

REPORT ON MACHINERY.

No. 22884

Port of Hull

Received at London Office WED. 24 AUG 1910

No. in Survey held at Hull Date, first Survey May 10th Last Survey Aug 12th 1910
 Reg. Book. 8 on the Steel S. S. "Grosbeak" (Number of Visits 25) Tons Gross 192
 Master Goolle Built at Goolle By whom built Goolle S. B. Rpg. Co. When built 1910
 Engines made at } By whom made } Messrs when made 1910
 Boilers made at } Hull By whom made } Charles G. Ltd. when made 1910

Registered Horse Power 55 Owners Kelsall Bros & Buching Ltd Port belonging to Hull
 Nom. Horse Power as per Section 28 55 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" - 21" - 33" Length of Stroke 21" Revs. per minute 130 Dia. of Screw shaft 7.38 Material of screw shaft Iron
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 — 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 Yes Length of stern bush 36"

Dia. of Tunnel shaft 6.2" Dia. of Crank shaft journals 6.5" Dia. of Crank pin 6.2" Size of Crank webs 12.5 x 4.2" Dia. of thrust shaft under collars 6.2" Dia. of screw 9.6" Pitch of Screw 4.0" No. of Blades 4 State whether moveable No Total surface 34 sq ft
 No. of Feed pumps 1 Diameter of ditto 2.2" Stroke 10" Can one be overhauled while the other is at work —
 No. of Bilge pumps 1 Diameter of ditto 2.2" Stroke 10" Can one be overhauled while the other is at work —
 No. of Donkey Engines One Sizes of Pumps 4.2" - 2.74" - 4" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room One 2", One 2.2", One 3.2" In Holds, &c. One 2" to hold, Two 2" to tank

And Ejectors suction from these parts —
 No. of Bilge Injections 1 sizes 3.2" Connected to condenser, or to circulating pump — Is a separate Donkey Suction fitted in Engine room & size Yes 2.2" Ejector
 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 Tank hold Suctions 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 23. 7. 10 of Stern Tube 23. 7. 10 Screw shaft and Propeller 23. 7. 10
 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 Phoenix Co. Harde. Westfalen
 Total Heating Surface of Boilers 900 sq ft Is Forced Draft fitted No No. and Description of Boilers One Cyl. Multi S. Enail
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 8. 4. 10 No. of Certificate 1757

Can each boiler be worked separately — Area of fire grate in each boiler 24.5 sq ft No. and Description of Safety Valves to each boiler Two Spring Area of each valve 3.14 sq ft Pressure to which they are adjusted 160 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 11" Dia. of boilers 10.6" Length 9.6" Material of shell plates Steel
 Thickness 2.7" Range of tensile strength 28.32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 2.0
 long. seams D.B.S.D.R. Diameter of rivet holes in long. seams 1.2" Pitch of rivets 6.52 Lap of plates or width of butt straps 11.74

Per centages of strength of longitudinal joint rivets 80.6 Working pressure of shell by rules 161 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 4" x 3.2" No. and Description of Furnaces in each boiler Two plain Material S. Outside diameter 34"
 Length of plain part 6" - 4.2" Thickness of plates 2.7" Description of longitudinal joint Welded No. of strengthening rings —
 Working pressure of furnace by the rules 146 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 2.1" Top 5/8" Bottom 5/8"

Pitch of stays to ditto: Sides 8.5" x 9" Back 9" x 10" Top 9" x 7.2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 165 lbs
 Material of stays Steel Diameter at smallest part 1.2" Area supported by each stay 76.5 sq ft Working pressure by rules 184 lbs End plates in steam space:
 Material Steel Thickness 5/8" Pitch of stays 15" x 15" How are stays secured D. N. Working pressure by rules 161 lbs Material of stays S.
 Diameter at smallest part 2.76" Area supported by each stay 225 sq ft Working pressure by rules 194 lbs Material of Front plates at bottom S.
 Thickness 5/8" Material of Lower back plate S. Thickness 5/8" Greatest pitch of stays 14" x 9" Working pressure of plate by rules 191 lbs

Diameter of tubes 3" Pitch of tubes 4.5" x 4.5" Material of tube plates S. Thickness: Front 5/8" Back 13/16" Mean pitch of stays 9"
 Pitch across wide water spaces 14" Working pressures by rules 160 lbs Girders to Chamber tops: Material S. Depth and thickness of girder at centre 7.2" x 1.2" Length as per rule 2' - 3.2" Distance apart 7.2" Number and pitch of stays in each Two 9"
 Working pressure by rules 226 lbs Superheater or Steam chest; how connected to boiler Welded Can the superheater be shut off and the boiler worked separately No
 Diameter 2.6" Length 2.6" Thickness of shell plates 5/8" Material S. Description of longitudinal joint 2.0 Diam. of rivet holes 1" Pitch of rivets 3.2" Working pressure of shell by rules 370 lbs 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
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
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 ends connecting rods bolts and nuts, two main bearing bolts and nuts, one set coupling bolts & nuts, one set each air, circulating, feed and bilge pumps and a quantity of assorted bolts nuts etc*

The foregoing is a correct description,
F. J. Salethorpe Manufacturer.
 SECRETARY.

Dates of Survey while building: During progress of work in shops— 1910:— May 10. 23. 28. 30. Jun 2. 7. 9. 13. 16. Jul 4. 5. 8. 11. 15. 16. 18. 19. 20. 21. 23. 25. 26. 28. 30
 During erection on board vessel— Aug 12
 Total No. of visits— 25
 Is the approved plan of main boiler forwarded herewith Yes ✓
 " " " donkey " " " ✓

Dates of Examination of principal parts— Cylinders 4. 7. 10 Slides 15. 7. 10 Covers 4. 7. 10 Pistons 4. 7. 10 Rods 4. 7. 10
 Connecting rods 15. 7. 10 Crank shaft 16. 7. 10 Thrust shaft 4. 7. 10 Tunnel shafts Screw shaft 4. 7. 10 Propeller 23. 7. 10
 Stern tube 11. 7. 10 Steam pipes tested 29. 7. 10 Engine and boiler seatings 23. 7. 10 Engines holding down bolts 23. 7. 10
 Completion of pumping arrangements 12. 8. 10 Boilers fixed 30. 7. 10 Engines tried under steam 30. 7. 10
 Main boiler safety valves adjusted 12. 8. 10 Thickness of adjusting washers 3/8 3/8
 Material of Crank shaft S Identification Mark on Do. 213 YATG Material of Thrust shaft S Identification Mark on Do. 3721 MR
 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts Iron Identification Marks on Do. 146 ATG
 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 & workmanship are good. The boiler tested by hydraulic pressure, and with the engines secured on board, and 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 notation of L.M.C. 8.10 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.10.

J.W. G.R.S.
 25/8/10

The amount of Entry Fee	£ 1	: . . .	When applied for.
Special	£ 8	. 5	23. 8. 19. 10
Donkey Boiler Fee	£ . . .	: . . .	When received.
Travelling Expenses (if any)	£ . . .	: . . .	5/9/10

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

Committee's Minute
 Assigned + L.M.C. 8.10

FRI. 26 AUG 1910



Certificates (if required) to be sent to Shell

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

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