

REPORT ON MACHINERY

No. 27167
MON. FEB. 9 - 1914

Received at London Office

Date of writing Report 19 When handed in at Local Office 19.1.14 Port of Hull.
 No. in Survey held at Hull. Date, First Survey June 30th Last Survey Jan 9th 1914
 Reg. Book. 1248. on the Hull Co. "TYKE" (Number of Visits 25)
 Master Built at Hull By whom built H. Scan. Tons { Gross 81
 Net 26
 When built 1913
 Engines made at } By whom made } when made 1913
 Boilers made at } Hull By whom made } Messrs Charles D. Adams & Co. Ltd. when made 1913.
 Registered Horse Power Owners North Eastern Railway Co. Port belonging to Hull.
 Nom. Horse Power as per Section 28 49. Is Refrigerating Machinery fitted for cargo purposes No. Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Compound No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 14" - 30" Length of Stroke 21" Revs. per minute Dia. of Screw shaft as per rule 6.85" Material of screw shaft Iron
 as fitted 7"
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liners Is the after end of the liner made water tight
 in the propeller boss 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 Length of stern bush 2'-4 3/8"
 Dia. of Tunnel shaft as per rule 6.222" Dia. of Crank shaft journals as per rule 6.323" Dia. of Crank pin 6 5/8" Size of Crank webs 4 3/8" x 2 1/2" Dia. of thrust shaft under
 collars 6 5/8" Dia. of screw 4'-4 1/2" Pitch of Screw 9'-0" No. of Blades 4. State whether moveable No. Total surface 26 1/2 sq ft
 No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work
 No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 11" Can one be overhauled while the other is at work
 No. of Donkey Engines 1 Sizes of Pumps 6" x 4" x 6" duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room One 2" In Holds, &c. One 2" to fore hold. One 2 1/2" to
 fore hold.
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 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 0
 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 outflows 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 24.9.13 of Stern Tube 24.9.13 Screw shaft and Propeller 24.9.13
 Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel The Steel Company of Scotland Ltd.
 Total Heating Surface of Boilers 903 sq ft Is Forced Draft fitted No. No. and Description of Boilers One up. multi. circ. made.
 Working Pressure 140 lbs. Tested by hydraulic pressure to 280 lbs. Date of test 22.9.13 No. of Certificate 2015.
 Can each boiler be worked separately Area of fire grate in each boiler 30.5 sq ft No. and Description of Safety Valves to
 each boiler Two spring. Area of each valve 3.94 sq ft Pressure to which they are adjusted 145 lbs. Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 14" Mean dia. of boilers 10'-6" Length 10'-0" Material of shell plates S.
 Thickness 23/32 Range of tensile strength 28 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams R.S.P.P.
 long. seams R.S.P.P. Diameter of rivet holes in long. seams 23/32 Pitch of rivets 4 1/16 Lap of plates or width of butt straps 10 5/8"
 Per centages of strength of longitudinal joint rivets 85.9 Working pressure of shell by rules 141 lbs. Size of manhole in shell 16" x 12"
 plate 85.4
 Size of compensating ring 4' x 23/32 No. and Description of Furnaces in each boiler 2 plain Material S. Outside diameter 3'-2"
 Length of plain part top 6'-4" Thickness of plates crown 5/8" Description of longitudinal joint Weld. No. of strengthening rings 0
 bottom 5'-0" Thickness 5/8" Working pressure of furnace by the rules 140 lbs. Combustion chamber plates: Material S. Thickness: Sides 5/8" Back 3/4" Top 5/8" Bottom 5/8"
 Pitch of stays to ditto: Sides 10" x 9" Back 10 1/2" x 9" Top 10 1/2" x 9" If stays are fitted with nuts or riveted heads True Working pressure by rules 58 lbs.
 Material of stays S. Diameter at smallest part 2 1/4" Area supported by each stay 10' 25" Working pressure by rules 169 lbs. End plates in steam space:
 Material S. Thickness 13/16 Pitch of stays 15" x 14" How are stays secured R.S.P.P. Working pressure by rules 148 lbs. Material of stays S.
 Diameter at smallest part 3 1/2" Area supported by each stay 210" Working pressure by rules 58 lbs. Material of Front plates at bottom S.
 Thickness 13/16 Material of Lower back plate S. Thickness 13/16 Greatest pitch of stays 14" x 9" Working pressure of plate by rules 164 lbs.
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/8" x 4 3/8" Material of tube plates S. Thickness: Front 13/16 Back 25/32 Mean pitch of stays 12.25"
 Pitch across wide water spaces 13 3/8" Working pressures by rules 142 lbs. Girders to Chamber tops: Material S. Depth and
 thickness of girder at centre 7 1/2" - 12" Length as per rule 2'-5 9/32" Distance apart 10 1/4" Number and pitch of stays in each 2-9"
 Working pressure by rules 147 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? In a Report also sent to the Hull of the Ship?

IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two sets top & bottom end connecting rod bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set each fuel & life pump valves, iron of various sizes, a quantity of assorted bolts, nuts etc.*

The foregoing is a correct description,

p. pro CHARLES D. HOLMES & Co. LTD.

Harold Sheard MANUFACTURER.

Dates of Survey while building: During progress of work in shops -- 1913: June 30 Aug 8. 16. 19. 25. 29. 30. Sep. 9. 10. 13. 18. 19. 22. 23. 26. 27. Oct 2. 15. During erection on board vessel --- Oct 22, Nov 11. Dec 10. 17. 24. 1914 Jan 7. 9. Total No. of visits 25

Is the approved plan of main boiler forwarded herewith *yes*
" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 9. 9. 13 Slides 15. 10. 13 Covers 18. 10. 13 Pistons 26. 9. 13 Rods 2. 10. 13 Connecting rods 2. 10. 13 Crank shaft 19. 9. 13 Thrust shaft 11. 11. 13 Tunnel shafts 11. 11. 13 Screw shaft 19. 9. 13 Propeller 19. 9. 13 Stern tube 19. 9. 13 Steam pipes tested 24. 12. 13 Engine and boiler seatings 24. 9. 13 Engines holding down bolts 17. 12. 13 Completion of pumping arrangements 9. 1. 14. Boilers fixed 7. 1. 14 Engines tried under steam 3. 1. 14 Main boiler safety valves adjusted 3. 1. 14 Thickness of adjusting washers *Std 3/8" Standard 3/8"* Material of Crank shaft *Iron* Identification Mark on Do. *185 J.G.M.* Material of Thrust shaft *Steel* Identification Mark on Do. *185 T.G.D.* Material of Tunnel shafts *Steel* Identification Marks on Do. *185 T.G.D.* Material of Screw shafts *Iron* Identification Marks on Do. *185 J.G.M.* Material of Steam Pipes *Solid drawn copper* Test pressure *280 lbs. per sq. inch hydraulic* Is an installation fitted for burning oil fuel *No.* Is the flash point of the oil to be used over 150° F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case *No.* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines & boiler of this vessel have been examined under special survey in accordance with the Rules. The materials & workmanship are sound & good. The boiler tested by hydraulic pressure & with the engines secured on board & tested under steam they are now in good order & safe working condition & respectfully submitted as being eligible in my opinion to be classed with the notation of 'L.M.C. 1.14' in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 1. 14.

JWR
9/10/14
ARR

The amount of Entry Fee ... £ 1 : 0 : } When applied for, 28-1-1914
Special ... £ 8 : 0 : }
Donkey Boiler Fee ... £ : : } When received, *NR*
Travelling Expenses (if any) £ : 1/4 : } 30/1 1914

H.D. Dodds
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute 10 FEB. 10. 1914
Assigned + L.M.C. 1. 14.



Certificate (if required) to be sent to Hull

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