

Received at London Office  
Date of writing Report June 9 1919 When handed in at Local Office June 10 1919 Port of Montreal  
No. in Survey held at Montreal Date, First Survey July 18 1918 Last Survey May 17 1919  
Reg. Book. on the S.S. "Canadian Ranger" (Number of Visits 53)  
Master A. M. Nicholls Built at Montreal By whom built Canadian Packers Ltd. Tons Gross 5752 Net 3551  
Engines made at Montreal By whom made Canadian Packers Ltd. when made 1919  
Boilers made at Montreal By whom made Canadian Packers Ltd. when made 1919  
Registered Horse Power 266.5 Owners Canadian Government Merchant Marine Port belonging to Montreal  
Nom. Horse Power as per Section 28 520 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion Simple Condensing No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 27"-44"-73" Length of Stroke 48" Revs. per minute 75 Dia. of Screw shaft as per rule 14.67" Material of steel  
Is the screw shaft fitted with a continuous liner the whole length of the stern tube No 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 No 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 5'6 1/2"  
Dia. of Tunnel shaft as per rule 13.3" Dia. of Crank shaft journals as per rule 13.96" Dia. of Crank pin 14.5" Size of Crank webs 5 1/2" x 8 1/2" Dia. of thrust shaft under  
collars 14.5" Dia. of screw 18'0" Pitch of Screw 15'9" No. of Blades 4 State whether moveable Yes Total surface 98 sq  
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 Sen. 2 1/2" x 7 1/2" 3" x 12" 4" x 12" 5" x 12" No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 2-3 1/2" In Holds, &c. Ballast 1-3" 1-4" 1-5" 2-3" 2-3" 5-2-3"  
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 2-4"  
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 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 Both  
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

BOILERS, &c.—(Letter for record 3) Manufacturers of Steel Lukens Steel Co. Pa.  
Total Heating Surface of Boilers 7743 Is Forced Draft fitted Yes No. and Description of Boilers 3 Scotch Type  
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 20-1-19 No. of Certificate 51 55  
Can each boiler be worked separately Yes Area of fire grate in each boiler 66.12 sq No. and Description of Safety Valves to  
each boiler 2 Spring loaded Area of each valve 8.3 sq Pressure to which they are adjusted 180 lbs Are they fitted with easing gear Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 16" Mean dia. of boilers 15'6" Length 11'6" Material of shell plates DR  
Thickness 1 3/8" Range of tensile strength 26-28 TONS Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR  
long. seams DBS TR Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 3/16" Lap of plates or width of butt straps 19 7/8"  
Per centages of strength of longitudinal joint 87.4 Working pressure of shell by rules 183 Size of manhole in shell 16 1/2"  
Size of compensating ring 37 1/2" x 29" x 1 3/8" No. and Description of Furnaces in each boiler 3 Right Material DR 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 1  
Working pressure of furnace by the rules 187 Combustion chamber plates: Material DR 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 None Working pressure by rules 197  
Material of stays DR Area at smallest part 1.76 sq Area supported by each stay 68.6 sq Working pressure by rules 230 End plates in steam space:  
Material DR Thickness 1 1/8" Pitch of stays 18" x 15" How are stays secured Weld Working pressure by rules 184 Material of stays DR  
Area at smallest part 5.27 sq Area supported by each stay 270 sq Working pressure by rules 204 Material of Front plates at bottom DR  
Thickness 1 3/16" Material of Lower back plate DR Thickness 1 3/16" Greatest pitch of stays 13 1/2" x 18 1/2" Working pressure of plate by rules 187  
Diameter of tubes 3" Pitch of tubes 4 1/4" Material of tube plates DR 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 Girders to Chamber tops: Material DR 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 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 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 Rods extend bolts & nuts	✓	1 set Main & Donkey feed check valves.	2 Bronze Propeller Holes
2 " " " " "	✓	6 cylinder cover studs & nuts.	1 H. P. piston valve.
2 Main Bearing " " "	✓	6 steam chest " "	1 set each H. P. & J. P. piston rings
6 Coupling " " "	✓	12 junk ring " "	18 ordinary & 6 boiler stay tubes.
1 set Feed Pump valves	✓	Assorted bolts & nuts	36 condenser tubes & 50 ferrules.
1 set Bilge " " "	✓	Two round & flat iron	1 set of fire bars for one boiler.

The foregoing is a correct description,

*Canadian Vickers Ltd* per *H. M. Cameron* Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1918. July 18, Aug. 19, 21, 26, Sept. 9, 26, Oct. 5, 7, 8, 15, 18, 29, 31, Nov. 12, 15, 18, 26, Dec. 11, 12, 14, 16, 19, 19, Jan. 26, 8, 10, 14, 18, 22, 23, 24, 28, 29, Feb. 9, 10, 11, 12, 13, 14, 17, 19, 20, 25, 28, 29, Apr. 4, 8, 22, 25, 28, 30, May 2, 3, 5, 9, 12, 13, 17.  
During erection on board vessel --  
Total No. of visits 53.

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

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders <sup>8-10-18</sup> 23-12-18 Slides 15-2-19 Covers 7-2-19 Pistons 10-2-19 Rods 10-2-19  
Connecting rods 3-2-19 Crank shaft 10-1-19 Thrust shaft 28-1-19 Tunnel shafts 3-2-19 Screw shaft 11-2-19 Propeller 11-2-19  
Stern tube 5-2-19 Steam pipes tested 3-5-19 Engine and boiler seatings 19-4-19 Engines holding down bolts 28-4-19  
Completion of pumping arrangements 14-5-19 Boilers fixed 25-4-19 Engines tried under steam 17-5-19  
Completion of fitting sea connections 7-3-19 Stern tube 7-3-19 Screw shaft and propeller 7-3-19  
Main boiler safety valves adjusted 13-5-19 Thickness of adjusting washers Port Blk P. 3 1/2 S. 3/4 Cent. Blk P. 2 7/32 S. 1/2 Stern Blk P. 3 1/4 S. 3/4  
Material of Crank shaft *St.* Identification Mark on Do. <sup>360</sup> 7-6-18 Material of Thrust shaft *St.* Identification Mark on Do. <sup>531</sup> 11-10-18  
Material of Tunnel shafts *St.* Identification Marks on Do. <sup>464</sup> 9-8-18 Material of Screw shafts *St.* Identification Marks on Do. <sup>583</sup> 7-6-18  
Material of Steam Pipes *Stal* 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 Pioneer.*

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

The engines and boilers of this vessel have been constructed under special survey and in accordance with the rules. The materials and workmanship are good. They have been fitted on board together with the auxiliary machinery, tried under steam and found to be working satisfactorily.

The boilers are of good workmanship and the material has been tested in accordance with the rules. They have been tested by water pressure to 360 lbs and found tight. The safety valves have been adjusted under steam to blow at a pressure of 180 lbs per sq in.

The joints of the rail shaft liner having been soldered should in my opinion be specially examined at the end of two years.

In my opinion the machinery of this vessel is in good and efficient condition eligible to be classed in the Society's Register book and to have the record of FLMC. 5-19.

The amount of Entry Fee ... £ \$15.00  
Special ... £ 230.00  
Donkey Boiler Fee ... £  
Travelling Expenses (if any) £ 37.50

When applied for,

*May 31, 1919*

When received,

*23 Jul 1919*

Committee's Minute

Assigned

TUE. 8-JUL. 1919

+ L.M. 65.19

MACHINERY CERTIFICATE  
WRITTEN

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



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Lloyd's Register  
Foundation

Rpt. 13.

R

Port of

No. in Reg. Book

Owners *Canadian*

Yard No. *6*

DESCRIPTION

*10 K.W.*

*Substitution*

Capacity of D

Where is Dyn

Position of M

Positions of a

If fuses are

circuits

If vessel is w

Are the fuses

Are all fuses

are perm

Are all switch

Total number

A *Food Acc*

B *Afr*

C *Amigah*

D *Machin*

E *Large spe*

2 Ma

2

If arc lights,

Where are t

DESCRIPTION

Main cable ca

Branch cable

Branch cable

Leads to lamp

Cargo light ca

DESCRIPTION

Rubber in

30% pw