

Date of writing Report *15th Oct 1918* When handed in at Local Office *10th Oct 1918* Port of *Belfast*
No. in Survey held at *Belfast* Date, First Survey *8th March 1917* Last Survey *1st Oct 1918*
Reg. Book. *on the S.S. British Beacon* (Number of Visits *110*)
Master *O. H. Harwood* Built at *Belfast* By whom built *Warkman Clark & Co Ltd* 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 Engine *Single Screw Triple Expansion* of Cylinders *3* No. of Cranks *3*
Dia. of Cylinders *27"-45"-75"* Length of Stroke *54* Revs. per minute *85* Dia. of Screw shaft *15 1/2"* 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 *✓* 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'-5"*
Dia. of Tunnel shaft *as per rule 14 9/16"* Dia. of Crank shaft journals *as per rule 15 1/2"* Dia. of Crank pin *15 1/2"* Size of Crank webs *28 1/2"* Dia. of thrust shaft under
collars *15 1/4"* 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 Size of them sheet* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *6-3 1/2"* In Holds, &c. *✓*

No. of Bilge Injections *1* sizes *10"* Connected to condenser, or to circulating pump *Pump* 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 *✓*
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 *✓* How are they protected *✓*
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 *✓* Is it fitted with a watertight door *✓* worked from *✓*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Steel Co of Scotland*
Total Heating Surface of Boilers *9666 sq ft* Forced Draft fitted *Yes* No. and Description of Boilers *3 S. End, Cylind.*
Working Pressure *190 lbs* Tested by hydraulic pressure to *380 lbs* Date of test *1-3-18* No. of Certificate *518*
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
each boiler *2-12 inch Spring* Area of each valve *2.56 sq ft* Pressure to which they are adjusted *195 lbs* Are they fitted with easing gear *Yes*
Smallest distance between boilers or uptakes and bunkers or woodwork *Board 30"* Mean dia. of boilers *6'-6"* Length *2'-0"* Material of shell plates *Steel*
Thickness *3/8"* Range of tensile strength *28-32 tons* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seam *Lap, S. S.*
long. seam *Butt Lap* Diameter of rivet holes in long. seams *1 1/32"* Pitch of rivets *9 3/4"* Top of plates or width of butt straps *20 1/2"*
Per centages of strength of longitudinal joint *86.0* Working pressure of shell by rules *190 lbs* Size of manhole in shell *16" x 12"*
Size of compensating ring *No. Keils* No. and Description of Furnaces in each boiler *4-12 inch* Material *Steel* Outside diameter *45 1/4"*
Length of plain part *top 2'-9"* Thickness of plates *bottom 3 1/4"* Description of longitudinal joint *Weld* No. of strengthening rings *✓*
Working pressure of furnace by the rules *201 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *3 1/2"* Back *2 1/2"* Top *2 1/2"* Bottom *1 3/8"*
Pitch of stays to ditto: Sides *8 1/2" x 8 1/2"* Back *8 1/2" x 8 1/2"* Top *7 1/2" x 8 1/2"* If stays are fitted with nuts or riveted heads *Yes* Working pressure by rules *196 lbs*
Material of stays *Steel* Area at smallest part *76 1/2 sq in* supported by *each stay* Working pressure by rules *198 lbs* End plates in steam space:
Material *Steel* Thickness *1 3/8"* Pitch of stays *20 1/2" x 15 1/2"* How are stays secured *Butt Lap* Working pressure by rules *198 lbs* Material of stays *Steel*
Area at smallest part *6092 sq in* Area supported by *each stay* Working pressure by rules *196 lbs* 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"* Working pressure of plate by rules *213 lbs*
Diameter of tubes *2 1/2"* Pitch of tubes *5 1/2" x 3 5/8"* Material of tube plate *Steel* Thickness: Front *1 1/4"* Back *1 3/8"* Mean pitch of stays *11 1/4" x 7 1/4"*
Pitch across wide water spaces *13 1/2"* Working pressures by rules *190 lbs* Girders to Chamber tops: Material *Steel* Depth and
thickness of girder at centre *9 1/2" x (1 1/2" x 2)* Length as per rule *38 1/2"* Distance apart *8 1/2"* Number and pitch of stays in each *3-7 3/4"*
Working pressure by rules *195 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 *-*

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— See other 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 8th to 11th Oct 1918
During erection on board vessel --
Total No. of visits 110

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 3 Slides 5-17 Covers Pistons 8 Rods
Connecting rod 24-5-18 Crank shaft 17 Thrust shaft 7 Tunnel shafts 8 Screw shaft 30-7-18 Propeller 30-7-18
Stern tube 30-7-18 Steam pipes tested 9-8-18 Engine and boiler seatings 17-9-18 Engines holding down bolts 24-9-18
Completion of pumping arrangements 4-10-18 Boilers fixed 24-9-18 Engines tried under steam 4-10-18
Completion of fitting sea connections 24-7-18 Stern tube 19-8-18 Screw shaft and propeller 30-8-18
Main boiler safety valves adjusted 4-10-18 Thickness of adjusting washers 9-14 32
Material of Crank shaft 1 Steel Identification Mark on Do. Lloyd's 7-5-18 Material of Thrust shaft do Identification Mark on Do. Lloyd's 31-7-18
Material of Tunnel shafts 1 Steel Identification Marks on Do. ✓ Material of Screw shafts do Identification Marks on Do. do
Material of Steam Pipes W. Iron Test pressure 570 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 Yes If so, state name of vessel S.S. British Lantern

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 for the Admiralty, and Controller of Auxiliary Shipbuilding, as far as in the Secretary's Letter, and Specification.

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 record + L.M.C. 10-18 with notation "Good Work" "Electric Light" "Machinery 1st"

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 10-18 F.D.
FITTED FOR OIL FUEL 10, 18 F.P. ABOVE 150°F

The amount of Entrance Fee as per Circular Letter

Special 12 307 164 2

Donkey Boiler Fee ... £

Travelling Expenses (if any) £

When applied for, 28/10/1918

When received, 103 19 12/11/18

103 19 12/11/18

TUE 22 OCT 1918

+ L.M.C. 10-18 F.D.

Fitted for oil fuel 10, 18

above 150°F

R. F. Beveridge

Engineer Surveyor to Lloyd's Register of Shipping.

Rpt. 9a.

Port of Belfast

Continuation of Report No. 8021 dated 15th Oct 1918 on the

S.S. British Beacon

1 Ballast Pump 6" x 8" x 8"
1 Feed 8" x 5 1/2" x 8"
2 New Feed 12" x 9" x 21"
1 Centrif. Circulating 16" pipe
1 General 8" x 5 1/2" x 8"

Spare Gear - Principal Items

1 Propeller Shaft
1 Pair Crank Pin bushes
1 Eccentric Sheave & strap
1 Slide valve spindle
1 Set rings & pumps for each piston & H.P. piston valve
1 Air pump rod & set valves
12 Main Condenser tubes & 100 ferrules
1 Set Copeland Packing each size rod fitted
1 - packing rings Main Pump buckets
2 plain rods 1 stay tube for buckets
2 Cast Steel propeller blades
2 Top end & 2 bottom end bolts & nuts
2 Main bearings
1 Set coupling
1 Set Feed & Bilge pump valves
1 Impeller for Circulating Pump
1 - shaft
2 Safety valve springs
2 Escape
12 Aux. Condenser tubes & 50 ferrules
1 Set main Feed Check valves
1 - aux.
1 Fan & Circulating Pumps gear
1 Refrigerating Engine gear
oil fuel burning Spare gear
Bolts, nuts, rivets etc & all gear to Lloyd's Rules.

R. F. Beveridge



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