

REPORT ON MACHINERY.

No. 6025

Port of *Falmouth*Received at London Office *THE 23 JUN 1921*Date, first Survey *April 26th* Last Survey *June 15th 1921*No. in Survey held at *Falmouth*Reg. Book. *68408* on the *S/S WRAY CASTLE ex PARIA.*(Number of Visits *17*)Gross *5100*Tons *3100*When built *1916*Master *Bremerhaven* By whom built *Richmers Aht. Ges.*Engines made at *Bremen* By whom made *A.G. "Weser"*when made *1916*Boilers made at *Bremen* By whom made *A.G. "WESER"*when made *1916*

Registered Horse Power

Owners *Lancashire Shipping Co Ltd*
*(James Chambers & Co)*Port belonging to *Liverpool*Nom. Horse Power as per Section 28 *580*Is Refrigerating Machinery fitted for cargo purposes *No.*Is Electric Light fitted *Yes.*ENGINES, &c.—Description of Engines *Inverted, Triple Expansion* No. of Cylinders *3* No. of Cranks *3*Dia. of Cylinders *28 3/4", 46 1/16", 75 1/2"* Length of Stroke *53 1/2"* Revs. per minute *16 3/4* Dia. of Screw shaft *16 3/4* Material of screw shaft *Steel*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 *56" + 30" at fore end.*Dia. of Tunnel shaft *15 1/4"* Dia. of Crank shaft journals *15 3/4"* Dia. of Crank pin *15 3/4"* Size of Crank webs *✓* Dia. of thrust shaft under collars *15 3/4"* Dia. of screw *18 1/4"* Pitch of Screw *18 1/3"* No. of Blades *4* State whether moveable *Yes* Total surface *104 sq. ft.*No. of Feed pumps *2* Diameter of ditto *3 5/8"* Stroke *27 9/16"* Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2* Diameter of ditto *4 5/8"* Stroke *27 9/16"* Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *3* Sizes of Pumps *9 3/4" x 7 3/32" x 20 1/2"* No. and size of Suctions connected to both Bilge and Donkey pumps *2- 3 1/2" in each hold - 3 1/2" tunnel well.*No. of Bilge Injections *1* sizes *7 7/8"* Connected to condenser, or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size *Yes 4"*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 *Both*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 *✓* of Stern Tube *✓* Screw shaft and Propeller *✓*Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *E.R. top platform*BOILERS, &c.—(Letter for record *✓ S*) Manufacturers of Steel *✓*Total Heating Surface of Boilers *8070 sq. ft.* Is Forced Draft fitted *Yes* No. and Description of Boilers *3 S.E. Mattitubalar*Working Pressure *206* Tested by hydraulic pressure to *19.5 kg - 61* Date of test *1919* No. of Certificate *✓*Can each boiler be worked separately *Yes* Area of fire grate in each boiler *60 sq. ft.* No. and Description of Safety Valves to each boiler *2 Spring loaded* Area of each valve *12.17 sq. in.* Pressure to which they are adjusted *210 lbs.* Are they fitted with easing gear *Yes*Smallest distance between boilers or uptakes and bunkers or woodwork *Well clear* Mean dia. of boilers *14-11"* Length *12-0"* Material of shell plates *Steel*Thickness *1 5/16"* Range of tensile strength *✓* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *DR. Lap.*long. seams *Quadruple Riveted* Diameter of rivet holes in long. seams *1 27/64"* Pitch of rivets *18 7/64"* Lap of plates or width of butt straps *28 1/32"*Per centages of strength of longitudinal joint *85%* Working pressure of shell by rules *206 approved* Size of manhole in shell *16 15/16"*Size of compensating ring *Section 12.6 x 1.3 x 2.* No. and Description of Furnaces in each boiler *3 Morrison* Material *Steel* Outside diameter *44 11/16"*Length of plain part *top* Thickness of plates *bottom* Description of longitudinal joint *Welded* No. of strengthening rings *✓*Working pressure of furnace by the rules *199* Combustion chamber plates: Material *Steel* Thickness: Sides *1 1/16"* Back *4 5/16"* Top *1 1/16"* Bottom *2 9/32"*Pitch of stays to ditto: Sides *7 1/2" x 7 7/8"* Back *7 1/4" x 8 1/8"* Top *7 1/2" x 7 7/8"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *227* End plates in steam space: Material of stays *Steel* Diameter at smallest part *1 1/2"* Area supported by each stay *7 7/8" x 8 1/8"* Working pressure by rules *235* Material of stays *Steel*Material *Steel* Thickness *1 9/16"* Pitch of stays *15 3/8" x 17 1/8"* How are stays secured *Dr Nuts* Working pressure by rules *267* Material of Front plates at bottom *Steel*Diameter at smallest part *6 7/8"* Area supported by each stay *213.5 sq. in.* Working pressure by rules *206* Greatest pitch of stays *15 3/4" x 7 7/8"* Working pressure of plate by rules *206*Thickness *1 3/32"* Material of Lower back plate *Steel* Thickness *1"* Mean pitch of stays *12 3/32" x 8 1/8"*Diameter of tubes *3"* Pitch of tubes *4 1/16" x 4 1/8"* Material of tube plates *Steel* Thickness: Front *1 5/16"* Back *2 9/32"*Pitch across wide water spaces *13 3/32"* Working pressures by rules *206* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *9 7/16" x 1 3/32"* Length as per rule *31 1/2* Distance apart *7 7/8"* Number and pitch of stays in each *3 at 1 1/2"*Working pressure by rules *206* Superheater or Steam chest; how connected to boiler *Schmidt Type* Can the superheater be shut off and the boiler worked separately *Yes* Description of longitudinal joint *✓* Diam. of rivet holes *✓* Pitch of rivets *✓* Working pressure of shell by rules *206* 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 *1.77 sq. in.* Are they fitted with easing gear *Yes*

L 009067-1009073-034

Lloyd's Register
Foundation

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description		By whom made		When made	Where fixed
Made at	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:— 1 Set of top end brasses complete with nuts & bolts, 1 set of bottom end brasses complete with nuts & bolts, 2 main bearing bolts & nuts, 1 set of coupling bolts, 1 set of feed & bilge pump valves, assorted bolts & nuts, & iron of various sizes. 2 propeller blades, 1 Eccentric Strap complete, 1 Air pump Rod, 1 M.E. Valve spindle etc etc etc
The foregoing is a correct description,

Manufacturer.

Dates of Survey while building

During progress of work in shops -
During erection on board vessel -
Total No. of visits

Is the approved plan of main boiler forwarded herewith

No

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods

Connecting rods Crank shaft Thrust shaft Tunnel shafts Screw shaft Propeller

Stern tube Steam pipes tested Engine and boiler seatings Engines holding down bolts

Completion of pumping arrangements Boilers fixed Engines tried under steam

Main boiler safety valves adjusted Thickness of adjusting washers $9\frac{1}{16} \times \frac{1}{16}$ Pat Boilers $9\frac{1}{16} \times \frac{1}{16}$ Casts $9\frac{1}{16} \times \frac{1}{16}$ Stabs $9\frac{1}{16} \times \frac{1}{16}$

Material of Crank shaft Steel Identification Mark on Do. ✓ Material of Thrust shaft Steel Identification Mark on Do. ✓

Material of Tunnel shafts Steel Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. ✓

Material of Steam Pipes Steel Test pressure 620 lbs $\frac{1}{2}$ "

General Remarks (State quality of workmanship, opinions as to class, &c.)

(See Secretarys Ltrs Npt 20-4-21 & Feb 23-4-21.)

The working parts of the engines, and the boilers, have been opened out & found to be in accordance with the 1st entry report, (see Copy attached,) the engines & boilers have been found in good & safe working condition the pumping arrangements have been found to be as stated in the first entry report, and in good condition.

The machinery is eligible in our opinion to have notation of LMC 6.21, working pressure 206 lbs $\frac{1}{2}$ "

Amount of Entry Fee. £ : : When applied for.
Special £ 40 : :
Donkey Boiler Fee £ : :
Travelling Expenses (if any) £ : : 21.7.21

A.T. Graham W.D. Heck
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute FRI JUL 28 1921

Assigned

LMC 6.21

F.D. CERTIFICATE WRITTEN

Lloyd's Register Foundation