

# REPORT ON MACHINERY.

No. 41927  
WED. JUN. 4 - 1919

Received at London Office

NEWCASTLE-ON-TYNE

Date of writing Report 26th May 1919 When handed in at Local Office 26th May 1919 Port of

No. in Survey held at Farrow Hebburn on Tyne Date, First Survey 18th Sept 1917 Last Survey 22 May 1919

Reg. Book. 90 on the S. S. Tymeric (Number of Visits 105)

Master Built at Hebburn By whom built Hawthorn Leslie & Co. (No. 886) Tons Gross 5228 Net 3178 When built 1919

Engines made at Farrow By whom made Palmers Shipbuilding & Iron Co. Ltd. When made 1919

Boilers made at Farrow By whom made Palmers Shipbuilding & Iron Co. Ltd. When made 1919

Registered Horse Power Owners A. Hair & Co Port belonging to Glasgow

Nom. Horse Power as per Section 28 517 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 27, 44 & 73 Length of Stroke 48 Revs. per minute 77 Dia. of Screw shaft as per rule 14.66" Material of Steel as fitted 15 1/2" 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 ✓ 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 5'-0 1/2"

Dia. of Tunnel shaft as per rule 13.33" as fitted 13 1/2" Dia. of Crank shaft journals as per rule 14" as fitted 14 1/2" Dia. of Crank pin 14 1/2" Size of Crank web 22 1/2" x 9" Dia. of thrust shaft under collars 14 1/4" Dia. of screw 17-6" Pitch of Screw 16-6" No. of Blades 4 State whether moveable No Total surface 98.2 sq ft

No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 10 1/2" x 14" x 24", 9 1/2" x 7" x 18", 9 1/2" x 7" x 15" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Four 3 1/2" diameter In Holds, &c. No 3 1/2" diam in No 1, 2, 3 and 4 holds, one 3 1/2" in No 1 and one 3" in tunnel well.

No. of Bilge Injections 1 sizes 13" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes, 3 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 ✓

Are all connections with the sea direct on the skin of the ship Yes on copperdam 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 the deep water line Yes, main discharge

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 forward bilge pipes How are they protected Hood boxing.

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 31/3/19 of Stern Tube 31/3/19 Screw shaft and Propeller 31/3/19

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Engine room top platform

**BILERS, &c.**—(Letter for record 5) Manufacturers of Steel John Spencer & Son Ltd.

Total Heating Surface of Boilers 7668 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3, Single Ended

Working Pressure 180 lb per sq in Tested by hydraulic pressure to 360 lb Date of test 18/10/18, 25/10/18 No. of Certificate 9172, 9174, 9177

Can each boiler be worked separately Yes Area of fire grate in each boiler 63.3 sq ft No. and Description of Safety Valves to each boiler No, direct spring Area of each valve 9.62 sq in Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 30" dia. of boilers 15-6" Length 11-6" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 27,32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 2R Lap

g. seams 5 rivets Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 9/8" Lap of plates or width of butt straps 19 1/2"

Percentages of strength of longitudinal joint rivets 88.3 Working pressure of shell by rules 182 lb Size of manhole in shell 16" x 12"

Kind of compensating ring spigot No. and Description of Furnaces in each boiler 3, Dightons Material Steel Outside diameter 50 3/16"

Length of plain part top 3 1/32" bottom 3 1/32" Thickness of plates crown 3 1/32" Description of longitudinal joint Welded No. of strengthening rings ✓

Working pressure of furnace by the rules 188 Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 11/16" Top 23/32" Bottom 23/32"

Pitch of stays to ditto: Sides 11 13/32" x 8 3/8" Back 10 1/4" x 8 3/8" 10 5/8" x 9 1/4" stays are fitted with nuts or riveted heads inside Working pressure by rules 180 lb

Material of stays Steel Area at smallest part 2.4 sq in Area supported by each stay 98 sq in Working pressure by rules 219 End plates in steam space:

Material Steel Thickness 1 1/32" Pitch of stays 20 2/32" x 21 3/4" How are stays secured Double nuts Working pressure by rules 192 Material of stays Steel

Area at smallest part 4.45 sq in Area supported by each stay 44.6 sq in Working pressure by rules 199 Material of Front plates at bottom Steel

Thickness 3/32" Material of Lower back plate Steel Thickness 27/32" Greatest pitch of stays 13 3/8" x 8 3/4" Working pressure of plate by rules 187"

Diameter of tubes 2 3/4" Pitch of tubes 4" x 3 7/8" Material of tube plates Steel Thickness: Front 3/32" Back 3/4" Mean pitch of stays 9 7/8"

Working pressure across wide water spaces 13 5/8" Working pressures by rules 181 lb Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10" x 1 3/4" Length as per rule 35 9/16" Distance apart 10 5/8" Number and pitch of stays in each Three, 9 1/4"

Working pressure by rules 187 lb Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately

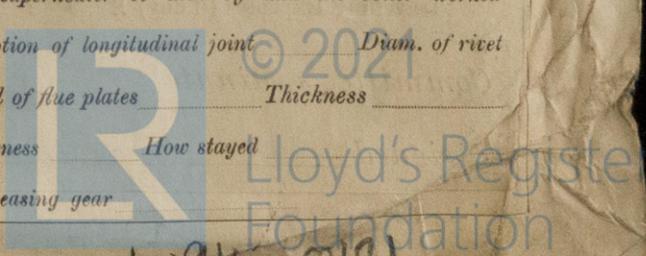
Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

Strengthened 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

W94-0121



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: Two top and two bottom end bolts for connecting rods, 2 main bearing bolts & nuts, 6 coupling bolts and nuts, one feed pump suction and one discharge valve, one bilge pump suction and one discharge valve, 3 main check valves, 3 donkey feed check valves, 24 assorted bolts & nuts, 6 cylinder cover bolts & nuts, 6 steam chest cover studs & nuts, 12 junk ring studs & nuts, 5 bars round iron 3/8", 1/2", 5/8", 3/4" & 1", one cast iron propeller and one propeller shaft.

The foregoing is a correct description,  
Palmer's Shipbuilding & Rep. Co., Ltd.,

G. W. W. D. Manufacturer.  
Manager, Engine Dept.

Table with columns for Dates of Survey while building, During progress of work in shops, and During erection on board vessel. Includes dates from Sept 18 to Sept 6 and a total of 105 visits.

Dates of Examination of principal parts: Cylinders 26/5, 27/9/18, Slides 4/7, 17/9/18, Covers 4/7, 17/9/18, Pistons 4/7, 17/9/18, Rods 4/7, 17/9/18, Connecting rods 4/7, 17/9/18, Crank shaft 20/6, 24/7, 26/8/18, Thrust shaft 10/10, 16/10/18, Tunnel shaft 24/7, 26/7, 26/8/18, Screw shaft 24/7, 16/10, 14/11/18, Propeller 16/10, 14/11/18, Stern tube 24/7, 26/8, Steam pipes tested 23/12/18, Engine and boiler seatings 22/4/19, Engines holding down bolts 23/4/19, Completion of pumping arrangements 16/5/19, Boilers fixed 23/4/19, Engines tried under steam 9/5/19, Main boiler safety valves adjusted 9/5/19, Thickness of adjusting washers P.B. 3/8 & 3/8, C.B. 3/8 & 3/8, S.B. 3/8 & 5/16, Material of Crank shaft Steel, Identification Mark on Do. 22/12/18, Material of Thrust shaft Steel, Identification Mark on Do. 22/12/18, Material of Tunnel shafts, Identification Marks on Do. do, Material of Screw shafts do, Identification Marks on Do. do, Material of Steam Pipes Steel, Test pressure 540 lbs per sq. in., Is an installation fitted for burning oil fuel yes, Is the flash point of the oil to be used over 150°F. yes, Have the requirements of Section 49 of the Rules been complied with yes, 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 machinery of this vessel (Standard B type) has been built under special survey, the materials & workmanship are of good quality, it has been carefully fitted on board & satisfactorily tested under steam. The White system of oil burning fitted to the boilers has been satisfactorily tested.

When the machinery was placed on board this vessel, it was intended for the B & V class only. The present owners desire that the vessel & machinery be classed with this Society. In my opinion the machinery of this vessel is now eligible for record i.e. L.M.C. 5.19, in the register book and for burning oil fuel above 150°F.

19 forging reports castings & pipe certificates, also invoices for steel & fabrics now forwarded. It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 5.19. F.D. Fitted for oil fuel 5.19 FP above 150°F. J.W.D.

Table with columns for The amount of Entry Fee, Special, Donkey Boiler Fee, Travelling Expenses (if any), and Committee's Minute. Includes dates like JUN 1919 and JUN 1919.

George Hurdoch  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.  
FRI. 27 JUN. 1919  
+ L.M.C. 5.19  
Fitted for oil fuel 5.19  
F.P. above 150°F.

NEWCASTLE-ON-TYNE

Certificate (if required) to be sent to the Registrar or below the Registrar for Committee's Minute.