

# REPORT ON MACHINERY.

REC'D NEW YORK FEB 14 1922  
No. 1932

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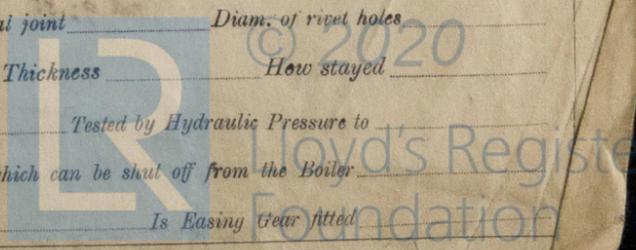
Date of writing Report July 26<sup>th</sup> 1922 When handed in at Local Office July 10<sup>th</sup> 1922 Port of Montreal Halifax N.S.  
 No. in Survey held at Three Rivers P.Q. Date, First Survey Oct. 26. 1920 Last Survey July 25<sup>th</sup> 1922  
 Reg. Book. 36790 Suppon the Single Screw Steamer "Canadian Constructor" (Number of Visits 70) Tons { Gross 7177.64  
 Net 4413.44  
 Master Webb Built at Halifax By whom built Halifax Shipyards Ltd. When built 1921-2  
 Engines made at Three Rivers P.Q. By whom made Tidewater Shipyards Ltd. when made 1921.  
 Boilers made at Montreal By whom made Canadian Vickers Ltd. when made 1921  
 Registered Horse Power 326 Owners Canadian Government (Wheeler Marine Ltd.) Port belonging to Halifax N.S.  
 Nom. Horse Power as per Section 28 705 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion Surface condensing No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 29 1/2" - 50" - 80" Length of Stroke 54" Revs. per minute 75 Dia. of Screw shaft 16" Material of screw shaft 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  
 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 Yes If two  
 liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 6 1/2"  
 Dia. of Tunnel shaft 14.8" Dia. of Crank shaft journals 15.5" Dia. of Crank pin 16" Size of Crank webs 49x11" Dia. of thrust shaft under  
 collars 15 3/4" Dia. of screw 19'0" Pitch of Screw 18'6" No. of Blades 4 State whether moveable Yes Total surface 110 sq. ft.  
 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 7 1/4" Stroke 30" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 4 Sizes of Pumps 1-11 x 14 x 12 1/2, 1-4 1/2 x 5 x 12 No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 6 x 3 1/2", 1 x 4" In Holds, &c. 12 x 3 1/2"

No. of Bilge Injections 1 sizes 9" Connected to condenser, or to circulating pump Yes 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 Yes  
 Are all connections with the sea direct on the skin of the ship Injection box 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 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 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 grating in engine room

BOILERS, &c.—(Letter for record ) Manufacturers of Steel  
 Total Heating Surface of Boilers 10848 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers 4 Scotch Marine type  
 Working Pressure 180 lbs Tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_  
 Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler \_\_\_\_\_ No. and Description of Safety Valves to  
 each boiler \_\_\_\_\_ Area of each valve \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with raising gear \_\_\_\_\_  
 Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates  
 Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams  
 long. seams \_\_\_\_\_ Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps  
 Per centages of strength of longitudinal joint \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell  
 Size of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter  
 Length of plain part \_\_\_\_\_ Thickness of plates \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings  
 Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_  
 Pitch of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules  
 Material of stays \_\_\_\_\_ Area at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space:  
 Material \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays  
 Area at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom  
 Thickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules  
 Diameter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays  
 Pitch across wide water spaces \_\_\_\_\_ Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and  
 thickness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each  
 Working pressure by rules \_\_\_\_\_ 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 \_\_\_\_\_



W280-0090

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

- 1 Propeller shaft 1 stern tube bush 2 connecting rod bottom end bolts 1 set air pump valves 3 Main & 3 Cond check valves
- 1 section crank shaft 1 set studs & nuts for 2 blades 3 crank shaft coupling bolts 1. bitge . . . 2 safety valve springs
- 1 eccentric shaft 1 set of piston springs 1 set of shaft " " 6 cylinder studs & nuts 24 Boiler tubes
- 1 head & 1 Astern Eccentric Rod 1 set of metallic packing 1 pair top end brasses 6 steam chest " " 4 stay tubes
- 1 slide valve spindle 12 condenser tubes + 50 ferrules 1 bottom end " 12 junk ring " " 200 fire bars
- 2 spare propeller blades 2 connecting rod top end bolts & nuts 2 main bearings " " 48 baffle plates.

TIDEWATER SHIPBUILDERS LIMITED,  
The foregoing is a correct description,

*D. Beckett*  
Manager.

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1920 Nov. 18, Dec 14, Jan 21, Feb 8, 14, 24, Mar 2, 11, 26, Apr 4, 11, 27, May 12, 17, 25, Jun 6, 14, 30, July 12. During erection on board vessel --- 1921 Sept 28-29, Oct 3-4-5-10-12-13-14-17-21-25-28-29-31, Nov 1-4-8-10-11-14-15-21-22-23-25-28, Dec 1-6-7-9-15. Total No. of visits 70. Is the approved plan of main boiler forwarded herewith  " " " donkey " " "

Dates of Examination of principal parts—Cylinders *at Cleveland* Slides 6.6.21 Covers 25.5.21 Pistons 25.5.21 Rods 17.5.21  
Connecting rods 17.5.21 Crank shaft 16.3.21 Thrust shaft 30.6.21 Tunnel shafts 12.7.21 Screw shaft 30.6.21 Propeller 9.9.21  
Stern tube 30.6.21 Steam pipes tested 25-11-21 28-11-21 Engine and boiler seatings 19-9-21 Engines holding down bolts 29-11-21  
Completion of pumping arrangements 29-12-21 Boilers fixed 5-10-21 Engines tried under steam 21-12-21  
Completion of fitting sea connections 22-9-21 Stern tube 2-9-21 Screw shaft and propeller 19-9-21  
Main boiler safety valves adjusted 3-1-22 Thickness of adjusting washers S.B. 5 <sup>13</sup>/<sub>32</sub>, C.B. 5 <sup>27</sup>/<sub>64</sub>, P.B. 5 <sup>13</sup>/<sub>32</sub>, For P.B. 5 <sup>3</sup>/<sub>8</sub>  
Material of Crank shaft S Identification Mark on Do. MR Material of Thrust shaft S Identification Mark on Do. F.W.T.  
Material of Tunnel shafts S Identification Marks on Do. F.W.T. Material of Screw shafts S Identification Marks on Do. F.W.T.  
Material of Steam Pipes Steel Test pressure 5.40 lbs  
Is an installation fitted for burning oil fuel Yes 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 Yes  
Is this machinery duplicate of a previous case Yes If so, state name of vessel *Canadian Cruiser*

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines have been constructed in the shops under special survey and in accordance with the rules and approved plans. In my opinion they are eligible to be classed after being fitted in the ship by the Halifax Surveyors satisfaction.*

*The engines and auxiliary machinery have been satisfactorily installed on board and tried under steam both as a coal and oil burner with satisfactory results. The requirements of Section 49 of the Rules for the burning of oil fuel have been complied with, and the machinery is, in my opinion, eligible to receive the record of L.M.C. 1-22, fitted for oil fuel 1-22, F.P. above 150°F.*

*The bolts, nuts, studs, screws, set pins, eye bolts, nipples, guide faces, guide shoes, valve spindles, crosshead pins, eccentric troughs, brackets, crank pins, shaft journals, spring attachment to back of L.P. slide valve, weigh bar shaft, eccentric rods & reversing quadrants, turning engine, junk ring H.P. air casings, boxes, uptakes and angles, air valve covers damaged in transit from Three Rivers P.Q. were cleaned, repaired or renewed as necessary and placed in good condition. See damage Report attached.*

It is submitted that this vessel is eligible for THE RECORD. L.M.C. - 1.22. F.D. C.L. Fitted for Oil Fuel, 1.22, F.P. above 150°F.

The amount of Entry Fee ... £ 30.00  
Special ... £ 250.25  
Donkey Boiler Fee ... £  
Travelling Expenses (if any) £ 92.50

*H. J. Alderson* Engineer Surveyor to Lloyd's Register of Shipping.  
*J. Moon*

Committee's Minute Assigned *+ L.M.C. 1.22 F.D. C.L.*

*Listed for oil fuel 1.22*



Certificate (if required) to be sent to Halifax 1-5

The Surveyors are requested not to write on or below the space for Committee's Minute.

CERTIFICATE WRITTEN

FRI. 10 MAR. 1922