

Rpt. 4.

REPORT ON MACHINERY.

WED. APR 25 1921

Received at London Office

Date of writing Report March 15th 1921 When handed in at Local Office March 16th 1921 Port of Halifax N.S.
No. in Survey held at Amherst N.S. & Halifax N.S. Date, First Survey Aug 22nd 1919 Last Survey July 25th 1921
Peg. Book. 53793 on the Steel Single Deck "Canadian Explorer" (Number of Visits 43)

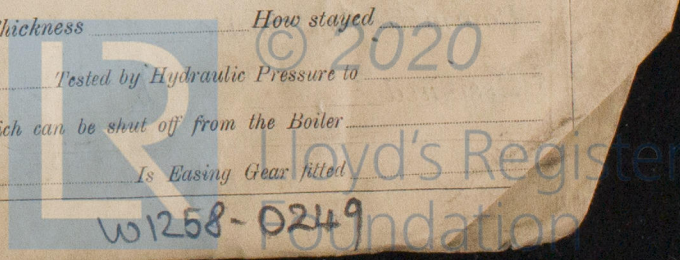
Master H. Ryman Built at Halifax N.S. By whom built Halifax Shipyard Ltd Tons { Gross 5408.20
Net 3320.98
Engines made at Amherst N.S. By whom made Robt Engine Works Ltd when made 1921
Boilers made at Loronto By whom made Canadian Ellis Chalmers when made 1921
Registered Horse Power 266.46 Owners Canadian Government Merchant Marine Ltd Port belonging to Montreal
Nom. Horse Power as per Section 28 555 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion Marine No. of Cylinders three No. of Cranks three
Dia. of Cylinders 27"-44"-73" Length of Stroke 48" Revs. per minute 80 Dia. of Screw shaft 14.8" Material of Forged Steel
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 lead lead If two
liners are fitted, is the shaft lapped or protected between the liners protected Length of stern bush 8'-0 1/2"
Dia. of Tunnel shaft 14 1/2" as per rule 15.3 Dia. of Crank shaft journals 14 1/2" as per rule 15.96 Dia. of Crank pin 14 1/2" Size of Crank webs 2'-4" x 4'-4" Dia. of thrust shaft under
collars 14 1/2" Dia. of screw 17'-9" Pitch of Screw 16'-6" No. of Blades 4 State whether moveable no Total surface 95 sq. ft.
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 Sizes of Pumps 2 H.P. 9 1/2" x 7 1/8" No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 7-3 1/2' In Holds, &c. 8-3 1/2'

No. of Bilge Injections 1 sizes 8 Connected to condenser, or to circulating 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 yes
Are all connections with the sea direct on the skin of the ship down on skin 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 Forward bilge pipes through X bunker How are they protected lumber boards
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 of stoking

BOILERS, &c.—(Letter for record) Manufacturers of Steel
Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers
Working Pressure 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 easing 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 rivets 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 top Thickness of plates crown Description of longitudinal joint No. of strengthening rings
bottom 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 End plates in steam space:
Material of stays Area at smallest part Area supported by each stay Working pressure by rules Material of stays
Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of Front plates at bottom
Area at smallest part Area supported by each stay Working pressure of plate by rules
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
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



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *-*

SPARE GEAR. State the articles supplied:—

<i>1 propeller</i>	<i>1 tail end shaft (not put on board)</i>	
<i>2 connecting rod top end bolts & nuts</i>	<i>6 cylinder cover studs & nuts</i>	<i>24 Condenser tubes</i>
<i>2 " " bottom " " "</i>	<i>6 steam chest " " "</i>	<i>1 set metallic packing</i>
<i>2 main bearing bolts</i>	<i>16 junk ring studs & nuts</i>	<i>1 valve spindle</i>
<i>1 set coupling bolts</i>	<i>1 H.P. piston valve</i>	<i>1 feed pump ram</i>
<i>1 set feed & bilge pump valves</i>	<i>1 pr top end brasses</i>	<i>1 quadrant block</i>
<i>1 set piston springs</i>	<i>1 set air pump valves</i>	<i>Quantity of annealed bolts & nuts</i>
<i>18 boiler tubes</i>	<i>1 set check valves</i>	<i>Iron of various sizes</i>

The foregoing is a correct description,

ROBB ENGINEERING WORKS LIMITED

Per -

A. G. Robb Chief Engineer.

Manufacturer.

Dates of Survey while building	During progress of work in shops - - - <i>1919 Aug 22, Dec 6-16-23, 1920 Jan 7, Feb 7-14-17-27, March 16, April 22, May 14, June 11-3, July 31</i>
	During erection on board vessel - - - <i>1921 Dec 2-9-15-16-17-21-23-24-28-30-31, 1921 Jan 4-6-10-12-18-19-21-26-27-31, Feb 7-9-16-18-19-21-25</i>
Total No. of visits	<i>43</i>

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

Dates of Examination of principal parts—Cylinders	<i>Aug 22, 1919</i>	Slides	<i>July 17-1920</i>	Covers	<i>Feb 7, 1920</i>	Pistons	<i>Dec 6, 1919</i>	Rods	<i>Feb 7, 1920</i>
Connecting rods	<i>Dec 6, 1919</i>	Crank shaft	<i>Mar 16, 1920</i>	Thrust shaft	<i>Dec 16, 1919</i>	Tunnel shafts	<i>Feb 7, 1920</i>	Screw shaft	<i>July 27, 1920</i>
Stern tube	<i>Feb 14, 1920</i>	Steam pipes tested	<i>July 31, 1920</i>	Engine and boiler seatings	<i>July 26, 1920</i>	Engines holding down bolts	<i>Jan 26, 1921</i>		
Completion of pumping arrangements	<i>Feb 24, 1921</i>	Boilers fixed	<i>Dec 31, 1920</i>	Engines tried under steam	<i>Feb 16, 1921</i>				
Completion of fitting sea connections	<i>Dec 17, 1920</i>	Stern tube	<i>Dec 15, 1920</i>	Screw shaft and propeller	<i>Dec 16, 1920</i>				
Main boiler safety valves adjusted	<i>Feb 25, 1921</i>	Thickness of adjusting washers	<i>See 5/16, 5/32, 5/16, 5/32, 5/16, 5/32, 5/16, 5/32</i>						
Material of Crank shaft	<i>Steel forged</i>	Identification Mark on Do.	<i>732 O.T.D.</i>	Material of Thrust shaft	<i>Forged steel</i>	Identification Mark on Do.	<i>741 O.T.D.</i>		
Material of Tunnel shafts	<i>Forged steel</i>	Identification Marks on Do.	<i>O.T.D.</i>	Material of Screw shafts	<i>Forged steel</i>	Identification Marks on Do.	<i>864 O.T.D.</i>		
Material of Steam Pipes	<i>Steel</i>			Test pressure	<i>540 lbs</i>				

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 Miner"*

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines have been constructed under special survey in accordance with the Rules. The materials are good and the workmanship satisfactory. The engines and auxiliary machinery have been satisfactorily fitted on board and tried under steam with satisfactory results, and, in our opinion, they are eligible to receive the record LMC 2-21*

It is submitted that this vessel is eligible for THE RECORD. + LMC. 2.21. FD CL.

RecM

12/4/21

JMR

The amount of Entry Fee ... £ \$	<i>30.00</i>
Special ... £	<i>433.60</i>
Donkey Boiler Fee ... £	<i>110.00</i>
Travelling Expenses (if any) £	<i>110.00</i>

When applied for,

March 3rd 1921

When received,

2/4/21

L. Moon, & L. Moon for O. J. Jones.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

REL. 15 1921

Assigned

+ L.M.C. 2.21

A. D. C. L.



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