

## REPORT ON MACHINERY

No. 9843

MON. SEP. 3 1917

Date of writing Report 24<sup>th</sup> Sept 1917 when handed in at Local Office Belfast 19 Port of Belfast

No. in Survey held at Belfast Date, First Survey 27<sup>th</sup> Jan 1917 Last Survey 20<sup>th</sup> Sept 1917

Reg. Book. S.S. "War Shamrock" (Number of Vistas 54) Gross 5174 Tons Net 3785

Master Belfast Built at Belfast By whom built Harland & Wolff L<sup>r</sup> When built 1911

Engines made at Belfast By whom made Harland & Wolff L<sup>r</sup> when made 1911

Boilers made at Belfast By whom made Harland & Wolff L<sup>r</sup> when made 1911

Registered Horse Power 490 Owners For the Shipping Controller, Thomas Dixon & Sons L<sup>r</sup> Port belonging to Belfast

Nom. Horse Power as per Section 28 490 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 27"-44"-73" Length of Stroke 48" Revs. per minute 78 Dia. of Screw shaft 14" Material of S. 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 Yes 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 Yes If two

liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 60 1/2"

Dia. of Tunnel shaft 13 1/2" Dia. of Crank shaft journals 13 1/2" Dia. of Crank pin 14 1/2" Size of Crank web 28" x 9" Dia. of thrust shaft under

collars 14 1/2" Dia. of screw 17"-6" Pitch of Screw 16"-6" No. of Blades 4 State whether moveable No Total surface 102 1/2 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 See Supplement Sheet No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4-3 1/2" In Holds, &c. 9-3 1/2" + 7-3"

No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump Pumps a separate Donkey Suction fitted in Engine room & size 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 in 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 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 Fore hold suction How are they protected Wood casing

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 4-6-17 of Stern Tube 6-6-17 Screw shaft and Propeller 26-6-17

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No worked from W. J. Lumsden from Deck

**BOILERS, &c.**—(Letter for record See Supplement Sheet) Manufacturers of Steel Woolville & Sons L<sup>r</sup>

Total Heating Surface of Boilers 7020 sq ft forced Draft fitted Yes No. and Description of Boilers 3 Single End, Cylindrical

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 28-6-17 No. of Certificate 502-505

Can each boiler be worked separately Yes Area of fire grate in each boiler 63 1/2 sq ft No. and Description of Safety Valves to

each boiler Two - Direct Springs of each valve 9" 6 1/2" Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8 ft Mean dia. of boiler 15"-6" Length 11'-6" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Loose Bunkers

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

Per centages of strength of longitudinal joint 85-6 Working pressure of shell by rules 182 lbs Size of manhole in shell 16" x 12"

Size of compensating ring Plate Flange and Description of Furnaces in each boiler 3 - Brighton Material Steel Outside diameter 50 1/2"

Length of plain part 8" Thickness of plates 3 1/2" Description of longitudinal joint Weld No. of strengthening rings 23

Working pressure of furnace by the rules 188 lbs Combustion chamber plates: Material Steel Thickness: Sides 3 1/2" Back 4" Top 3 1/2" Bottom 3 1/2"

Pitch of stays to ditto: Sides 10 1/2" x 9 1/2" Back 10" x 9" Top 10 1/2" x 9 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180 lbs

Material of stays Steel Diameter at smallest part 2 1/2" Are stays supported by each stay Yes Working pressure by rules 180 lbs End plates in steam space

Material Steel Thickness 1 1/2" Pitch of stays 21 1/2" x 21 1/2" Are stays secured By Nuts Working pressure by rules 180 lbs Material of stays Steel

Diameter at smallest part 2 1/2" Are stays supported by each stay Yes Working pressure by rules 180 lbs Material of Front plates at bottom Steel

Thickness 3 1/2" Material of Lower back plate Steel Thickness 3 1/2" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 189 lbs

Diameter of tubes 3" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plate Steel Thickness: Front 3 1/2" Back 4" Mean pitch of stay 22 1/2" x 8 1/2"

Pitch across wide water spaces 3 1/2" Working pressures by rules 181 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 11" (1 1/2" x 2) Length as per rule 38 1/2" Distances apart 10 1/2" x 10" Number and pitch of stays in each 3-9 1/2"

Working pressure by rules 182 lbs Superheater or Steam chest: how connected to boiler Yes Can the superheater be shut off and the boiler worked

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

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

If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes

Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes



IS A DONKEY BOILER FITTED? *No* If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied: - *See Separate sheet*

The foregoing is a correct description,  
in *land staff, etc.*

*Robt. Murray*

Manufacturer.

Dates  
of Survey  
while  
building

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

*1917 January 27, 29, 30 Feb. 1, 2, 7, 24, 28 up till 20<sup>th</sup> Aug 1917*

Is the approved plan of main boiler forwarded herewith? *Yes*

Dates of Examination of principal parts—Cylinders

*27 Slides 1 - 17 Covers*

*donkey*

*Rods*

Connecting rods *1-6-17* Crank shaft *30 Thrust shaft 17 Tunnel shafts* *26-6-17* Propeller *6-6-17*

Stern tube *6-6-17* Steam pipes tested *8-6-17* Engine and boiler seatings *29-6-17* Engines holding down bolts *29-6-17*

Completion of pumping arrangements *16-8-17* Boilers fixed *29-6-17* Engines tried under steam *13-8-17*

Main boiler safety valves adjusted *13-8-17* Thickness of adjusting washers *8-11*

Material of Crank shaft *Steel* Identification Mark on Do. *LLOYD* 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 *Lap welded W. Iron* Test pressure *540 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? *✓* If so, state name of vessel *✓*

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

*The machinery of the vessel has been constructed under Special Survey, and in accordance with the Rules. The workmanship, and the materials are of good description, and on trial under steam in Belfast Lough, with the vessel in light trim, the machinery worked satisfactorily. In my opinion, it is eligible for record + L.M.C. 8-17 with notation "Forced Draft and Electric Light".*

*The work has been carried out in accordance with the Specification and instructions, issued by the Shipping Controller, except in regard to the loaded trials referred to in the Secretary's Letter M. 24<sup>th</sup> July 1917. These trials are slated to have been run on the Clyde. No arrangements have been made to the Pumps for pumping oil from the Bottom or other tanks.*

*It is submitted that this vessel is eligible for THE RECORD + L.M.C. 8-17. F.D.*

The amount of Entry Fee ... £

Special *Inclusion* £ 100 -

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for,

*27-6-1917*

When received,

*29/9/17*

*R. J. J. Gerson*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *TUESDAY 10/10/17*

Assigned *+ L.M.C. 8-17*

Rpt. 9a.

Port of

*Belfast*

Continuation of Report No. *7847* dated *24<sup>th</sup> Aug 1917* on the

*P.S. War Shamrock*

*List of Pumps*

*1 Ballast 10 1/2" x 14" x 24"*  
*1 General 9 1/2" x 4" x 18"*  
*1 Feed 9 1/2" x 4" x 18"*

*List of Spare Gear*

*1 Propeller Cast Iron*  
*1 H. P. piston valve*  
*2 Top end bolts & nuts*  
*2 Bottom - - -*  
*2 Main bearing - -*  
*3 Crank Shaft Coupling bolts & nuts*  
*3 Tunnel - - -*  
*1 Feed pump suction valve*  
*1 - - - discharge -*  
*1 Pipe - Suction -*  
*1 - - discharge -*  
*3 Main Feed Check valves*  
*3 Donkey - - -*  
*24 Bolts & nuts assorted*  
*6 Cylinder Cover Studs & nuts*  
*6 Steam Chest - - -*  
*12 Junk ring - - -*  
*5 Bars round iron*  
*3 - Flat - - -*  
*Spare firebars for 5 furnaces*

*R. J. J. Gerson*

RETAIN

© 2019

Lloyd's Register  
Foundation