

# REPORT ON MACHINERY.

Date of writing Report Dec 1<sup>st</sup> 1911 When handed in at Local Office Dec 4<sup>th</sup> 1911 Port of Hull Received at London Office WED. DEC. 13. 1911

No. in Survey held at Hull & Beverley Date, First Survey June 7<sup>th</sup> Last Survey 1<sup>st</sup> Dec 1911  
 Reg. Book. 56 Supp. on the Steel S. K. St. Malo (Number of Visits 34)

Master \_\_\_\_\_ Built at Beverley By whom built Messrs Cook, Welton & Gemm when made 1911  
 Engines made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made 1911  
 Boilers made at Hull By whom made Charles D. Holmes & Co when made 1911  
 Registered Horse Power \_\_\_\_\_ Owners J. Hamling & Co. Ltd Port belonging to Hull  
 Nom. Horse Power as per Section 28 80 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 13" - 23" - 37" Length of Stroke 26" Revs. per minute 112 Dia. of Screw shaft 7.88" Material of S  
 as fitted 8.0" 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 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 \_\_\_\_\_ If two  
 liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Length of stern bush 36"  
 Dia. of Tunnel shaft 7.03" Dia. of Crank shaft journals 7.38" Dia. of Crank pin 7.5" Size of Crank webs 14 1/2" x 5" Dia. of thrust shaft under  
 collars 7.5" Dia. of screw 9" - 7 1/2" Pitch of Screw 11" - 6" No. of Blades 4 State whether moveable No Total surface 33 3/4 sq ft  
 No. of Feed pumps 1 Diameter of ditto 2 3/4" Stroke 16" Can one be overhauled while the other is at work \_\_\_\_\_  
 No. of Bilge pumps 1 Diameter of ditto 2 3/4" Stroke 16" Can one be overhauled while the other is at work \_\_\_\_\_  
 No. of Donkey Engines 1 Sizes of Pumps 6 1/2" x 3 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two 2", One 2 1/2", One 3 1/2" In Holds, &c. One each 2", to aft Slush Well,  
Fore Slush Well, Main Hold, fore Hold. Fore Peak, with Ejector connection  
 No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump prop Is a separate Donkey Suction fitted in Engine room & size Yes 2 1/2" by  
 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 8.11.11 of Stern Tube 8.11.11 Screw shaft and Propeller 8.11.11  
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

**BOILERS, &c.**—(Letter for record 5) Manufacturers of Steel Phoenix Act. Ges. fur B. & H. Hoeede  
 Total Heating Surface of Boilers 1700 sq ft Is Forced Draft fitted No No. and Description of Boilers One cyl. Mult. Single Ended  
 Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 31.10.11 No. of Certificate 1852  
 Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler 46.87 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 200 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 6 1/2" Mean dia. of boilers 13" - 6" Length 10' - 8" Material of shell plates S  
 Thickness 1 3/16" Range of tensile strength 29 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.  
 long. seams D.O.S.I.R. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 5/8" Lap of plates or width of butt straps 18"  
 Per centages of strength of longitudinal joint rivets 89. Working pressure of shell by rules 204 lbs Size of manhole in shell 16" x 12"  
 plate 85.5  
 Size of compensating ring 7" x 1 3/16" No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 3' - 3"  
 Length of plain part top 6" - 4 5/8" bottom \_\_\_\_\_ Thickness of plates crown 1 3/16" Description of longitudinal joint Welded No. of strengthening rings 0  
 Working pressure of furnace by the rules 214 lbs Combustion chamber plates: Material S Thickness: Sides 1 1/16" Back 3/32" Top 3/4" Bottom 1 1/16"  
 Pitch of stays to ditto: Sides 9" x 8 1/4" Back 9 1/2" x 8 3/8" Top 11" x 8 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 205 lbs  
 Material of stays S Diameter at smallest part 1 5/8" Area supported by each stay 83.5 sq in Working pressure by rules 223 lbs End plates in steam space:  
 Material S Thickness 1 5/16" Pitch of stays 20" x 20" How are stays secured D. N. W. 4" x 1 1/16" Working pressure by rules 203 lbs Material of stays S  
 Diameter at smallest part 8.76 in Area supported by each stay 400 sq in Working pressure by rules 227 lbs Material of Front plates at bottom S  
 Thickness 1" Material of Lower back plate S Thickness 3/32" Greatest pitch of stays 13 1/2" x 10 1/8" Working pressure of plate by rules 204 lbs  
 Diameter of tubes 3 1/2" Pitch of tubes 5 7/16" x 5" Material of tube plates S Thickness: Front 1" Back 7/8" Mean pitch of stays 10 7/16"  
 Pitch across wide water spaces 13 3/4" Working pressures by rules 203 lbs Girders to Chamber tops: Material S Depth and  
 thickness of girder at centre 11" x 2" Length as per rule 3' - 1 1/8" Distance apart 11" Number and pitch of stays in each Three 8 1/2"  
 Working pressure by rules 209 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 \_\_\_\_\_



002138-002150-0132

**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	Radius of do.	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 feed and bilge pump valves, Iron various sizes, a quantity of assorted bolts nuts etc, one set air pump valves, spare impeller shaft for centrifugal circulating pump, feed pump ram etc.

The foregoing is a correct description,  
 p. J.P.O. CHARLES B. HOLMES & CO. LTD.  
 J. Arthur Holmes Manufacturer.

Dates of Survey while building  
 During progress of work in shops -- 1911 - Jun 7. July 7. 10. 18. 28. Aug 17. 21. Sep. 4. 11. 19. 23. 26. 27. Oct 2. 9. 10. 12. 19. 21. 30.  
 During erection on board vessel --- Oct 31. Nov 2. 7. 8. 9. 14. 16. 21. 23. 24. 27. 28. 29. Dec 1.  
 Total No. of visits 34

Is the approved plan of main boiler forwarded herewith  
 " " " donkey " " " " No it was sent on with Hull Bpt 24445.

Dates of Examination of principal parts—Cylinders 30. 10. 11 Slides 2. 11. 11 Covers 7. 11. 11 Pistons 2. 11. 11 Rods 2. 11. 11  
 Connecting rods 2. 11. 11 Crank shaft 30. 10. 11 Thrust shaft 19. 9. 11 Tunnel shafts Screw shaft 19. 9. 11 Propeller 19. 9. 11  
 Stern tube 21. 8. 11 Steam pipes tested 20. 11. 11 Engine and boiler seatings 8. 11. 11 Engines holding down bolts 27. 11. 11  
 Completion of pumping arrangements 1. 12. 11 Boilers fixed 27. 11. 11 Engines tried under steam 23. 11. 11  
 Main boiler safety valves adjusted 23. 11. 11 Thickness of adjusting washers 3/8" 3/8"  
 Material of Crank shaft S Identification Mark on Do. 24 J.P. 764 J.B. 30-10-11 Material of Thrust shaft S Identification Mark on Do. 6762.HK 764 J.B. 19.9.11  
 Material of Tunnel shafts Identification Marks on Do. Material of Screw shafts I Identification Marks on Do. 4351.MR 764 J.B. 19.9.11  
 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 good. The boiler tested by hydraulic pressure, and 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 our opinion to be classed with the notation of  $\frac{1}{2}$  L.H.C. 12. 11 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 12. 11.

The amount of Entry Fee .. £ 1 : : When applied for, 12/12/1911  
 Special .. £ 12 : :  
 Donkey-Boiler Fee .. £ : :  
 Travelling Expenses (if any) £ : 2 : : When received, 30.12.1911

J.W.D. 13/12/11  
 James Barclay & J. Roddy  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI. DEC. 15. 1911  
 Assigned + LMC 12. 11

Certificates (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

