

REPORT ON MACHINERY.

No. 7999

Received at London Office **JUL 13 AUG 1918**

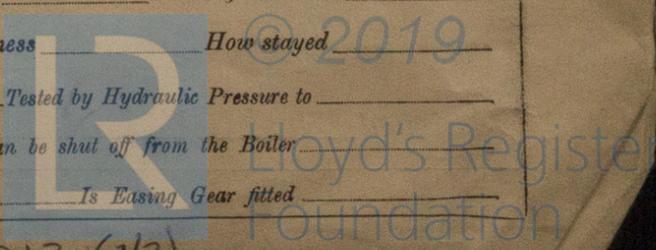
Date of writing Report 8th Aug 1918 When handed in at Local Office Belfast Port of Belfast
 No. in Survey held at Belfast Date, First Survey March 1917 Last Survey 5th Aug 1918
 Reg. Book. S.S. British Lantern Number of Visits 10.6
 Master Belfast Built at Belfast By whom built Workman Clark & Coy L When built 1918
 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 28 634 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Single Screw Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27-45-75 Length of Stroke 54 Revs. per minute 70 Dia. of Screw shaft 16.25 Material of screw shaft 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
 Is 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 5'-5"
 Dia. of Tunnel shaft 15 1/2 Dia. of Crank shaft journals 14.92 Dia. of Crank pin 15 1/2 Size of Crank webs 28 x 10 Dia. of thrust shaft under
 rollers 15 1/2 Dia. of screw 18'-9" Pitch of Screw 17'-6" No. of Blades 4 State whether moveable Yes Total surface 100 sq ft
 No. of Feed pumps 2 Diameter of ditto 4 1/2 Stroke 27 Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 27 Can one be overhauled while the other is at work Yes
 No. of Donkey Engines See other pumps No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 6-3 1/2 In Holds, &c. Yes

No. of Bilge Injections 1 sizes 10 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 1-3 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 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 Steam heating How are they protected Yes
 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 None Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record See) Manufacturers of Steel Steel Coy of Scotland
 Total Heating Surface of Boilers 9666 sq ft Is forced Draft fitted Yes No. and Description of Boilers 3, Single End Cylindrical
 Working Pressure 190 lb Tested by hydraulic pressure to 380 lb Date of test 14-2-18 No. of Certificate 517
 Can each boiler be worked separately Yes Area of fire grate in each boiler 78 1/2 sq ft No. and Description of Safety Valves to
 boiler 2 Direct Spring Area of each valve 12.56 sq in Pressure to which they are adjusted 195 lb Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork About 30 Mean dia. of boilers 16'-6" Length 2'-0" Material of shell plates Steel
 Thickness 1 3/8 Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seam Lap P & S
 seams Auto Tuck Diameter of rivet holes in long. seams 1 3/32 Pitch of rivets 9 1/2 Gap of plates or width of butt straps 20 3/4
 Percentages of strength of longitudinal joint
 rivets 86.0 Working pressure of shell by rules 190 lb Size of manhole in shell 16" x 12"
 plate 85.5
 No. of compensating rings None No. and Description of Furnaces in each boiler 4-Deighton Material Steel Outside diameter 45 1/2
 Length of plain part top 7' bottom 7' Thickness of plates crown 3/32 bottom 3/64 Description of longitudinal joint Weld No. of strengthening rings Yes
 Working pressure of furnace by the rules 201 lb Combustion chamber plates: Material Steel Thickness: Sides 2 1/2 Back 2 1/2 Top 2 1/2 Bottom 1 3/8
 No. of stays to ditto: Sides 8 1/2 x 8 1/2 Back Various Top 7 1/2 x 8 1/2 If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 196 lb
 Material of stays Steel Area at smallest part 76 to 2' 3 1/2 supported by each stay Various Working pressure by rules 198 lb End plates in steam space:
 Material Steel Thickness 1 3/16 Pitch of stays 20 x 15 1/2 How are stays secured Nuts & Washers Working pressure by rules 198 lb Material of stays Steel
 Area at smallest part 6.09 sq ft Area supported by each stay 322.8 sq ft Working pressure by rules 96 lb Material of Front plates at bottom Steel
 Thickness 1 Material of Lower back plate Steel Thickness 7/8 Greatest pitch of stays 13 1/2 x 8 Working pressure of plate by rules 213 lb
 Diameter of tubes 2 1/2 Pitch of tubes 3 1/2 x 3 5/8 Material of tube plate Steel Thickness: Front 3/4 Back 1/2 Mean pitch of stays 11 1/2 x 7 1/2
 Working pressures across wide water spaces 190 lb Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 9 1/2 x (3/4 x 2) Length as per rule 33 1/2 Distance apart 8 1/2 Number and pitch of stays in each 3-7 3/4
 Working pressure by rules 195 lb Steam dome: description of joint to shell Yes % of strength of joint -

Superheater: Thickness of shell plates - Material - Description of longitudinal joint - Diam. of rivet holes -
 No. of rivets - Working pressure of shell by rules - Crown plates - Thickness - How stayed -
 Type - Date of Approval of Plan - Tested by Hydraulic Pressure to -
 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler -
 Pressure to which each is adjusted - Is Easing Gear fitted -



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,

FOR WORKMAN, CLARK & CO., LIMITED.

M. H. Bell

Manufacturer.

Dates of Survey while building: During progress of work in shops - *1917, March 8, 26 up to 5th Aug 1918*
During erection on board vessel -
Total No. of visits *106*

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

Dates of Examination of principal parts - Cylinders *31-5-18* Slides *17* Covers *17* Pistons *17* Rods *17*
Connecting rods *24-5-18* Crank shaft *17* Thrust shaft *17* Tunnel shafts *17* Screw shaft *20-5-18* Propeller *20-5-18*
Stern tube *20-5-18* Steam pipes tested *29-5-18* Engine and boiler seatings *21-6-18* Engines holding down bolts *21-6-18*
Completion of pumping arrangements *5-8-18* Boilers fixed *24-6-18* Engines tried under steam *31-7-18*
Completion of fitting sea connections *20-5-18* Stern tube *29-5-18* Screw shaft and propeller *29-5-18*
Main boiler safety valves adjusted *31-7-18* Thickness of adjusting washers *7-9-18*
Material of Crank shaft *Steel* Identification Mark on Do. *LLOYDS 7-3-18* Material of Thrust shaft *Do* Identification Mark on Do. *LLOYDS 7-4-18*
Material of Tunnel shafts *Steel* Identification Marks on Do. *7-1-18* Material of Screw shafts *Steel* Identification Marks on Do. *LLOYDS 7-3-18*
Material of Steam Pipes *Iron & Steel* Test pressure *600 lbs*
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 has been constructed under Special Survey, and in accordance with the Rules, and the instructions from the Admiralty and Controller of Auxiliary Shipbuilding, as forwarded in the Secretary's Letters and Specifications. The workmanship and the materials are of good description, and on trial in Belfast Lough, the machinery worked satisfactorily. In my opinion, it is eligible for records + L.M.C. 8-18, with notation "Fore & Aft" + "Electric Light" Machinery aft.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8.18 F.D. FITTED FOR OIL FUEL 8.18 F.P. ABOVE 150°F

J. L. Beveridge
1918

The amount of Entry Fee: Special Fee as per Circular Letter 2487 1918 When applied for, from London Office
Donkey Boiler Fee £164:2:0 When received, 25/10/18
Travelling Expenses (if any) £: :
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 20. AUG. 1918

Assigned

+ L.M.C. 8.18

F.D. Fitted for oil fuel 8.18.

MACHINERY CERTIFICATE WRITTEN

FRI. 21. FEB. 1919

Rpt. 9a.

Port of *Belfast* Continuation of Report No. *7999* dated *5th Aug 1918* on the

B. British Lantern

- 1 Ballast Pump *6" x 8" x 8"*
- 1 Feed *8" x 5 1/2" x 8"*
- 2 Mewis Feed *12" x 9" x 21"*
- 1 Cent. Circulating *16" pipe*
- 1 General *8" x 5 1/2" x 8"*

Spare Gear - Principal Items

- 1 Propeller shaft
- 1 Pawl Crank pin bushes
- 1 Eccentric Sheave & Strap
- 1 Slide valve spindle
- 1 Set of rings & springs for each piston + H.P. piston valve
- 1 Air pump rod + set valves
- 12 Main Condenser tubes + 100 ferrules
- 1 set Copeland's packing for each size rod fitted
- 1 - packing rings for Mewis Pump buckets
- 20 Stay tubes + 1 stay tube for boiler
- 2 Cast Steel Propeller blades
- 2 Top end x 2 bottom end bolts + nuts
- 2 Main bearing bolts + nuts
- 1 set coupling
- 1 set Feed + Bilge pump valves
- 1 Impeller for Circulating Pump
- 1 - shaft
- 2 Safety valve springs
- 2 Waste
- 12 Aux. Condenser tubes + 50 ferrules.
- 1 set Main Feed Check valves
- Aux.
- 1 Fan Engine + Circulating Pump gear
- 1 Regulating Engine gear
- 1 Liquid Fuel burning spare gear
- 1 Bolts, nuts, plates etc. all to Lloyd's Rules

R. J. Beveridge