

REPORT ON MACHINERY.

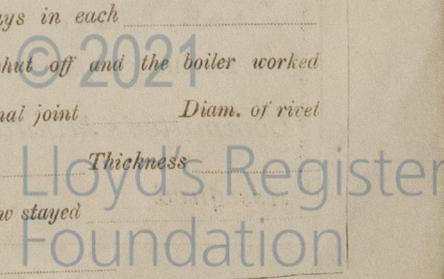
Received at London Office **PLYMOUTH** FRI. JUN. -4. 1915

Date of writing Report 3 June 1915 When handed in at Local Office 19 Port of Dartmouth
 No. in Survey held at Dartmouth Date, First Survey 24 Sept 1914 Last Survey 13 May 1915
 Reg. Book. on the Steel Single Screw Lug "Dartmothian" (Number of Visits 17) Tons {Gross 50.39
 Master J. Weeks Built at Dartmouth By whom built Philip Son Ltd When built 1915-15 Net 1.93
 Engines made at Dartmouth By whom made Philip Son Ltd when made 1915
 Boiler made at Glasgow By whom made Muir & Findlay when made 1915
 Registered Horse Power 60 Owners Renwick Wilton & Co Port belonging to Dartmouth
 Nom. Horse Power as per Section 28 36 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Compound Surface Condensing No. of Cylinders 2 No. of Cranks 2
 Dia. of Cylinders 11" x 23" Length of Stroke 16" Revs. per minute 160 Dia. of Screw shaft as per rule 5.19 Material of screw shaft Steel
 as fitted 5.4
 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 — 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 1'-9"
 Dia. of Tunnel shaft as per rule 4.77 Dia. of Crank shaft journals as per rule 5 Dia. of Crank pin 5" Size of Crank webs 5 1/2 x 3 1/4 Dia. of thrust shaft under collars 5" Dia. of screw 6ft Pitch of Screw 7ft 6ins No. of Blades 4 State whether moceable No Total surface 19 ft
 No. of Feed pumps 1 Diameter of ditto 1 3/4" Stroke 16" Can one be overhauled while the other is at work —
 No. of Bilge pumps 1 Diameter of ditto 1 3/4" Stroke 16" Can one be overhauled while the other is at work —
 No. of Donkey Engines 1 Sizes of Pumps 2 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two in No 2 In Holds, &c. One 2" dia in for Cabin & one 2" in after compartment
 No. of Bilge Injections 1 sizes 2 3/4" Connected to — or to circulating 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 Yes
 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 None How are they protected —
 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 23.2.15 of Stern Tube 23.2.15 Screw shaft and Propeller 2.3.15
 Is the Screw Shaft Tunnel watertight — Is it fitted with a watertight door — worked from —

BOILERS, &c.—(Letter for record) Manufacturers of Steel ISB.
 Total Heating Surface of Boilers — Is Forced Draft fitted No No. and Description of Boilers One Cylindrical Tubular
 Working Pressure 150 lbs Tested by hydraulic pressure to — Date of test — No. of Certificate —
 Can each boiler be worked separately — Area of fire grate in each boiler — No. and Description of Safety Valves to each boiler 2 in 1 Box Double Spring Area of each valve 3.14 Pressure to which they are adjusted 150 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 4 1/2" Mean dia. of boilers — Length — Material of shell plates —
 Thickness — Range of tensile strength — Are the shell plates welded or flanged — Descrip. of riveting: cir. seams —
 long. seams — Diameter of rivet holes in long. seams — Pitch of rivets — Lap of plates or width of butt straps —
 Per centages of strength of longitudinal joint — Working pressure of shell by rules — Size of manhole in shell —
 Size of compensating ring — No. and Description of Furnaces in each boiler — Material — Outside diameter —
 Length of plain part — Thickness of plates — Description of longitudinal joint — No. of strengthening rings —
 Working pressure of furnace by the rules — Combustion chamber plates: Material — Thickness: Sides — Back — Top — Bottom —
 Pitch of stays to ditto: Sides — Back — Top — If stays are fitted with nuts or riveted heads — Working pressure by rules —
 Material of stays — Diameter at smallest part — Area supported by each stay — Working pressure by rules — End plates in steam space —
 Material — Thickness — Pitch of stays — How are stays secured — Working pressure by rules — Material of stays —
 Diameter at smallest part — Area supported by each stay — Working pressure by rules — Material of Front plates at bottom —
 Thickness — Material of Lower back plate — Thickness — Greatest pitch of stays — Working pressure of plate by rules —
 Diameter of tubes — Pitch of tubes — Material of tube plates — Thickness — Front — Back — Mean pitch of stays —
 Pitch across wide water spaces — Working pressures by rules — Girders to Chamber tops: Material — Depth and thickness of girder at centre — Length as per rule — Distance apart — Number and pitch of stays in each —
 Working pressure by rules — 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 —

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description			When made	Where fixed
Made at	By whom made				
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	
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:— 2 Top & 2 Bottom end connecting rod bolts & nuts
 2 main bearing studs and nuts - 1 set of Coupling Bolts (5 in N^o) 1 set of
 Feed pump Valves 1 set of Bilge pump valves - assorted bolts & nuts, Iron
 of various sizes.

The foregoing is a correct description, **PHILIP & SON, LIMITED**
 Manufacturer. **G Nowell Philip**

Dates of Survey while building: During progress of work in shops -- 1914 Sept 24 Oct 7 23 Nov 6 18 Dec 3 21 1915 Jan 5 18 27
 During erection on board vessel --- 1915 Feb 23 Mar 2 11 25 April 13 30 May 13
 Total No. of visits 17
 Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " " Nil

Dates of Examination of principal parts—Cylinders 7.10.14 Slides 3.12.14 Covers 7.10.14 Pistons 7.10.14 Rods 7.10.14
 Connecting rods 7.10.14 Crank ~~and~~ and Thrust shaft 7.10.14 ^{Intermediate} Tunnel shaft 7.10.14 Screw shaft 2.9.15 Propeller 2.3.15
 Stern tube 23.2.15 Steam pipes tested 13.4.15 Engine and boiler seatings 23.2.15 Engines holding down bolts 11.3.15
 Completion of pumping arrangements 30.4.15 Boilers fixed 13.4.15 Engines tried under steam 13.5.15
 Main boiler safety valves adjusted 30.4.15 Thickness of adjusting washers Starbo 7/16" Port 1 1/32"
 Material of Crank shaft ^{Thrust} Steel Identification Mark on Do. 384 Material of Thrust shaft Identification Mark on Do. ✓
 Material of ^{Intermediate} Tunnel shafts Steel Identification Marks on Do. 3853 WPH Material of Screw shafts Steel Identification Marks on Do. 3853 WPH
 Material of Steam Pipes Solid drawn Copper Test pressure 300 lbs Hydraulic ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been constructed under Special Survey in general conformity with the Rules and approved drawings.
 The Boiler was made at Glasgow by Messrs Muir & Findlay vide Glasgow Report No 34860
 The materials used in the Construction of the Main Engines are of good quality and to my satisfaction.
 Main & Auxiliary Machinery were examined while working under steam at 150 lbs pressure and found to be satisfactory.
 The Machinery & Boiler of this vessel are in my opinion good and efficient and eligible subject to the favourable consideration of the Committee to be classed with this Society and to receive the notation of LMC. 5-15 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC 5. 15.

The amount of Entry Fee .. £ 1 : - : When applied for.
 Special £ 8 ~ : 3 June 1915
 Donkey Boiler Fee £ : : : When received,
 Travelling Expenses (if any) £ 4 : 15 : 2 10/15 1915 11/6/15

Committee's Minute FRI. DEC. 17. 1915
 Assigned + L.M.C. 5-15

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping
Jas. L. Lurg 7/6/15



MACHINERY CERTIFICATE WRITTEN.

Philip & Son Ltd, Dartmouth.

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