

# REPORT ON MACHINERY.

No. 112 JAN. 22 1920  
TUE III 1920

Received at London Office

Date of writing Report June 1<sup>st</sup> 1920 When handed in at Local Office June 4<sup>th</sup> 1920 Port of Halifax N.S.  
No. in Survey held at New Glasgow, N.S. Date, First Survey July 2<sup>nd</sup> 1919 Last Survey May 5<sup>th</sup> 1920  
Reg. Book. on the Steel screw steamer "Canadian Miner" (Number of Visits 35)

Master W. J. McGeer Built at New Glasgow, N.S. By whom built Nova Scotia Steel & Coal Co. Tons { Gross 1765.68  
Net 1000.29  
Engines made at Amherst, N.S. By whom made Robb Engine Works when made 1919-1920  
Boilers made at Halifax, N.S. By whom made Nova Scotia Steel & Coal Co. when made 1919-1920

Registered Horse Power \_\_\_\_\_ Owners Canadian Government Merchant Marine, Ltd. Port belonging to Montreal  
Nom. Horse Power as per Section 28 166 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines No. direct acting Triple Expansion No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 17 1/2", 28 3/4" & 47" Length of Stroke 33" Revs. per minute 80 Dia. of Screw shaft as per rule 9 3/8" Material of steel  
as fitted 10 1/4" screw shaft)

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 \_\_\_\_\_ Length of stern bush 41"

Dia. of Tunnel shaft as per rule 8 5/16" Dia. of Crank shaft journals as per rule 9 1/32" Dia. of Crank pin 9 3/8" Size of Crank webs 6 x 17" Dia. of thrust shaft under  
collars 9 3/8" Dia. of screw 12 1/4" Pitch of Screw MIX. 12"-6" No. of Blades 4 State whether moveable no Total surface 51.75 sq ft  
MAX. 13-2"

No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 18" Can one be overhauled while the other is at work yes  
No. of Bilge pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work yes

No. of Donkey Engines 1 Sizes of Pumps 12" x 10 1/2" x 21" No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room Five - 2 1/2" diam. In Holds, &c. Five - 2 1/2" diam. and one connected  
to Tunnel well - 2 1/2" diam.

No. of Bilge Injections 1 sizes 6" diam. Connected to condenser or to circulating pump \_\_\_\_\_ Is a separate Donkey Suction fitted in Engine room & size yes - 2 1/2" diam.

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 Valves

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 at least line  
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 Wash deck service and oil pipes How are they protected Steel plates  
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 Steering engine platform  
BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Lukens Steel Co. Coatsville Pa.

Total Heating Surface of Boilers 2900 sq ft Is Forced Draft fitted no No. and Description of Boilers 2 Single-ended, Scotch multitubular  
Working Pressure 185 lbs per sq in Tested by hydraulic pressure to 370 lbs per sq in Date of test \_\_\_\_\_ No. of Certificate 9410

Can each boiler be worked separately yes Area of fire grate in each boiler 42 sq ft No. and Description of Safety Valves to  
each boiler 2, spring-loaded Area of each valve 7.06 sq in Pressure to which they are adjusted 185 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 12" Mean dia. of boilers 15'-9" Length 10'-9" Material of shell plates Steel  
Thickness 13/16" Range of tensile strength 28-33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Lap joints  
long. seams Double Strapped Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 3/4" Lap of plates or width of butt straps 19 1/4"

Per centages of strength of longitudinal joint rivets 87.5 Working pressure of shell by rules 208 Size of manhole in shell 12" x 16"  
plate 85

Size of compensating ring 32" x 36" No. and Description of Furnaces in each boiler Two - Morrison, Corv. Material Steel Outside diameter 48 5/8"

Length of plain part top 7" Thickness of plates bottom 8" Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_

Working pressure of furnace by the rules 206 Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 1"  
Pitch of stays to ditto: Sides 6" x 9" Back 7 1/6" x 8" Top 7 1/2" x 7 1/2" If stays are fitted with nuts or riveted heads riveted outside Working pressure by rules 193

Material of stays Steel Area at smallest part 1.29 sq in Area supported by each stay 56.48 Working pressure by rules 240 End plates in steam space: \_\_\_\_\_  
Material Steel Thickness 3/16" Pitch of stays 14 x 15 How are stays secured screwed Working pressure by rules 208 Material of stays Steel

Area at smallest part 3.98 Area supported by each stay 210 Working pressure by rules 197 Material of Front plates at bottom Steel  
Thickness 7/8" Material of Lower back plate Steel Thickness 3/16" Greatest pitch of stays 13 1/4" Working pressure of plate by rules 260

Diameter of tubes 3" Pitch of tubes 14 x 14 5/8 Material of tube plates Steel Thickness: Front 7/8" Back 7/8" Mean pitch of stays 8.6"  
Pitch across wide water spaces 14 1/2" Working pressures by rules 240 Girders to Chamber tops: Material Steel Depth and  
thickness of girder at centre 9" 1/2" Length as per rule 33" Distance apart 7 1/2" Number and pitch of stays in each 3 - 7 1/2"

Working pressure by rules 250 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 \_\_\_\_\_

IS A DONKEY BOILER FITTED? *No.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

*2 connecting-rod bolts and nuts: 2 piston rod top end bolts and nuts:  
2 main-bearing bolts: 12 coupling-bolts: 1 set feed and bilge pump val-  
1 set of piston-springs: 5 doz. assorted bolts and nuts: Iron of various  
sizes: propeller and propeller shaft: 1 doz. junk ring bolts: set of C.  
valves: 6 Cylinder cover studs: 15 boiler-tubes: 24 Condenser tubes and  
50 ferrules: 1 set safety valve springs.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building: During progress of work in shops -- *July 2, 9, 22, 23, 25, 31, Aug. 8, 14, 23, Sept. 6, 13, 20, Oct. 7, 31, Nov. 25, Dec. 6, 28, 1919.*  
During erection on board vessel -- *April 5, 6, 7, 8, 12, 13, 14, 15, 16, 20, 21, 23, 26, 27, 28, 29, May 5<sup>th</sup> 1920.*  
Total No. of visits *35*

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders *July 2, 22, 31* Slides *Aug. 8, 14, 23* Covers *Aug. 8, 14, 23* " donkey " *Aug. 8, 14, 23* Pistons *Aug. 8, 14, 23* Rods *Aug. 8, 14, 23*  
Connecting rods *Nov. 25* Crank shaft *June 14, 25* Thrust shaft *Aug. 22* Tunnel shafts *Sept. 4* Screw shaft *May 5, 15* Propeller *March 31*  
Stern tube *July 23* Steam pipes tested *April 15, 20* Engine and boiler seatings *Sept. 18, 20, 26* Engines holding down bolts *April 13, 16*  
Completion of pumping arrangements *May 10/20* Boilers fixed *April 3* Engines tried under steam *Jan. 17<sup>th</sup> (Shop), April 29<sup>th</sup> (Dock)*  
Completion of fitting sea connections *Feb. 1<sup>st</sup>* Stern tube *March 1<sup>st</sup>* Screw shaft and propeller *March 31*  
Main boiler safety valves adjusted *April 29<sup>th</sup>* Thickness of adjusting washers *PORT. 1/16", 1/16", 1/16"*  
Material of Crank shaft *Steel* Identification Mark on Do. *714, 684, 663* Material of Thrust shaft *Steel* Identification Mark on Do. *746, 756, 719*  
Material of Tunnel shafts *Steel* Identification Marks on Do. *703, 754* Material of Screw shafts *Steel* Identification Marks on Do. *702, 709*  
Material of Steam Pipes *Steel* Identification Marks on Do. *4, 9, 19, 29, 19* Test pressure *555 lbs (Hydro)*

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 Sealer*

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*The machinery for this vessel has been built under special survey, in accordance with Lloyd's rules and approved plans: the qualities of material and workmanship being satisfactory, and is, in my opinion, eligible to be classed L.M.C.*

*It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 5-20*  
*HTG 24/6/20*

*JWD*

Certificate (if required) to be sent to

The amount of Entry Fee ... *£ 10 : 00* : When applied for, *June 4<sup>th</sup> 1920*  
Special ... *£ 1/24 : 50* :  
Donkey Boiler Fee ... *£ :* :  
Travelling Expenses (if any) *£ 80 : 00* : When received, *29/7/20*

Committee's Minute *TUE. JUN. 29 1920*

Assigned *+ L.M.C. 5-20*

*[Signature]*  
Engineer Surveyor to Lloyd's Register of Shipping.

*CERTIFICATE WRITTEN  
+ Copy 16.6.24*

