

Rpt. 4.

# REPORT ON MACHINERY.

No. 1304

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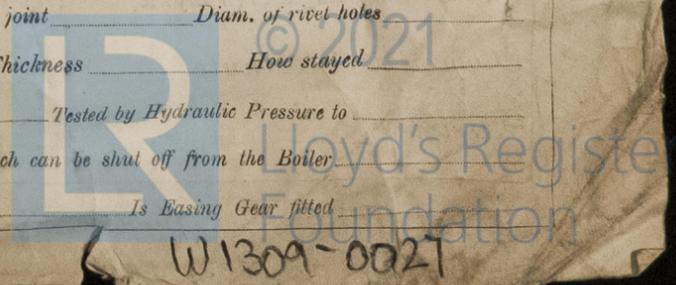
Date of writing Report Dec 8<sup>th</sup> 1920 When handed in at Local Office Dec 10<sup>th</sup> 1920 Port of Halifax N.S.  
 No. in Survey held at Halifax N.S. Date, First Survey Aug 2<sup>nd</sup> 1919 Last Survey Nov 27<sup>th</sup> 1920  
 Reg. Book. 53802 on the Steel Single Deck Canadian Mariner (Number of Visits 42)  
 Master J. D. McKenzie Built at Halifax N.S. By whom built Halifax Shipyards Ltd. Tons } Gross 5354.30  
 Engines made at Amherst N.S. By whom made Robt Engine Works Ltd when made 1920 Net 3311.36  
 Boilers made at Toronto By whom made Canadian Algis Chalmers when made 1920  
 Registered Horse Power \_\_\_\_\_ Owners Canadian Government Merchant Marine Port belonging to Halifax N.S.  
 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 15 1/2" 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 red 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 13-33 Dia. of Crank shaft journals 14 1/2" as per rule 14 Dia. of Crank pin 14 1/2" Size of Crank webs 2-4" x 9" 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 Weir's 9 1/2" 7.18 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"  
 Sunnel well 1-3 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 none  
 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 bulkhead How are they protected Limber 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 grating

BOILERS, &c.—(Letter for record S) Manufacturers of Steel \_\_\_\_\_  
 Total Heating Surface of Boilers 8565 Is Forced Draft fitted yes No. and Description of Boilers 3 S B  
 Working Pressure 180 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 \_\_\_\_\_ 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 \_\_\_\_\_

If not, state whether and when, one will be sent? Is a Report also sent on the Hull of the ship?



IS A DONKEY BOILER FITTED? *No*

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

SPARE GEAR. State the articles supplied:— 1 propeller, 1 tail end shaft (not put on board)

2 connecting rod top end bolts + nuts	6 cylinder cover studs + nuts	24 condenser tubes
2 " " bottom " " " "	6 steam chest " " " "	1 set metallic packing
2 main bearing bolts	16 junk ring studs + nuts	1 valve spindle
1 set coupling bolts	1 H.P. piston valve	1 feed pump ram
1 set feed + bilge pump valves	1 pr top end brasses	1 quadrant block
1 set piston springs	1 set air pump valves	Quantity of assorted bolts + nuts
18 boiler tubes	1 set check valves	Iron of various sizes.

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 -- *1919 Aug 2, 22, Sept 13, 17, 19, Oct 7, Nov 25, Dec 6, 23, 1920 Feb 7, 14, 27, May 14.*  
 During erection on board vessel -- *Aug 20, 24, Sept 2, 9, 10, 14, 16, 20, 21, 22, 27, 29, 30, Oct 1, 6, 11, 19, 20, 22, 26, 27, 29, Nov 3, 4, 5, 9, 12, 16, 20*  
 Total No. of visits *42* Is the approved plan of main boiler forwarded herewith *✓*

Dates of Examination of principal parts—Cylinders *Aug 22/19, Sept 13/19, Oct 7/19, Dec 23/19, Feb 7/20, May 14/20* Slides *Nov 25/19, Dec 23/19, Feb 7/20, May 14/20* Covers *Aug 2/19, Dec 23/19, Feb 7/20, May 14/20* Pistons *Nov 25/19, Dec 23/19, Feb 7/20, May 14/20* Rods *Nov 25/19, Dec 23/19, Feb 7/20, May 14/20*  
 Connecting rods *Nov 25/19, Dec 23/19, Feb 7/20, May 14/20* Crank shaft *Sept 19/19* Thrust shaft *Sept 19/19* Tunnel shafts *Sept 10, Oct 22, Nov 15* Screw shaft *Feb 7/20* Propeller *May 14/20*  
 Stern tube *May 14/20* Steam pipes tested *Oct 27/20* Engine and boiler seatings *Sept 10, Oct 22, Nov 15* Engines holding down bolts *Nov 8 & 15/20*  
 Completion of pumping arrangements *Nov 16/20* Boilers fixed *Oct 22/20* Engines tried under steam *Nov 9 & 22/20*  
 Completion of fitting sea connections *Sept 1/20* Stern tube *Sept 2/20* Screw shaft and propeller *Sept 2 & 3/20*  
 Main boiler safety valves adjusted *Nov 20/20* Thickness of adjusting washers *Star boiler 5 9/16, Centre boiler 5 13/16, Port boiler 5 1/4*  
 Material of Crank shaft *Forged steel* Identification Mark on Do. *OTJ* Material of Thrust shaft *Forged steel* Identification Mark on Do. *OTJ*  
 Material of Tunnel shafts *Forged steel* Identification Marks on Do. *OTJ* Material of Screw shafts *Forged steel* Identification Marks on Do. *OTJ*  
 Material of Steam Pipes *Steel* 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 *✓* If so, state name of vessel *✓*

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 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 11-20*

*It is submitted that this vessel is eligible for THE RECORD, + LMC. 11.20 FD:*

*R. M. 5/1/21. J. R. R.*

The amount of Entry Fee ... £ \$ : *30.00* When applied for, *Dec 9<sup>th</sup> 1920*  
 Special ... £ : *433.10*  
 Donkey Boiler Fee ... £ : *110.00* When received, *19/21*  
 Travelling Expenses (if any) £ : *110.00*

*J. Moon + J. Moon for O. J. Jones*  
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. 11 FEB. 1921*  
 Assigned *J. M. L. 11.20*



Certificate (if required) to be sent to Registrar of Shipping.

DEFINITION WRITTEN