

# REPORT ON MACHINERY.

RECEIVED at London Office  
 Date of writing Report June 11 1919 When handed in at Local Office June 11 1919 Port of Vancouver, B.C.  
 No. in Survey held at Vancouver, B.C. Date, First Survey 100. 8/19 Last Survey June 11 1919  
 Reg. Book. on the Single Screw Steel Str. Canadian Volunteer (Number of Visits 46) Gross 3188.07 Tons Net 2920.11  
 Master A.O. Cooper Built at Vancouver, B.C. By whom built Wallace Ship Yards, L. When built 1919  
 Engines made at Vancouver, B.C. By whom made Wallace Ship Yards, L. when made 1919  
 Boilers made at Vancouver, B.C. By whom made Vulcan Iron Works, L. when made 1919  
 Indicated Registered Horse Power 1800. Owners Canadian Government, Ottawa, Department of Marine Port belonging to Montreal  
 Nom. Horse Power as per Section 28 375. Is Refrigerating Machinery fitted for cargo purposes Y Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Triple Expansion Marine No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 25-41" 64" Length of Stroke 45" Revs. per minute 70 Dia. of Screw shaft 14-14 Material of Steel  
 as per rule 11-85 as fitted 12-4 as per rule 12-45 as fitted 13 Dia. of Crank pin 13-25 Size of Crank webs 8 3/4 x 14 1/2 Dia. of thrust shaft under collars 13-25 Dia. of screw 16-3 Pitch of Screw 17-6 No. of Blades 4 State whether moveable Y Total surface 83-25  
 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 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 Y If two liners are fitted, is the shaft lapped or protected between the liners Y Length of stern bush 4-9"  
 Dia. of Tunnel shaft 11-85 as per rule 12-4 as fitted 13-5 Dia. of Crank shaft journals 13-25 as per rule 13-25 as fitted 13 Dia. of Crank pin 13-25 Size of Crank webs 8 3/4 x 14 1/2 Dia. of thrust shaft under collars 13-25 Dia. of screw 16-3 Pitch of Screw 17-6 No. of Blades 4 State whether moveable Y Total surface 83-25  
 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 3 off. Sizes of Pumps 9 1/2 x 7 x 15 2 off. 7 1/2 x 9 x 10 1 off. No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 2 off. 3" 10 off. 3 1/2" In Holds, &c. 2 off. 3" r. 1 Hold  
2 off. 3" r. 2 Hold 1 off. 3 1/2" in r. 3 Hold. Eight in all.  
 No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump Pump. Is 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 None.  
 Are all connections with the sea direct on the skin of the ship Yes. Are they Valves or Cocks Valves & 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 Main, 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 None. How are they protected Y  
 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 Main

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Carnegie Steel & Illinois Steel Co  
 Total Heating Surface of Boilers 5162 Is Forced Draft fitted Yes No. and Description of Boilers 2 off Single Ended Scotch  
 Working Pressure 180 lb. Tested by hydraulic pressure to 300 lb. Date of test May 9/19 No. of Certificate 21  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 66-12 5/8 No. and Description of Safety Valves to each boiler 2 off Morrison Area of each valve 9-6" Pressure to which they are adjusted 180 lb. Are they fitted with easing gear Yes.  
 Smallest distance between boilers or uptakes and bunkers or woodwork 14'-0" Mean dia. of boilers 15'-6" Length 11'-6" Material of shell plates Steel  
 Thickness 1 3/8" Range of tensile strength 60,000 Are the shell plates welded or flanged Y, Descrip. of riveting: cir. seams Double Butt  
 long. seams Triple Rivet Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 5/16" Lap of plates or width of butt straps 19 7/8"  
 Per centages of strength of longitudinal joint rivets 87-4 plate 85 Working pressure of shell by rules 192-5 Size of manhole in shell 12 x 16  
 Size of compensating ring 33 x 37 1/2 x 1 7/8 No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 4'-2 1/4"  
 Length of plain part top 17-32 bottom 19-32 Thickness of plates crown 17-32 bottom 19-32 Description of longitudinal joint Y No. of strengthening rings Y  
 Working pressure of furnace by the rules 192-5 Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 3/4" Top 5/8" Bottom 15/16"  
 Pitch of stays to ditto: Sides 7 1/2 x 9" Back 8 1/2 x 7 1/2" Top 7 1/2 x 9" If stays are fitted with nuts or riveted heads Y Working pressure by rules 184  
 Material of stays Steel Area at smallest part 1-77 Area supported by each stay 67-5 Working pressure by rules 210 End plates in steam space: Material Steel Thickness 1 1/16" Pitch of stays 15 x 18" How are stays secured Double Rivets Working pressure by rules 184 Material of stays Steel  
 Area at smallest part 5-25 Area supported by each stay 240 Working pressure by rules 202 Material of Front plates at bottom Steel  
 Thickness 1 3/16" Material of Lower back plate Steel Thickness 1 3/16" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 182-5  
 Diameter of tubes 3" Pitch of tubes 4-25 Material of tube plates Steel Thickness: Front 13/16" Back 3/4" Mean pitch of stays 8-5  
 Pitch across wide water spaces 13 1/2" Working pressures by rules 182 lb. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10-3/4" Length as per rule 2-9" Distance apart 9" Number and pitch of stays in each 3 off 7 1/2"  
 Working pressure by rules 226 Steam dome: description of joint to shell Y % of strength of joint Y  
 Diameter Y Thickness of shell plates Y Material Y Description of longitudinal joint Y Diam. of rivet holes Y  
 Pitch of rivets Y Working pressure of shell by rules Y Crown plates Y Thickness Y How stayed Y

SUPERHEATER. Type Y Date of Approval of Plan Y Tested by Hydraulic Pressure to Y  
 Date of Test Y Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Y  
 Diameter of Safety Valve Y Pressure to which each is adjusted Y Is Easing Gear fitted Y

If not, state whether, and when, one will be sent

1900-1429-010-299010



IS A DONKEY BOILER FITTED? *To*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: *Two Connecting Rod Top End and Bottom End Bolts & Nuts, Two Main Bearing Bolts & Nuts, one Set of Coupling Bolts, one Set of Feed Pump Suction & Discharge valves, 3 Main Feed Check Valves, 3 Auxiliary Feed Check Valves, 24 Bolts & Nuts 6 Cylinders Cover Studs & Nuts 6 Steam Chest Cover Studs & Nuts, Iron of various Sizes, one H. P. Piston Valve, Spare Cast Iron Propeller, 12 Boiler Tubes, 24 Condenser Tubes & Ferrules, one Set of Bilge Pump Valves, one Set of Piston Springs.*

The foregoing is a correct description,

*Wallace Shipyard & Turner* Manufacturer.

Dates of Survey while building: *Nov 8-19, Dec 5, 18, 24, 26, 30 1918, Jan 3, 6, 7, 17, 18, 20, 22, 23, 29, 30, 31, Feb 1, 3, 5, 8, 12, 17, 25, 26, Mar 3, 5, 14, 20, 26, April 2, 3, 5, 8, 17, 24, May 5, 8, 9, 16, 19, 27, 28, 29, June 11*

Dates of Examination of principal parts: *Cylinders 3/1/19, Slides 7/1/19, Covers 24/1/19, Pistons 29/1/19, Rods 1/2/19, Connecting rods 1/2/19, Crank shaft 13/2/19, Thrust shaft 12/2/19, Tunnel shafts 17/2/19, Screw shaft 3/4/19, Propeller 3/4/19, Stern tube 14/2/19, Steam pipes tested 16/5/19, Engine and boiler seatings 16/5/19, Engines holding down bolts 3/3/19, Completion of pumping arrangements 22/4/19, Boilers fixed 15/5/19, Engines tried under steam 27/5/19, Completion of fitting sea connections 3/4/19, Stern tube 3/4/19, Screw shaft and propeller 3/4/19, Main boiler safety valves adjusted 11/6/19, Thickness of adjusting washers 17/32, 13/32, 7/16*

Material of Crank shaft *Steel* Identification Mark on Do. *1919, 5. m. 100, 6. m. 100, 1919, 5. m. 100, 6. m. 100*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *1919, 5. m. 100, 6. m. 100*  
Material of Steam Pipes *Steel* Test pressure *570 lb. □*

Is an installation fitted for burning oil fuel  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  If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines & Boilers of this Vessel have been built under Special Survey and installed under Special Survey, in accordance with approved plans together with the Auxiliaries, Piping, mountings, Fittings, Sea Connections Etc. The material & workmanship are both of Good Quality. On completion of the installation of the machinery installation, the vessel was tried under full Steam at Sea & found Satisfactory. Supt. Valves were floated independently. Tail Shaft is a continuous Liner. The machinery & Boilers are eligible in my opinion to have the record *L. M. C. 6-19* made in the Register Book in the case of this vessel.*

*Vancouver, B.C.*

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

The amount of Entry Fee ... *\$15.00*  
Special *\$193.75*  
Donkey Boiler Fee ...  
Travelling Expenses (if any) £ *✓*

When applied for, *June 19<sup>th</sup> 1919*  
When received, *16/10/19*

*Geo. L. M. Gouin*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

MACHINERY CERTIFICATE WRITTEN

TUE, JUL. 15, 1919

*L.M.C. 6. 19*  
*F.D.*

