

Rpt. 4.

REPORT ON MACHINERY.

No. 8010.

Received at London Office

Date of writing Report 21st Sep 1918 When handed in at Local Office 19 Port of Belfast

in Survey held at Belfast Date, First Survey 26th Apr 1917 Last Survey 16th Sep 1918

g. Book. on the S.S. "War Beetle" (Number of Visits 59)

Master O.H. Bulmer Built at Belfast By whom built Workman Clark & Coys Ltd Tons Gross 5176 Net 3151 When built 1918

Engines made at Belfast By whom made when made

Boilers made at By whom made when made

Registered Horse Power 518 517 Owners The Shipping Controller Port belonging to London

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

GINES, &c.—Description of Engines Single Screw Triple Expansion No. 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 as per rule 14.5 as fitted 15.5 Material of screw shaft I. Steel

the screw shaft fitted with a continuous liner the whole length of the stern tube Is the after end of the liner made water tight

the propeller boss If the liner is in more than one length are the joints burned If the liner does not fit tightly at the part

tween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two

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

Dia. of Tunnel shaft as per rule 13.325 as fitted 13.5 Dia. of Crank shaft journals as per rule 17.9 1/4 as fitted 14.5 Dia. of Crank pin 14 1/2 Size of Crank webs 28 x 9 Dia. of thrust shaft under

llars 14 3/4 Dia. of screw 17 1/2 Pitch of Screw 16 1/2 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 other sheet No. and size of Suctions connected to both Bilge and Donkey pumps

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

No. of Bilge Injections 1 sizes 12 Connected to condenser, or to circulating pump Pump 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 - Except Main & Tank Injections Both Are they Valves or Cocks

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 Casings

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. worked from

OILERS, &c.—(Letter for record S) Manufacturers of Steel W. Beardmore & Coys Ltd

Total Heating Surface of Boilers 76682 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 9-4-18 No. of Certificate 523

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 2 - Direct Spring Area of each valve 9.62 sq 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 Hand 2 ft 1/2 dia. of boilers 15 1/2 Length 11 1/2 Material of shell plates Steel

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

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

Per centages of strength of longitudinal joint rivets 88.3 plate 85.6 Working pressure of shell by rules 182 lbs Size of manhole in shell 16 x 12

Size of compensating ring Plate Flanged No. and Description of Furnaces in each boiler 3 - Brighton Material Steel Outside diameter 50 3/8

Length of plain part top 5 bottom 8 Thickness of plates crown 3 1/2 bottom 3 1/2 Description of longitudinal joint Weld No. of strengthening rings

Working pressure of furnace by the rules 188 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32 Back 4/8 Top 23/32 Bottom 23/32

Pitch of stays to ditto: Sides 0 5/8 x 9 1/4 Back 0 5/8 x 8 3/4 Top 0 5/8 x 9 1/4 If stays are fitted with nuts or riveted heads Nuts inside Working pressure by rules 180 lbs

Material of stays Steel Area at smallest part 2.39534 sq supported by each stay 98 1/2 Working pressure by rules 186 lbs End plates in steam space:

Material Steel Thickness 1 1/2 Pitch of stays 2 1/2 x 2 1/2 How are stays secured Nuts inside Working pressure by rules 180 lbs Material of stays Steel

Area at smallest part 8.2956 sq Area supported by each stay 45.9824 Working pressure by rules 187 lbs Material of Front plates at bottom Steel

Thickness 3/2 Material of Lower back plate Steel Thickness 3/2 Greatest pitch of stays 13 1/8 Working pressure of plate by rules 189 lbs

Diameter of tubes 2 1/4 Pitch of tubes 4 x 3 1/2 Material of tube plates Steel Thickness: Front 3/2 Back 3/4 Mean pitch of stays 12 x 7 3/4

Pitch across wide water spaces 13 1/8 Working pressures by rules 181 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 10 x (8 x 2) Length as per rule 35 7/8 Distance apart 0 5/8 Number and pitch of stays in each 3 - 9 1/2

Working pressure by rules 182 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

003328-003332-0128 1/2

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 WORKMAN, CLARK & CO., LIMITED,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1917, April 26 June 29 Aug 27 Oct 11, 19, 23, 26 Nov 25, 12, 27 to 16 Sep 19.
During erection on board vessel - - -
Total No. of visits 59.

Is the approved plan of main boiler forwarded herewith

No - See 85 War Leopard

Dates of Examination of principal parts—Cylinders 26 - Stiles - 17 Covers - Pistons - Rods
Connecting rods 7-5-18 Crank shaft 13 - Thrust shaft 17 Tunnel shaft 8 Screw shaft 7-2-18 Propeller 27-7-18
Stern tube 17-5-18 Steam pipes tested 20-6-18 Engines and boiler seatings 12-9-18 Engines holding down bolts 12-9-18
Completion of pumping arrangements 16-9-18 Boilers fixed 12-9-18 Engines tried under steam 16-9-18
Completion of fitting sea connections 10-8-18 Stern tube 10-8-18 Screw shaft and propeller 19-8-18
Main boiler safety valves adjusted 13-9-18 Thickness of adjusting washers 6-11-18
Material of Crank shaft J. Steel Identification Mark on Do. 7-2-17 Material of Thrust shaft Do Identification Mark on Do. 31-7-18
Material of Tunnel shafts Do Identification Marks on Do. 7-2-18 Material of Screw shafts Do Identification Marks on Do. 31-7-18
Material of Steam Pipes H. Iron Test pressure 540 lbs

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 For If so, state name of vessel

85 War Leopard

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 as per Specifications and instructions issued by the Shipping Controller.
The workmanship and the materials are of good description, and on trial under steam in Belfast Lough, the machinery worked satisfactorily. In our opinion, it is eligible for record + L.M.C. 9-18 with notation "Foreek Draft" and "Electric Light".

It is submitted that
this vessel is eligible for
THE RECORD. + L.M.C. 9.18 F.D.

The amount of Entry Fee : : When applied for, 18-9-18
Special Fee as above 115 0 8
Donkey Boiler Fee : : When received, 18-10-18
Travelling Expenses (if any) £ : : 5 10 18

Committee's Minute

Assigned

+ L.M.C. 9.18

F.D.

MACHINERY
WRITTEN

Rpt. 9a.

Port of

Belfast

Continuation of Report No. 8010 dated 21st September 1918 on the

S.S. War Beetle

1 Ballast Pump 10 1/2" x 14" x 24"
1 General - 9 1/2" x 7" x 18"
1 Feed - 9 1/2" x 7" x 18"

Spare Gear

1 C.I. Solid propeller
1 H.P. piston valve
2 Top end bolts + nuts
2 Bolt - - -
2 Main bearing - -
3 Crank shaft coupling - -
3 Tunnel - - -
1 Feed pump suction valve
1 - - discharge -
1 Bilge - - -
1 - - suction -
3 Main feed check -
3 Donkey - - -
50 Bolts + nuts assorted
6 Cylinder cover studs + nuts
6 Steam chest - -
12 Junk ring - -
Fuel bars, Iron, etc.

R. F. Beveridge

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Foundation