

# REPORT ON MACHINERY.

No. 16567

Port of Hull

Received at London WED. 1 FEB 1905

No. in Survey held at Hull Date, first Survey Sep. 27/04 Last Survey Jan. 25<sup>th</sup> 1905  
 Reg. Book. 38 Suff on the Steel Sec K. Gurth (Number of Visits 36) Gross 226 Tons Net 91  
 Master • Built at Selby By whom built Messrs Cochrane Sons When built 1905  
 Engines made at Hull By whom made Messrs Charles D Holmes & Co when made 1905  
 Boilers made at Hull By whom made Messrs Charles D Holmes & Co when made 1905  
 Registered Horse Power 65 Owners Messrs L & J. Jones Port belonging to Grimsby  
 Nom. Horse Power as per Section 28 64.8 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

**ENGINES, &c.**—Description of Engines Twin Compound No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 12" - 21" - 34" Length of Stroke 24" Revs. per minute 112 Dia. of Screw shaft 7.09" 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 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 Length of stern bush 31"  
 Dia. of Plain shaft as per rule 6.36" Dia. of Crank shaft journals as per rule 6.58" Dia. of Crank pin 6.34" Size of Crank webs 13" x 4 7/8" Dia. of thrust shaft under collars 6 3/4" Dia. of screw 8" - 6" Pitch of screw 10" - 6" - 11" - 6" No. of blades 4 State whether moveable No Total surface 27 sq ft  
 No. of Feed pumps 1 Diameter of ditto 2 1/16" Stroke 24" Can one be overhauled while the other is at work  
 No. of Bilge pumps 1 Diameter of ditto 2 1/16" Stroke 24" Can one be overhauled while the other is at work  
 No. of Donkey Engines One Sizes of Pumps 2 3/4" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two - two inches In Holds, &c. One 2" to slush well, & one 2" to main hold, & Ejector suction from holds - eng room bilge  
 No. of bilge injections 1 sizes 3" Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room & size Yes 3"  
 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  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock before launching Is the screw shaft tunnel watertight Yes  
 Is it fitted with a watertight door worked from

**BOILERS, &c.**— (Letter for record 8) Total Heating Surface of Boilers 1046 sq ft Is forced draft fitted No  
 No. and Description of Boilers One Cyl. Multitubular Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs  
 Date of test 15. 12. 04 Can each boiler be worked separately Area of fire grate in each boiler 31.25 sq ft No. and Description of safety valves to each boiler Two Spring Area of each valve 3.9 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 7" Mean dia. of boilers 12" - 0" Length 9" - 9" Material of shell plates Steel  
 Thickness 1" Range of tensile strength 29.32 tons Are they welded or flanged Descrip. of riveting: cir. seams L. D. R. long. seams D. B. S. I. R.  
 Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 7 1/4" Lap of plates or width of butt straps 15 1/2"  
 Per centages of strength of longitudinal joint rivets 91.3 plate 85.3 Working pressure of shell by rules 187 lbs Size of manhole in shell 16" x 12"  
 Size of compensating ring 7" x 1" No. and Description of Furnaces in each boiler Two Holmes Material Steel Outside diameter 41"  
 Length of plain part top 11" bottom 16" Thickness of plates 11" bottom 16" Description of longitudinal joint Welded No. of strengthening rings Holmes  
 Working pressure of furnace by the rules 207 lbs Combustion chamber plates: Material Steel Thickness: Sides 3/32" Back 1/16" Top 23/32" Bottom 3/32"  
 Pitch of stays to ditto: Sides 8 1/2" x 9" Back 8 1/2" x 9" Top 8 1/2" x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 213 lbs  
 Material of stays Steel Diameter at smallest part 1 5/8" Area supported by each stay 76.5 sq in Working pressure by rules 243 lbs End plates in steam space: Material Steel Thickness 1 1/2" Pitch of stays 16" x 16" How are stays secured D. n. w. Working pressure by rules 196 lbs Material of stays Steel  
 Diameter at smallest part 2 1/2" Area supported by each stay 256 sq in Working pressure by rules 225 lbs Material of Front plates at bottom Steel  
 Thickness 27/32" Material of Lower back plate Steel Thickness 15/16" Greatest pitch of stays 15" Working pressure of plate by rules 198 lbs  
 Diameter of tubes 3 1/4" Pitch of tubes 4 5/8" Material of tube plates Steel Thickness: Front 27/32" Back 7/8" Mean pitch of stays 9 1/4"  
 Pitch across wide water spaces 15" Working pressures by rules 180 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 8 1/2" x 1 3/4" Length as per rule 32" Distance apart 8" Number and pitch of Stays in each Two 8 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

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?

007988-007997-0014

**DONKEY BOILER—** No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_

No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ 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 \_\_\_\_\_ 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 \_\_\_\_\_

Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— *Two each, crosshead and 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, bilge, circulating, and pump valves, + a quantity of assorted bolts and nuts.*

The foregoing is a correct description,  
*Charles D. Holmes* Manufacturer.

Dates of Survey while building

During progress of work in shops - -	1904: - Sep 27	Oct. 5, 14, 20, 24, 26.	Nov. 4, 7, 10, 17, 21, 22, 25, 26, 29, 30.	Dec. 5, 9, 12
	During erection on board vessel - -	Dec 15, 16, 20, 21.	1905: - Jan 4, 11, 12, 13, 16, 18, 19, 20, 21, 24, 25	
	Total No. of visits	36		

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

" " " *donkey* " " "

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The machinery and boiler of this vessel have been inspected throughout construction in accordance with the Society's Rules. The material and workmanship are good. The boiler tested by hydraulic pressure, and with the engines placed on board, 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 notification of L.M.C. 1.05 in the Register Book.*

It is submitted that this vessel is eligible for  
**THE RECORD H.L.M.C. 1.05**

*J.S.*  
1.2.05

*M.S.*  
1.2.05

Certificate (if required) to be sent to

The amount of Entry Fee..	£ 1	When applied for,	31/1/1905
Special .. .. .	£ 9 15		
Donkey Boiler Fee .. .. .	£ . . . . .	When received,	1.3.05
Travelling Expenses (if any) £	. . . . . 8 7		29/2/05

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

Committee's Minute **FRI. 3 FEB 1905**  
 Assigned *+ Lab 105*

