No. and Description of Furnaces in each boiler Two Dightons Material Steel Outside diameter 4' - 2 1/4"

Length of plain part top Thickness of plates crown Description of longitudinal joint welded No. of strengthening rings 0

Working pressure of furnace by the rules 200 lbs Combustion chamber plates: Material Steel Thickness: Sides 7/16" Back 7/16" Top 7/16" Bottom 7/16"

Pitch of stays to ditto: Sides 9" x 8" Back 9 1/2" x 8" Top 9" x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 211 lbs

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 76 sq Working pressure by rules 186 lbs End plates in steam space:

Material Steel Thickness 1 5/32" Pitch of stays 18" x 14 1/2" How are stays secured D. No. Working pressure by rules 191 lbs Material of stays Steel

Diameter at smallest part 2 3/16" Area supported by each stay 312.75 sq Working pressure by rules 206 lbs Material of Front plates at bottom Steel

Thickness 3 1/32" Material of Lower back plate Steel Thickness 1 5/16" Greatest pitch of stays 14 1/2" x 8" Working pressure of plate by rules 221 lbs

Diameter of tubes 3 1/2" Pitch of tubes 5 1/2" x 4 3/4" Material of tube plates Steel Thickness: Front 3 1/32" Back 3/16" Mean pitch of stays 9 1/8"

Pitch across wide water spaces 14 1/2" Working pressures by rules 194 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 9 1/2" x 13 1/4" Length as per rule 36" Distance apart 9" Number and pitch of stays in each 3 - 8"

Working pressure by rules 185 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

W809-0103

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 bilge pump valves, and a quantity of assorted iron bolts, nuts etc.

The foregoing is a correct description,

F. J. Pallthorpe Manufacturer.

Dates of Survey while building	During progress of work in shops - -	SECRETARY 1908: Jun 3. 25. Jul 4. 9. 20. 25. 30. 31. Aug 21. 31. Sep 1. 2. 9. 10. 11. 16.
	During erection on board vessel - -	Sep 17. 22. 23. 24. 25. 29. Oct 2. 6. 7. 9. 10. 12. 13. 15. 16. 19. 20. 21. 22. 23. 26 Nov 3. 7
	Total No. of visits	39

Is the approved plan of main boiler forwarded herewith Yes ☒

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 2.9.08		Slides 16.9.08	Covers 9.9.08	Pistons 2.9.08	Rods 2.9.08
Connecting rods 2.9.08	Crank shaft 2.9.08	Thrust shaft 13.8.08	Tunnel shafts 7.11.17.19.27	Screw shaft 7.10.08	Propeller 7.10.08
Stern tube 31.8.08	Steam pipes tested 21.10.08	Engine and boiler seatings 15.10.08	Engines holding down bolts 23.10.08		
Completion of pumping arrangements 7.11.08	Boilers fixed 23.10.08	Engines tried under steam 23.10.08			
Main boiler safety valves adjusted 23.10.08	Thickness of adjusting washers	P	S	PA.	S. B.
Material of Crank shaft Steel	Identification Mark on Do. 2112 A.T.G.	Material of Thrust shaft Steel	Identification Mark on Do. 2726 P.A.		
Material of Tunnel shafts 3933.34. HK	Material Identification Marks on Do. Steel	Material of Screw shafts Steel	Identification Marks on Do. 2721 P.A.		
Material of Steam Pipes Solid drawn copper	Test pressure 360 lbs per sq inch				

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boilers of this vessel have been constructed under special survey in accordance with the Rules, the materials and workmanship are good, the boilers tested by hydraulic pressure, found satisfactory and with the engines fastened on board, tested under steam and found satisfactory, they are now in good order and safe working condition, and respectfully submitted as being eligible in my opinion to be classed with the record of *L.M.C. 11.08* in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 11.08.

J. W. D. 10/11/08

The amount of Entry Fee.	£ 3 :	When applied for.
Special	£ 35 : 4	2/11/1908
Donkey Boiler Fee	£	When received,
Travelling Expenses (if any) £	3/11/1908

Committee's Minute

Assigned

FRI. 13 NOV 1908

+ L.M.C. 11.08

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



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Foundation

MACHINERY CERTIFICATE
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