

REPORT ON MACHINERY.

No. 22736

Port of Hull.

Received at London Office

MUN. 18 JUL 10

No. in Survey held at Hull Date, first Survey Feb. 28th Last Survey 9th July 1910
 Reg. Book. 619 on the Steel S.S. Normandy (Number of Visits 42)
 Master Hull Built at Hull By whom built Messrs Charles C^o Ltd. Tons { Gross 618 Net 257
 Engines made at } Hull By whom made } Messrs Charles C^o Ltd. when made 1910
 Boilers made at } Hull By whom made } Messrs Charles C^o Ltd. when made 1910
 Registered Horse Power 149 Owners Lou + Bughton + S. Coast Rly Co. Port belonging to Newhaven
 Nom. Horse Power as per Section 28 149 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 15 1/2" - 25" - 40" Length of Stroke 27" Revs. per minute 150 Dia. of Screw shaft 7.78" Material of Steel
 as fitted 8.5" 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 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 7.27" Dia. of Crank shaft journals 4.63" Dia. of Crank pin 8 1/4" Size of Crank webs 16" x 5 1/2" Dia. of thrust shaft under
 collars 8" Dia. of screw 8" - 9" Pitch of Screw 9" - 4 1/2" No. of Blades 4 State whether moveable No Total surface 29 sq ft
 No. of Feed pumps Two Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps Two Diameter of ditto 2 3/4" Stroke 12" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines Two Sizes of Pumps 7" x 4 1/2" x 8" and 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 2 1/2" and One 5" In Holds, &c. Two 2 1/2" in fore hold, One 2 1/2" in
aft hold, One 2" tunnel well, One 4" in fore peak, One 6" to aft peak.
 No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump — Is a separate Donkey Suction fitted in Engine room & size Yes 2 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 28.6.10 of Stern Tube 28.6.10 Screw shaft and Propeller 28.6.10
 Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from main deck.

OILERS, &c.—(Letter for record n) Manufacturers of Steel W. Beardmore C^o, + Bonsett Iron C^o
Iron. Kirkstall Forge C^o, Leeds.
 Total Heating Surface of Boilers 3200 sq ft Is Forced Draft fitted No No. and Description of Boilers 2. Cyl. Mult Single Ended.
 Working Pressure 165 lbs Tested by hydraulic pressure to 330 lbs Date of test 30.5.10 No. of Certificate 1745
 Can each boiler be worked separately Yes Area of fire grate in each boiler 4.2 sq ft No. and Description of Safety Valves to
 each boiler Two spring Area of each valve 4.91 sq in Pressure to which they are adjusted 170 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 11" Mean dia. of boilers 12.9 1/8" Length 10'-0" Material of shell plates Steel
 Thickness 1 1/16" Range of tensile strength 29.32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L. D.
 long. seams D. B. S. J. R. Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 7 5/8" Lap of plates or width of butt straps 16 1/4"
 Per centages of strength of longitudinal joint rivets 91. Working pressure of shell by rules 189 lbs Size of manhole in shell and plate. 16 x 12"
end plate flanged plate 85.24
 No. and Description of Furnaces in each boiler Two Morrison's Material Steel Outside diameter 4'-1 1/2"
 Length of plain part top — bottom — Thickness of plates crown 9" bottom 7 1/16" Description of longitudinal joint welded No. of strengthening rings —
 Working pressure of furnace by the rules 178 lbs Combustion chamber plates: Material Steel Thickness: Sides 19" Back 19" Top 19" Bottom 19"
 Pitch of stays to ditto: Sides 9 1/2" x 7 1/2" Back 8" x 7 1/2" Top 9" x 6 3/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 174 lbs
 Material of stays Iron Diameter at smallest part 1 3/8" Area supported by each stay 68.43 sq in Working pressure by rules 173 lbs End plates in steam space:
 Material Steel Thickness 1 3/32" Pitch of stays 17 1/2" x 18" How are stays secured D. N. Working pressure by rules 170 lbs Material of stays Steel
 Diameter at smallest part 2 3/16" Area supported by each stay 315 sq in Working pressure by rules 205 lbs Material of Front plates at bottom Steel
 Thickness 7/8" Material of Lower back plate Steel Thickness 3 1/32" Greatest pitch of stays 15" x 7 3/4" Working pressure of plate by rules 172 lbs
 Diameter of tubes 3" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 7/8" Back 13/16" Mean pitch of stays 8 1/2"
 Pitch across wide water spaces 13" Working pressures by rules 174 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 8" x 1 1/2" Length as per rule 2'-4 1/2" Distance apart 9" Number and pitch of stays in each 3 - 6 3/4"
 Working pressure by rules 182 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
 plates — Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —
 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 —

W1544-0095

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 circulating feed and barge pump valves, one set check valves, and a quantity of assorted bolts.

The foregoing is a correct description,
J. J. Salathorne
 SECRETARY, Manufacturer.

Dates of Survey while building: During progress of work in shops - 1910 - Feb 28, Mar 7, 9, 16, 21, 23, Apr 8, 21, 22, 26, 27, May 4, 10, 21, 23, 25, 26, 28, 30, Jun 2, 4, 6
 During erection on board vessel - Jun 8, 9, 10, 11, 13, 14, 16, 17, 18, 20, 21, 22, 24, 27, 28, July 1, 6, 8, 9.
 Total No. of visits 42

Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " "

Dates of Examination of principal parts—Cylinders 2.6.10 Slides 23.5.10 Covers 2.6.10 Pistons 28.4.10 Rods 4.6.10
 Connecting rods 21.4.10 Crank shaft 22.4.10 Thrust shaft 28.5.10 Tunnel shafts 28.5.10 Screw shaft 23.5.10 Propeller 23.5.10
 Stern tube 26.5.10 Steam pipes tested 20.6.10 Engine and boiler seatings 28.5.10 Engines holding down bolts 24.6.10
 Completion of pumping arrangements 1.4.10 Boilers fixed 24.6.10 Engines tried under steam 1.4.10
 Main boiler safety valves adjusted 6.4.10 Thickness of adjusting washers 14/32 12/32 12/32 15/32

Material of Crank shaft Steel Identification Mark on Do. 2490WDM Material of Thrust shaft Steel Identification Mark on Do. 2491WDM
 Material of Tunnel shafts Steel Identification Marks on Do. 2491WDM Material of Screw shafts Steel Identification Marks on Do. 2490WDM
 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 Society's 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 my opinion to be classed with the notation of L.M.C. 7.10 in the Register Book

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 7.10
 19/7/10

The amount of Entry Fee... £ 2 : :
 Special ... £ 22 : 4 :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When applied for, 8.7.10
 When received, 16.7.10

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

Committee's Minute
 Assigned
 TUES. 19 JUL 1910
 + L.M.C. 7.10



Certificate (if required) to be sent to

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