

REPORT ON MACHINERY.

No. 1553

Received at London Office

Date of writing Report Aug. 19 1918 When handed in at Local Office Aug. 19/18 Port of Montreal
No. in Survey held at Montreal Date, First Survey Oct. 15. 1917 Last Survey Aug. 15 1918
Reg. Book. on the S.S. "WAR EARL" (Number of Visits 73)

Master H. H. Bloomfield Built at Montreal By whom built Canadian Vickers Ltd Tons { Gross 4327
Engines made at Montreal By whom made Canadian Vickers Ltd when made 1918 Net 2580
Boilers made at Montreal By whom made Canadian Vickers Ltd when made 1918
Registered Horse Power 266 Owners Imperial Munitions Board Port belonging to Montreal
Nom. Horse Power as per Section 28 474 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 27-44-73 Length of Stroke 48 Revs. per minute 75 Dia. of Screw shaft 14.67 Material of S
Is the screw shaft fitted with a continuous liner the whole length of the stern tube No Is the after end of the liner made water tight
If the liner is in more than one length are the joints burned No 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' 0"
Dia. of Tunnel shaft 13.30 Dia. of Crank shaft journals 13.33 Dia. of Crank pin 14.5 Size of Crank webs 52x28x9 Dia. of thrust shaft under
collars 14.5 Dia. of screw 14.5 Pitch of Screw 16' 6" No. of Blades 4 State whether moveable No Total surface 72.45
No. of Feed pumps 2 Diameter of ditto 9 1/2 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 1 Sizes of Pumps 10x4x7x10 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 2-3 In Holds, &c. Bilges No. 1 2-3 1/2 No. 2 1-4 No. 3 1-4 No. 4 1-4 No. 5 1-4 No. 6 1-4 No. 7 1-4 No. 8 1-4 No. 9 1-4 No. 10 1-4
No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size 4"
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 Above
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 None 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 Yes Is it fitted with a watertight door Yes worked from Top E.R. platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Lukens Steel & Iron Co. Pa. U.S.A.
Total Heating Surface of Boilers 6660 Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 11-6-18 No. of Certificate 20
Can each boiler be worked separately Yes Area of fire grate in each boiler 58 No. and Description of Safety Valves to
each boiler 2 Spring Loaded Area of each valve 8.3 Pressure to which they are adjusted 184 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 13" Mean dia. of boilers 14' 3" Length 11' 9" Material of shell plates S
Thickness 13/16 Range of tensile strength 28-32 TONS Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D & T
long. seams T & DB Diameter of rivet holes in long. seams 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 18 1/2"
Per centages of strength of longitudinal joint 90.0 Working pressure of shell by rules 186 Size of manhole in shell 16"x12"
Size of compensating ring 37 1/2 x 30 x 1 1/2 No. and Description of Furnaces in each boiler 3 Deighton Material S Outside diameter 46 1/4"
Length of plain part top 9' 6" bottom 9' 6" Thickness of plates top 9/16" bottom 9/16" Description of longitudinal joint Weld No. of strengthening rings 15
Working pressure of furnace by the rules 190 Combustion chamber plates: Material S Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 15/16"
Pitch of stays to ditto: Sides 9x7 1/2 Back 8 1/2 x 8 1/2 Top 8 1/2 x 7 1/2 If stays are fitted with nuts or riveted heads No Working pressure by rules 193
Material of stays S Area at smallest part 1.76 Area supported by each stay 72.25 Working pressure by rules 219 End plates in steam space:
Material S Thickness 1/16 Pitch of stays 15"x14" How are stays secured Drill Nuts Working pressure by rules 195 Material of stays S
Area at smallest part 5.27 Area supported by each stay 255 Working pressure by rules 219 Material of Front plates at bottom S
Thickness 3/16 Material of Lower back plate S Thickness 3/16 Greatest pitch of stays 7 1/2 x 11 1/4 Working pressure of plate by rules 189
Diameter of tubes 2 1/2" Pitch of tubes 3 3/4 x 3 3/4 Material of tube plates S Thickness: Front 13/16" Back 1/16" Mean pitch of stays 7 1/2 x 11 1/4
Pitch across wide water spaces 3 1/2 x 3 1/2 Working pressures by rules 186 Girders to Chamber tops: Material S Depth and
thickness of girder at centre 10"x1 1/2" Length as per rule 33 1/2 Distance apart 8 1/2 Number and pitch of stays in each 3-7 1/2
Working pressure by rules 216 Steam dome: description of joint to shell Yes % of strength of joint Yes
Diameter 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 Crown plates Yes Thickness Yes How stayed Yes
SUPERHEATER. Type Yes Date of Approval of Plan Yes Tested by Hydraulic Pressure to Yes
Date of Test Yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes
Diameter of Safety Valve Yes Pressure to which each is adjusted Yes Is Easing Gear fitted Yes

1910-125210-0125210-016

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— 1 Screw shaft. One section of crank shaft. One set of safety valve springs
1 spare propeller. 6 gauge glasses & washers 3 boiler stay tubes 2 plates of iron
2 connecting rod bolts & nuts top end 100 assorted bolts & nuts for engine 12 plain tubes 6 bars assorted iron
2 " " " bottom end 100 " " " for boilers 24 condenser tubes 1 set of fire bars
2 main bearing bolts & nuts. 1 set of boiler check valves. 50 ferrules 1 set of piston springs
1 set of coupling bolts 6 cyl. cover bolts. 3 tube stoppers
1 set of bilge pump valves & seats 4 valve check bolts 6 piston bolts & nuts.

The foregoing is a correct description,

W. J. Alderson
General Manager.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1917. Dec. 15. 20. 30 Nov. 2. 8. 10. 14. Dec. 3. 6. 7. 13. 14. 31. 1918. Jan. 2. 14. 10. 12. 26 Feb. 1. 4. 7. 13. 15. 19. 21. 25. 27
During erection on board vessel - - - Mar. 1. 5. 8. 13. 14. 22. 26. Apr. 1. 4. 8. 10. 19. 20. 25. May 3. 12. 14. 20. 27. 23. 25. 29. 31 June 5. 6. 7. 10.
Total No. of visits 73.

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

Dates of Examination of principal parts—Cylinders 8-5-18 Slides 7-6-18 Covers 10-6-18 Pistons 30-5-18 Rods 30-5-18
Connecting rods 2-6-18 Crank shaft 25-5-18 Thrust shaft 22-5-18 Tunnel shafts 22-5-18 Screw shaft 22-5-18 Propeller 22-6-18
Stern tube 22-5-18 Steam pipes tested 18-7-18 Engine and boiler seatings 24-6-18 Engines holding down bolts 12-7-18
Completion of pumping arrangements 30-7-18 Boilers fixed 27-6-18 Engines tried under steam 23-7-18
Completion of fitting sea connections 5-6-18 Stern tube 30-5-18 Screw shaft and propeller 5-6-18
Main boiler safety valves adjusted 6-8-18. Thickness of adjusting washers. P. 44" S. 78" P. 42" S. 42" P. 39" S. 41"
Material of Crank shaft S. Identification Mark on Do. 25-4-18 Material of Thrust shaft S. Identification Mark on Do. 22-5-18
Material of Tunnel shafts 22-5-18 Identification Marks on Do. S Material of Screw shafts S Identification Marks on Do. 22-5-18
Material of Steam Pipes Steel 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 *No* If so, state name of vessel ☒

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boilers of this vessel have been constructed under special survey & in accordance with the rules. The materials and workmanship are good. The engines & boilers have been efficiently fitted on board and have been tried under steam together with all the auxiliary machinery and all were found to be working satisfactorily. The safety valves have been adjusted under steam to blow at 185 lbs pressure per sq in. The boilers are of good workmanship and the material has been tested in accordance with the rules. They were tested to a water pressure of 360 lbs per sq in and found tight. The joints of the liner having been soldered together should in my opinion be specially examined when the shaft is drawn in for inspection.

In my opinion the Machinery of this vessel is now in good and efficient condition & eligible to be classed in the Register Book and to have the Notation. LMC. 8-18.

It is submitted that this vessel is eligible for

THE RECORD. + LMC 8, 18 F.D.

SUBJECT TO THE SCREW SHAFT BEING SPECIALLY EXAMINED AT JOINT OF LINERS WITHIN 2 YEARS FROM THE DATE OF BUILD.

The amount of Entry Fee ... £ 15.00
Special ... £ 218.00
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :
When applied for, Aug. 14. 1918
When received, Aug. 14. 1918

Committee's Minute

Assigned

FRI. 4-OCT. 1918

+ LMC 8. 18. F. D.
Subject.

MACHINERY CERTIFICATE

WRITTEN



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