

REPORT ON MACHINERY.

No. 40371

Received at London Office **WED SEP 22 1920**

Writing Report **Sept 13th 1920** When handed in at Local Office **Sept 18th 1920** Port of **GLASGOW**

Survey held at **Paisley** Date, First Survey **10th Sept 1919** Last Survey **9th Sept 1920**

Boat on the Machinery of **SS LAPWING** (Number of Visits **38**)

Builder **Paisley** By whom built **Bow Mc Lachlan & Co Ltd** Tons **Gross 1449 Net 748** When built

Machinery made at **Paisley** By whom made **Bow Mc Lachlan & Co Ltd (3460)** when made **1920**

Engines made at **Paisley** By whom made **Bow Mc Lachlan & Co Ltd (1043/4)** when made **1920**

Registered Horse Power **243** Owners **General Steam Nav. Co. Ltd.** Port belonging to **London**

Horse Power as per Section 28 **243** Is Refrigerating Machinery fitted for cargo purposes **Yes** Is Electric Light fitted **Yes**

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

of Cylinders **22" 35" 54"** Length of Stroke **39"** Revs. per minute **85** Dia. of Screw shaft as per rule **11.82** Material of screw shaft **Iron**

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 **Yes**

Is 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 **—**

shafts are fitted, is the shaft lapped or protected between the liners **—** Length of stern bush **5' 35"**

Dia. of Tunnel shaft as per rule **10.48** Dia. of Crank shaft journals as per rule **11.32** Dia. of Crank pin **11 3/8** Size of Crank webs **21 3/8 x 4 1/8** Dia. of thrust shaft under **11 3/8**

Dia. of screw **14"** Pitch of Screw **16' 9"** No. of Blades **4** State whether moveable **No** Total surface **61.5 sq ft**

No. of Feed pumps **2** Diameter of ditto **3 1/2** Stroke **19 1/2** Can one be overhauled while the other is at work **Yes**

No. of Bilge pumps **2** Diameter of ditto **3 1/2** Stroke **19 1/2** Can one be overhauled while the other is at work **Yes**

No. of Donkey Engines **7** Sizes of Pumps **Feed 4 x 9 1/2 x 18. Har. 4 x 6 x 8** No. and size of Suctions connected to both Bilge and Donkey pumps **San. 8" x 6" x 8" In Holds, &c. 2 in N° 2 Hold @ 2 1/2 + 2 in N° 1 @ 2 1/2**

Engine Room **Three @ 2 1/2** W. Conn. **6" x 6" x 6"**

No. of Bilge Injections **1** sizes **4"** Connected to condenser, or to circulating pump **pump** Is a separate Donkey Suction fitted in Engine room & size **Yes 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 **None**

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**

How are the pipes carried through the bunkers **Bilge pipes** How are they protected **Iron plates**

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 **—** worked from **—**

Boilers, &c.—(Letter for record **S**) Manufacturers of Steel **Messrs W. Beardmore & Co Ltd Parkhead.**

Total Heating Surface of Boilers **4939 sq ft** Is Forced Draft fitted **No** No. and Description of Boilers **Two S. E. Marine**

Working Pressure **180 lbs** Tested by hydraulic pressure to **360 lbs** Date of test **19/2/20** No. of Certificate **15104**

Can each boiler be worked separately **Yes** Area of fire grate in each boiler **63.25** No. and Description of Safety Valves to **15119**

Each boiler **Two Spring loaded** Area of each valve **4.06** 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 **6'-0"** Mean dia. of boilers **15' 3"** Length **11' 6"** Material of shell plates **Steel**

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

Long. seams **TR DBS** Diameter of rivet holes in long. seams **19/32** Pitch of rivets **9 1/8** Lap of plates or width of butt straps **1' 4 1/4"**

Percentages of strength of longitudinal joint rivets **86.3** Working pressure of shell by rules **181** Size of manhole in shell **16" x 12"**

Size of compensating ring **32 1/4 x 28 1/4 x 1 1/32** No. and Description of Furnaces in each boiler **3. Suspension Bull** Material **Steel** Outside diameter **4' 19 1/16"**

Length of plain part **14 1/32** Thickness of plates **14 1/32** Description of longitudinal joint **Weld** No. of strengthening rings **None**

Working pressure of furnace by the rules **181** Combustion chamber plates: Material **Steel** Thickness: Sides **5/8"** Back **1/16"** Top **5/8"** Bottom **29/32"**

Pitch of stays to ditto: Sides **8 1/4 x 9"** Back **9 x 9 1/2** Top **8 1/4 x 8 1/2** If stays are fitted with nuts or riveted heads **Nuts** Working pressure by rules **181**

Material of stays **Steel** Area at smallest part **1.46 sq ft** Area supported by each stay **44.25** Working pressure by rules **189** End plates in steam space: **184**

Material **Steel** Thickness **1 5/32** Pitch of stays **14" x 19"** How are stays secured **D. Nut** Working pressure by rules **184** Material of stays **Steel**

Area at smallest part **6.1** Area supported by each stay **323** Working pressure by rules **196** Material of Front plates at bottom **Steel**

Thickness **1 1/32** Material of Lower back plate **Steel** Thickness **29/32** Greatest pitch of stays **14 1/2 x 9** Working pressure of plate by rules **194**

Diameter of tubes **3 1/2"** Pitch of tubes **4 3/4 x 4 1/16** Material of tube plates **Steel** Thickness: Front **1 1/32** Back **29/32** Mean pitch of stays **9 1/16**

Pitch across wide water spaces **14 1/2** Working pressures by rules **181** Girders to Chamber tops: Material **Steel** Depth and **181**

Thickness of girder at centre **9 1/2 x 7/8** Length as per rule **2' 10 15/32** Distance apart **8 1/2"** Number and pitch of stays in each **3 @ 8 1/4"**

Working pressure by rules **219** Steam dome: description of joint to shell **None** % of strength of joint **100**

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 **None** 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?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 4 Conn. Rod top end bolts and nuts. 2 Bottom end bolts and nuts. 2 Main bearing bolts. 1 set of coupling bolts. 1 set of feed and bilge pump valves. A quantity of assorted bolts and nuts Iron of various sizes

The foregoing is a correct description,

Bow, M'Lachlan & Co. Ltd.

J Macmillan

DIRECTOR.

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1919 Sep 10, 16, 23 Oct 3, 17, 22, 31 Nov 5, 16 (1920) Jan 13, 16, 25, 30 Feb 9, 17, 19, 26 Mar 3, 29 Apr 9, 13, 21, 26 20 During erection on board vessel --- May 10, 17, 20, 31 Jun 8, 17, 23, 29 July 6, 14, 21 Aug 31 Sep 7, 9 Total No. of visits 38

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 26-2-20 Slides 17-5-20 Covers 13-1-20 Pistons 30-4-20 Rods 9-4-20 Connecting rods 13-1-20 Crank shaft 16-1-20 Thrust shaft 13-1-20 Tunnel shafts — Screw shaft 21-4-20 Propeller 21-4-20 Stern tube 9-4-20 Steam pipes tested 21-4-20 Engine and boiler seatings 14-6-20 Engines holding down bolts 14-4-20

Completion of pumping arrangements 31-8-20 Boilers fixed 14-4-20 Engines tried under steam 9-9-20

Completion of fitting sea connections 14-6-20 Stern tube 14-6-20 Screw shaft and propeller 14-6-20

Main boiler safety valves adjusted 7-9-20. Thickness of adjusting washers SBPV 5/16" SBSV 4/16" PBPV 3/8" PBY 1/4"

Material of Crank shaft S Identification Mark on Do. 3460 D.C.B. 16-1-20 Material of Thrust shaft S Identification Mark on Do. 3760 D.C.B. 13-1-20

Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts Iron Identification Marks on Do. 3460 D.C.B. 21-4-20

Material of Steam Pipes Steel Test pressure 540 lbs sq

Is an installation fitted for burning oil fuel Not Completed 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

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 in accordance with the Rules and approved plans. The workmanship and materials are of good quality. It has been securely fitted on board and tried under steam with satisfactory results.

It is submitted that this vessel is eligible for a record of LMC 9-20 in the Register Book

Oil fuel installation only partly fitted and record "Fitted for oil fuel FP above 150°F", to be assigned when installation has been completed and found in order by the surveyor

To complete the oil fuel installation several pipes in main hold in stock hold to connect up, and piping from fuel pumps to boilers to complete.

It is submitted that this vessel is eligible for THE RECORD. + LMC. 9.20.

Recd. 25/9/20

D. C. Barr. & A. T. Thomas Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 2 : 0 : When applied for, Special ... £ 33 : 13 : 17.9.20. Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 25/10/20

Committee's Minute GLASGOW

Assigned + L.M.C.

9.20.

FRI. MAY. 20 1921



© 2020

Lloyd's Register Foundation

GLASGOW

Certificate (if required) to be sent to The Surveyors are requested not to write on or below the space for Committee's Minute.

21.9.20

21 SEP 1921

22.9.20