

## REPORT ON MACHINERY

No. 8088  
MON. 24 MAR. 1919

Date of writing Report 17<sup>th</sup> March 1919 When handed in at Local Office 19 Port of Belfast  
No. in Survey held at Belfast Date, First Survey 29<sup>th</sup> Nov. 1917 Last Survey 13<sup>th</sup> March 1919  
Reg. Book. on the T. S. S. ~~Mar Priam~~ <sup>BARDIC</sup> (Number of Visits 68)  
Master C. H. Greame Built at Belfast By whom built Harland & Wolff L<sup>td</sup> Tons Gross 8010  
Engines made at Belfast By whom made when made  
Boilers made at By whom made when made  
Registered Horse Power Owners The Shipping Controller Port belonging to London  
Nom. Horse Power as per Section 28 1138 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Screw Triple Expansion of Cylinders 6 No. of Cranks 6  
Dia. of Cylinders 26 $\frac{1}{2}$ " - 44" - 73" Length of Stroke 48" Revs. per minute 82 Dia. of Screw shaft as per rule 14.8" Material of I. Steel  
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 63"  
Dia. of Tunnel shaft as per rule 13.7" Dia. of Crank shaft journals as per rule 14.37" Dia. of Crank pin 14 $\frac{3}{4}$ " Size of Crank webs 23" x 9" Dia. of thrust shaft under  
collars 15" Dia. of screw 17 $\frac{1}{2}$ " Pitch of Screw 18" - 0" No. of Blades 4 State whether moveable Yes Total surface 90 sq ft  
No. of Feed pumps 2 Diameter of ditto 4 $\frac{1}{2}$ " Stroke 24" Can one be overhauled while the other is at work Yes  
No. of Bilge pumps 2 Diameter of ditto 4 $\frac{1}{2}$ " Stroke 24" Can one be overhauled while the other is at work Yes  
No. of Donkey Engines See sizes on other sheet No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 6 - 3 $\frac{1}{2}$ " In Holds, &c. 12 - 3 $\frac{1}{2}$ " 1 - 2 $\frac{1}{2}$ "

No. of Bilge Injections 2 sizes 13" Connected to condenser, or to circulating pump Pumps a separate Donkey Suction fitted in Engine room & size 3 $\frac{1}{2}$ "  
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 - Except Manoeuvring Tank suction 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 Below  
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 Fore hold Suctions How are they protected Wood  
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  
Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No. W.T. trunk worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel D. Colville & Sons L<sup>td</sup>  
Total Heating Surface of Boilers 17079 sq ft Forced Draft fitted Yes No. and Description of Boilers 3 - D. End. Cyl. Lin.  
Working Pressure 200 lbs Tested by hydraulic pressure to 400 lbs Date of test 19-11-18 No. of Certificate 535  
Can each boiler be worked separately Yes Area of fire grate in each boiler 146 $\frac{1}{2}$  sq ft. No. and Description of Safety Valves to  
each boiler 3 - Direct Spring Area of each valve 14.9 sq Pressure to which they are adjusted 205 lbs Are they fitted with easing gear Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 14" Mean dia. of boilers 16" - 3" Length 20' - 6" Material of shell plates Steel  
Thickness 1 $\frac{1}{2}$ " Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seam Lap Rivet.  
long. seam Butt Rivet Diameter of rivet holes in long. seams 1 $\frac{1}{2}$ " Pitch of rivets 10 $\frac{1}{2}$ " Top of plates or width of butt straps 22 $\frac{1}{2}$ "  
Per centages of strength of longitudinal joint rivets 85.2 plate 85.7 Working pressure of shell by rules 207 lbs Size of manhole in shell 16" x 12"  
Size of compensating ring M. Neil No. and Description of Furnaces in each boiler 8 - Brighton Material Steel Outside diameter 44 $\frac{1}{2}$ "  
Length of plain part top 4" bottom 8" Thickness of plates crown 1 $\frac{1}{2}$ " bottom 1 $\frac{1}{2}$ " Description of longitudinal joint Weld No. of strengthening rings  
Working pressure of furnace by the rules 213 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 $\frac{1}{2}$ " Back 1 $\frac{1}{2}$ " Top 1 $\frac{1}{2}$ " Bottom 1 $\frac{1}{2}$ "  
Pitch of stays to ditto: Sides 9" x 8 $\frac{1}{2}$ " Back 9" x 8 $\frac{1}{2}$ " Top 7" x 6 $\frac{1}{2}$ " Are stays fitted with nuts or riveted heads Nuts Working pressure by rules 211 lbs  
Material of stay Steel Area at smallest part 2'0" x 2'4" supported by each stay 77 $\frac{1}{2}$  sq Working pressure by rules 241 lbs End plates in steam space  
Material Steel Thickness 1 $\frac{1}{2}$ " Pitch of stays 2'1" x 16" How are stays secured Nuts & Washers Working pressure by rules 201 lbs Material of stays Steel  
Area at smallest part 7'06" sq Area supported by each stay 336 sq Working pressure by rules 218 lbs Material of Front plates at bottom Steel  
Thickness 1" Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules  
Diameter of tubes 2 $\frac{1}{2}$ " Pitch of tubes 3 $\frac{3}{4}$ " x 3 $\frac{5}{8}$ " Material of tube plate Steel Thickness: Front 1 $\frac{1}{4}$ " Back 1" Mean pitch of stays 11 $\frac{1}{2}$ " x 7 $\frac{1}{4}$ "  
Pitch across wide water spaces 13 $\frac{1}{2}$ " Working pressures by rules 207 lbs Girders to Chamber tops: Material Steel Depth and  
thickness of girder at centre 8" x (7" x 2") Length as per rule 52 $\frac{1}{2}$ " Distance apart 8 $\frac{1}{2}$ " x 7" Number and pitch of stays in each 6 - 8 $\frac{1}{2}$ " x 6 $\frac{3}{4}$ "  
Working pressure by rules 235 lbs Steam dome: description of joint to shell % of strength of joint  
Diameter Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes  
Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed  
SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to  
Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler  
Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

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IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:— *See other sheet*

The foregoing is a correct description,  
For HARLAND & WOLFF Ltd.

*F. E. Obbeck*

Manufacturer.

Dates of Survey  
During progress of work in shops -- *1917-18-29 to 13<sup>th</sup> March 1919*  
While board vessel ---  
building  
Total No. of visits *68*

Is the approved plan of main boiler forwarded herewith *No* *Boiler*

Dates of Examination of principal parts—Cylinders *5-2 Slides 18* Covers *8* Pistons *8* Rods  
Connecting rods *25-18* Crank shaft *6-18* Thrust shaft *18* Tunnel shafts *8* Screw shaft *29-11-18* Propeller *9-12-18*  
Stern tube *29-11-18* Steam pipes tested *9-12-18* Engine and boiler seatings *24-2-19* Engines holding down bolts *22-1-19*  
Completion of pumping arrangements *28-2-19* Boilers fixed *24-2-19* Engines tried under steam *27-2-19*  
Completion of fitting sea connections *23-11-18* Stern tube *8-12-18* Screw shaft and propeller *13-12-18*  
Main boiler safety valves adjusted *27-2-19* Thickness of adjusting washers *9-12-18*  
Material of Crank shaft *Steel* Identification Mark on Do. *29-11-18* Material of Thrust shaft *do* Identification Mark on Do. *do*  
Material of Tunnel shafts *do* Identification Marks on Do. *do* Material of Screw shafts *do* Identification Marks on Do. *do*  
Material of Steam Pipes *H. Iron* Test pressure *600 lbs sq. in.*

Is an installation fitted for burning oil fuel *No* Is the flash point of the oil to be used over 150°F. *✓*

Have the requirements of Section 49 of the Rules been complied with? *✓*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *T.S.S. "War Scarus" (2 class)*

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

The machinery of this vessel has been constructed under Special Survey, and in accordance with the Rules; also in the earlier stages of construction, to the instructions of the Shipping Controller.

The workmanship and the materials are of good description throughout, and on trial under steam the machinery worked satisfactorily in Belfast Lough.

In my opinion, it is eligible for record + L.M.C. 3-19, with notation "Forced Draft" + "Electric Light"

It is submitted that  
this vessel is eligible for  
THE RECORD + L.M.C. 3.19. F.D.

*ARK*

*HRD*  
*25/3/19*

*R. F. Bennett*

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ : :  
Special *to as speed* ... £178 : 0 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, *17-3-1919*  
When received, *30/4/19*

Committee's Minute *TUE. 25 MAR. 1919*

Assigned

*+ R. No. 3.19 J.D.*

Rpt. 9a.

Port of *Belfast*

Continuation of Report No. 8088 dated 17<sup>th</sup> March 1919 on the

*T.S.S. "Pardis" (ex "War Puan")*  
1 Ballast Pump *10 1/2" x 14" x 24"*  
1 Fresh Water - *3" x 3" x 4"*  
1 Lux & Feed - *9 1/2" x 7" x 18"*  
2 Main - *15 1/2" x 11 1/2" x 24"*  
1 General - *9 1/2" x 7" x 18"*  
1 Main Circulating Cut *13" Pipe*  
1 Lux - *6"*

*Spare Gear (Principal items)*  
4 Connecting Rod top & bottom end bolts & nuts *✓*  
4 Main bearing bolts & nuts *✓*  
6 Coupling bolts & nuts *✓*  
Set Feed & Ballast pump valves *✓*  
3 Main & 3 Auxiliary Feed Check valves *✓*  
2 C.I. propeller blades *✓*  
9 Stub nuts for do *✓*  
1 Air pump rod & nut *✓*  
1 - - - Guard *✓*  
1 Slide Valve Spindle *✓*  
250 Fine bars  
20 Main Condenser tubes & 80 females  
1 Pair Connecting rod bottom end bushes  
Set Metallic packing H.P. piston rod  
30 Boiler tubes  
Set spare gear for Main & Lux feed pumps  
- - - Ballast & Main Cwe?  
- - - Fan Engine  
- - - Wrenches, Bolts, Nuts etc.



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