

pt. 4.

## REPORT ON MACHINERY.

No. 841

Received at London Office FEB. 2 1921

Report of Survey held at Victoria BC Date, First Survey 18 July 1919 Last Survey 19 December 1920  
 on the Steam Single Screw Steamer "CANADIAN WINNER" (Number of Visits 26)  
 Master W. Wingate Built at Victoria BC By whom built Harbour Marine Ltd When built 1920  
 Engines made at Toronto By whom made The John Inglis Co. Ltd when made 1920  
 Boilers made at Victoria BC By whom made The Victoria Machinery Depot when made 1920  
 Registered Horse Power 3800 Owners Canadian Merchant Marine Port belonging to Montreal  
 Nom. Horse Power as per Section 28 521 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Horizontal triple expansion No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 27.44, 73 Length of Stroke 48 Revs. per minute 83 Dia. of Screw shaft 14.63 Material of screw shaft O.H.S.  
 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  
 Is 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 yes If two  
 liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 5'-2"  
 Dia. of Tunnel shaft 13.3 Dia. of Crank shaft journals 13.97 Dia. of Crank pin 14.5 Size of Crank webs 9x28 Dia. of thrust shaft under  
 collars 14.5 Dia. of screw 17.6 Pitch of Screw 15.96 No. of Blades 4 State whether moveable yes Total surface 95.5  
 No. of Feed pumps 3 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 3 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 2 Sizes of Pumps 10 1/2 x 14 x 24 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 2 off 5" 2 off 4" 2 off 3 1/2" in Boiler Room In Holds, &c. 2 off 3 1/2" in N° 1-2 + 3 Holds  
1 off 4" in Hold and 1 off 3" in Tunnel Well 14 in all.  
 No. of Bilge Injections 1 sizes 9" Connected to condenser or circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes  
 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 Valves and 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 yes  
 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 Bilge pipes How are they protected Wood covers  
 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 Engine Room & Upper Deck

OILERS, &c.—(Letter for record 3-20) Manufacturers of Steel Carnegie Steel Co. Illinois Steel Co.  
 Total Heating Surface of Boilers 7743 Is Forced Draft fitted yes No. and Description of Boilers 3 Cylindrical multitubular  
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 9-9-20 No. of Certificate 16018 N° 37  
 Can each boiler be worked separately yes Area of fire grate in each boiler 66.12 No. and Description of Safety Valves to  
 each boiler 2 Spring loaded Area of each valve 9.62 Pressure to which they are adjusted 180 Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15'-6" Length 11'-6" Material of shell plates O.H.S.  
 Thickness 1-3/16 Range of tensile strength 28 to 32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double  
 long. seams Triple Diameter of rivet holes in long. seams 1-3/16 Pitch of rivets 9.187 Top of plates or width of butt straps 20  
 Per centages of strength of longitudinal joint 87.4 Working pressure of shell by rules 200 Size of manhole in shell 12 x 16  
 Size of compensating ring 37.5 x 33 No. and Description of Furnaces in each boiler 3 corrugated Material O.H.S. Outside diameter 50.25  
 Length of plain part 19.32 Thickness of plates 19/32 Description of longitudinal joint yes No. of strengthening rings yes  
 Working pressure of furnace by the rules 187 Combustion chamber plates: Material O.H.S. Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 15/16  
 Pitch of stays to ditto: Sides 7.5 x 9 Back 8 x 8.25 Top 9 x 7.5 If stays are fitted with nuts or riveted heads both Working pressure by rules 200  
 Material of stays O.H.S. Area at smallest part 1.76 Area supported by each stay 66 Working pressure by rules 210 End plates in steam space:  
 Material O.H.S. Thickness 1 1/16 Pitch of stays 18 x 15 How are stays secured 2 nuts Working pressure by rules 185 Material of stays O.H.S.  
 Area at smallest part 5.27 Area supported by each stay 270 Working pressure by rules 270 Material of Front plates at bottom O.H.S.  
 Thickness 13/16 Material of Lower back plate O.H.S. Thickness 13/16 Greatest pitch of stays 12 Working pressure of plate by rules 200  
 Diameter of tubes 3 Pitch of tubes 4.25 Material of tube plates O.H.S. Thickness: Front 13/16 Back 3/4 Mean pitch of stays 8.5 x 12.75  
 Pitch across wide water spaces 13.5 Working pressures by rules 180 Girders to Chamber tops: Material O.H.S. Depth and  
 thickness of girder at centre 10 1.5 Length as per rule 30.5 Distance apart 9.5 Number and pitch of stays in each 3 7.5  
 Working pressure by rules 230 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 2020  
 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

W1301-0056



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— *Two Connecting Rod top & bottom end bolts & nuts. Two main bearing bolts & nuts. Six coupling bolts & nuts. One set of Feed and one set of bridge pump Valves. Three main & three donkey feed check Valves. Six cylinder & steam chest cover studs & nuts. Twelve junk ring studs & nuts. Two propeller blades. One H. piston Valve. Condenser tube & ferrules. Porter tubes. Whirl metal, a number of assorted bolts and nuts, round & flat iron & rivets.*

The foregoing is a correct description,

*Victoria Machinery Depot. Allan Craig* Manufacturer.

Dates of Survey while installing: During progress of work in shops -- *ad Victoria Machinery Depot. Victoria B.C. 1920 July 15, 27, Aug 5, 10, 13, 16, 18, 21, Sept 2, 9, 15, 21, 22, Oct 5, 28, 29, Nov 4, 11, 15, 24, 25 Dec 14*  
During erection on board vessel --  
Total No. of visits *28*

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

Dates of Examination of principal parts—Cylinders *13 Aug 1920* Slides *13 Aug 1920* Covers *2<sup>nd</sup> Septem* Pistons *2<sup>nd</sup> Septem* Rods *2<sup>nd</sup> Septem*  
Connecting rods *2<sup>nd</sup> Septem* Crank shaft *5 October* Thrust shaft *5 October* Tunnel shafts *5 October* Screw shaft *10 June* Propeller *23 June*  
Stern tube *10 June* Steam pipes tested *5<sup>th</sup> August* Engine and boiler seatings *21 Septem* Engines holding down bolts *21 Aug 19*  
Completion of pumping arrangements *25 November* Boilers fixed *15 October* Engines tried under steam *25 November*  
Completion of fitting sea connections *29 June* Stern tube *29 June* Screw shaft and propeller *29 June*  
Main boiler safety valves adjusted *25 November* Thickness of adjusting washers *P 9/16 S 7/8 P 3/8 S 13/32 P 9/16 S 5/8*  
Material of Crank shaft *0HS* Identification Mark on Do. *15-7-20 AS* Material of Thrust shaft *0HS* Identification Mark on Do. *15-7-20 AS*  
Material of Tunnel shafts *0HS* Identification Marks on No. *15-7-20 AS* Material of Screw shafts *0HS* Identification Marks on Do. *15-7-20 AS*  
Material of Steam Pipes *0HS* Identification Marks on No. *15-7-20 AS* pressure *540 lb*

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 ☒ 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 the approved plans together with the auxiliaries, pumps, piping mountings and sea connections. The material and workmanship are of good quality. On the completion of the machinery installation the Vessel was tried under full steam at sea & found satisfactory.*

*Please refer to Toronto report N° 158 on survey of main engine & material also to report N° 149 on survey of three main boilers before riveting. The tail shaft is fitted with a continuous liner.*

*The safety valves have been floated independently & set at 180<sup>lb</sup> 5". The machinery & boilers are eligible in my opinion to have record + LMC 12-20 made in the Register Book in the case of this Vessel.*

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC. 12. 20 FD.

*CL*

*Recl*

*8/2/21*

The amount of Entry Fee ... *\$15:00* : When applied for,  
Special ... *\$153:50* : *7 Jan 19 21*  
Donkey Boiler Fee ... *6* :  
Travelling Expenses (if any) *\$74:20* : *12 May 19 21*

*C. Nisbie & Frank Edwards*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 1 APR. 1921*

Assigned *+ LMC 12. 20*

CERTIFICATE WRITTEN



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Foundation