

REPORT ON MACHINERY.

No. 1762

Date of writing Report Dec. 27, 1919 When handed in at Local Office Nov. 24, 1919 Port of Montreal
 Date, First Survey Feb. 17, 1919 Last Survey Nov. 25, 1919
 in Survey held at Montreal (Number of Visits)
 on the S. S. "CANADIAN NAVIGATOR"
 Master E. Robertson Built at Montreal By whom built Canadian Vickers Ltd.
 Engines made at Montreal By whom made Canadian Vickers Ltd. when made 1919
 Boilers made at " By whom made " when made 1919
 Registered Horse Power 226.5 Owners Canadian Government Port belonging to Montreal
 Net Horse Power as per Section 28 376 375 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes
 GINNES, &c.—Description of Engines Triple Expansion. Surface Condensing No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 25"-41"-67" Length of Stroke 45" Revs. per minute 70 Dia. of Screw shaft 13.6" Material of S.
 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
 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 4' 9"
 Dia. of Tunnel shaft 12.38" Dia. of Crank shaft journals 13.016" Dia. of Crank pin 13.25" Size of Crank webs 8.75" x 4.5" Dia. of thrust shaft under
 flange 13.25" Dia. of screw 16' 3" Pitch of Screw 14' 6" No. of Blades 4 State whether moveable No Total surface 83.2
 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 4 Sizes of Pumps 7 1/2" x 9" x 15 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 1-3" P. 1-3" S. In Holds, &c. Bilge 7" x 1-3" No. 1. 1-3 1/2" No. 2. 3-3 1/2" No. 3. P. 2-3 1/2" S. 2-3 1/2"
 No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 2-3 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 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
 MILLERS, &c.—(Letter for record S) Manufacturers of Steel Lukens Iron & Steel Co. Penn. U.S.A.
 Total Heating Surface of Boilers 5162 Is Forced Draft fitted Yes No. and Description of Boilers 2 Scotch type 2 S.B.
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 20/8/19 No. of Certificate 63
 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 9.621 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 10" Mean dia. of boilers 15' 6" Length 11' 6" Material of shell plates S
 Thickness 1 3/8" Range of tensile strength 26-28 TONS Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.
 Long. seams DBS. TR Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 3/8" Lap of plates or width of butt straps 19 7/8"
 Percentages of strength of longitudinal joint 87.4 Working pressure of shell by rules 183 Size of manhole in shell 16" x 12"
 Size of compensating ring 37 1/2" x 33" x 1 3/8" No. and Description of Furnaces in each boiler 3. Sleighton Material S. Outside diameter 4' 2 1/2"
 Length of plain part top 19 1/2" Thickness of plates bottom 19 1/2" Description of longitudinal joint Weld. No. of strengthening rings Yes
 Working pressure of furnace by the rules 187 Combustion chamber plates: Material S. Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 1 1/8"
 Pitch of stays to ditto: Sides 9" x 7 1/2" Back 8 1/2" x 8" Top 9" x 7 1/2" If stays are fitted with nuts or riveted heads Stub Working pressure by rules 197
 Material of stays S. Area at smallest part 1.760 Area supported by each stay 68.60 Working pressure by rules 230 End plates in steam space:
 Material S. Thickness 1 1/16" Pitch of stays 18" x 15" How are stays secured Stub Working pressure by rules 184 Material of stays S
 Area at smallest part 5.270 Area supported by each stay 270 Working pressure by rules 204 Material of Front plates at bottom S
 Thickness 1 3/16" Material of Lower back plate S. Thickness 1 3/16" Greatest pitch of stays 13 1/2" x 8 1/2" Working pressure of plate by rules 187
 Diameter of tubes 3" Pitch of tubes 4 1/4" Material of tube plates S Thickness: Front 1 3/16" Back 3/4" Mean pitch of stays 8 1/2" x 8 1/2"
 Pitch across wide water spaces 13 1/2" Working pressures by rules 205 lbs Girders to Chamber tops: Material S. Depth and
 thickness of girder at centre 10" x 1 1/2" Length as per rule 2' 6 7/8" Distance apart 9" Number and pitch of stays in each 3-7 1/2"
 Working pressure by rules 250 Steam dome: description of joint to shell Yes % of strength of joint Yes
 Diameter Yes Thickness of shell plates 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

IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:—

2 Connecting Rod bottom end bolts & nuts	1 set Main & Donkey feed checks	1 Spare C.I. propeller
2 " " top end " "	6 oil cover studs & nuts	1 H.P. piston valve.
2 Main bearing " "	6 steam chest studs & nuts	1 set each H.P. & V.P. piston rings
6 Coupling " "	12 gunk ring studs & nuts	18 plain & 6 Boiler stay tubes.
1 set of Feed pump valves.	Assorted bolts & nuts	36 condenser tubes & 50 screws
1 set of Bilge " "	Assorted bars round & flat iron	1 set of fire bars for one boiler

The foregoing is a correct description,

FOR CHARTERERS LIMITED

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1919. Feb 17-25. Mar 7, 12-14-18. 24-28. April 3, 9, 14, 25, 30. May 3, 6, 10, 12, 14, 15, 16, 19, 23, 27, 29. July 16, 18, 21, 25. Aug 6, 11, 14.
During erection on board vessel -- Oct. 20, 22, 24, 29, 30. Nov. 2, 6, 8, 11, 14, 17, 21, 23, 25.
Total No. of visits 47.

Is the approved plan of main boiler forwarded herewith *Yes*

" " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders 10-4-18 Slides Covers 10-4-18 Pistons 18-4-18 Rods 18-4-18

Connecting rods 29-5-19 Crank shaft 24-3-19 Thrust shaft 29-5-19 Tunnel shafts 30-5-19 Screw shaft 16-5-19 Propeller 18-5-19

Stern tube 29-5-19 Steam pipes tested 14-11-19 Engine and boiler seatings 15-10-19 Engines holding down bolts 14-11-19

Completion of pumping arrangements 23-11-19 Boilers fixed 25-10-19 Engines tried under steam 18-11-19

Completion of fitting sea connections 16-10-19 Stern tube 16-10-19 Screw shaft and propeller 17-10-19

Main boiler safety valves adjusted 17-11-19 Thickness of adjusting washers P. 232" S. .378" P. 559" S. .474

Material of Crank shaft S. Identification Mark on Do. O. T. J. Material of Thrust shaft S. Identification Mark on Do. O. T. J.

Material of Tunnel shafts S. Identification Marks on Do. O. T. J. Material of Screw shafts S. Identification Marks on Do. O. T. J.

Material of Steam Pipes S. 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 *Yes* If so, state name of vessel *Canadian Voyager.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The engines & boilers of this vessel have been constructed under special survey & in accordance with rules. The materials and workmanship are good. They have been fitted on board together with the auxiliary machinery and tried under full working conditions with satisfactory results.

The boilers have been tested to 360 lbs W.P. and found tight. The safety valves were adjusted under steam to blow at a pressure of 184 lbs.

In my opinion the machinery of this vessel is in good and efficient condition eligible to be classed in the Register Book of the Society and to have the record \pm L.M.C. 11-19

It is submitted that this vessel is eligible for THE RECORD. \pm L.M.C. 11-19 F.D.

The amount of Entry Fee ... £ 15.00
Special ... £ 230.00
Donkey Boiler Fee ... £
Travelling Expenses (if any) £ 32.25
277.25

When applied for,

Nov. 26, 1919.

When received,

2/1/20.

Committee's Minute

Assigned

TUE. 9-MAR. 1920

\pm L.M.C. 11-19 F.D.

W. J. Alderson

Engineer Surveyor to Lloyd's Register of Shipping



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