

## REPORT ON MACHINERY.

No. 71927  
WED. JUN. 4-1919

Received at London Office

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

NEWCASTLE-ON-TYNE

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 &amp; Co. Ltd. When built 1919

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

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

Registered Horse Power Owners A. H. &amp; 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" Dia. of Crank shaft journals as per rule 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" 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 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  
 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  
**OILERS, &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"  
 No. of compensating ring 1 spigot No. and Description of Furnaces in each boiler 3, Doughtons Material Steel Outside diameter 50 3/16"  
 Length of plain part top 3 1/9" 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 1/32" x 8 1/8" Back 10 1/4" x 8 1/8" 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 2.45 sq in Area supported by each stay 98.04 sq in Working pressure by rules 219 End plates in steam space:  
 Material Steel Thickness 1 1/32" Pitch of stays 20 1/2" x 21 1/2" How are stays secured Double nuts Working pressure by rules 192 Material of stays Steel  
 Area at smallest part 8.45 sq in Area supported by each stay 44.6 sq in Working pressure by rules 199 Material of Front plates at bottom Steel  
 Thickness 1 1/2" Material of Lower back plate Steel Thickness 27/32" Greatest pitch of stays 13 3/8" x 8 1/4" Working pressure of plate by rules 187"  
 Diameter of tubes 2 3/4" Pitch of tubes 4" x 3 7/8" Material of tube plate Steel Thickness: Front 3/32" Back 3/4" Mean pitch of stays 9 7/8"  
 Pitch 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  
 Fitted 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

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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:

No  
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 & Repair Co., Ltd.,

G. W. W. B.  
Manager, Engine Dept.

Manufacturer.

1917  
Dates of Survey while building  
During progress of work in shops -- Sept 18, Oct 11, 25, Dec 13, 1915  
During erection on board vessel -- 17, 19, 24, 25, 29, May 3, 5, 10, 14, 17, 22, 23, June 6, 7, 10, 14, 15, 20, July 4, 8, 16, 18, 24, 26, 30, Aug 1, 2, 26, 27, 29, 30, Sept 6, 13, 14, 20, 26, 27, Oct 3, 10, 11, 16, 18, 22, 25, 30, Nov 6, 14, 19, 22, 29, Dec 5, 6, 11, 12, 17, 23, Jan 8, 13, 20, 22, Feb 13, 18, March 5, 14  
Total No. of visits 105.

Is the approved plan of main boiler forwarded herewith

No

" " donkey " " "

None

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 14/10, 14/11/18  
Stern tube 24/7, 26/8/18 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 successfully 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. LMC 5.19 in the register book and for burning oil fuel above 150°F.

19 forming reports castings & pipe certificates, also invoices for steel & materials now forwarded.

It is submitted that this vessel is eligible for THE RECORD. + LMC 5.19.

Fitted for oil fuel 5.19 FP above 150°F.

The amount of Entry Fee ... £ : :  
Special ... £ 116 : 3 :  
Donkey Boiler Fee ... £ ✓ : :  
Travelling Expenses (if any) £ ✓ : :  
When applied for, 3 JUN 1919  
When received, 26 Jul 1919

Committee's Minute

Assigned to a special classing Committee

George Murdoch  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

FRI. 27 JUN. 1919

FRI. 27 JUN. 1919

+ LMC 5.19  
Fitted for oil fuel 5.19  
F.P. above 150°F.

WATKINS & CO. LTD.

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