

REC'D NEW YORK NOV 26 1920

Rpt. 4.

# REPORT ON MACHINERY. • No. 1299

Date of writing Report *Nov 12<sup>th</sup> 1920* When handed in at Local Office *Nov 15<sup>th</sup> 1920* Port of *Montreal* Received at London Office *TUE DEC. 14 1920*  
No. in Survey held at *Shirbrooke P. 2.* Date, First Survey *April 20. 1920* Last Survey *Aug 23 1920*  
Reg. Book. *on the Steel Screw Steamer "Volunda"* (Number of Visits *7*)  
Master *James Meikle* Built at *New Glasgow N.S.* By whom built *Nova Scotia Steel & Coal Co. Ltd.* Tons { Gross *1788.83*  
Net *1055.80*  
When built *1910*  
Engines made at *Shirbrooke P. 2.* By whom made *Canadian Ingersoll Rand Ltd.* when made *1920*  
Boilers made at *Partly at Amherst N.B. Robt Engineering Works* when made *1920*  
*New Glasgow N.S.* By whom made *Nova Scotia Steel & Coal Co. Ltd.*  
Registered Horse Power *166* Owners *Wais Steamship Co Ltd.* Port belonging to *Pictou*  
Nom. Horse Power as per Section 28 *166 165* Is Refrigerating Machinery fitted for cargo purposes *—* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Triple Expansion Super condensing* No. of Cylinders *3* No. of Cranks *3*  
Dia. of Cylinders *17 1/2 x 28 3/4 x 47* Length of Stroke *33* Revs. per minute *88* Dia. of Screw shaft *as per rule 10.57* Material of screw shaft *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 *—* If the liner is in more than one length are the joints burned *—* 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 *—* If two liners are fitted, is the shaft lapped or protected between the liners *—* Length of stern bush *3'-8 1/2"*  
Dia. of Tunnel shaft *as per rule 8 1/2"* Dia. of Crank shaft journals *as per rule 9 1/2"* Dia. of Crank pin *9 3/8* Size of Crank webs *33 3/4 long* Dia. of thrust shaft under collars *9 3/8* Dia. of screw *12'-4"* Pitch of Screw *Max 13'-2"* No. of Blades *4* State whether moveable *No* Total surface *48.28 sq*  
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 *2* Sizes of Pumps *8 x 5 1/2 x 12 G.S.P. 9 x 11 x 12 Ballast* No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room *5-2 1/2" Dia* In Holds, &c. *5-2 1/2" Dia & one*

*to Tunnel Well 2 1/2" Dia*  
No. of Bilge Injections *1* sizes *6" Dia* Connected to condenser, or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size *Yes, 2 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 *—*  
Are all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Valves & Cocks*  
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 Loadline*  
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-back service & tail 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 *Starboard Engine Platform*

## BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel

Total Heating Surface of Boilers *2900* Is Forced Draft fitted *no* No. and Description of Boilers *2 S.B.*  
Working Pressure *185* 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 *Ref port* 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 *—*

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IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Conn Rod Top End Bolts and Nuts; 2 Conn Rod Bottom end bolts and nuts; 2 Main Bearing Bolts & Nuts; 3 Crank Shaft Coupling Bolts and Nuts; 1 Feed Pump Suction Valve; 1 Feed Pump Discharge Valve; 1 Bilge Pump Suction Valve; 1 Bilge Pump Discharge Valve; 6 Cylinder Cover Studs and Nuts; 6 Steam Chest Cover Studs and Nuts; 12 Junk Ring Studs and Nuts; 24 Condenser Tubes; 80 Condenser tube ferrules; 1 Set of Piston Rings; 1 set I.P. and 1 set H.P. Lockwood and Carlyle Piston Rings.

The foregoing is a correct description,

Canadian INGERSOLL-RAND CO. Limited

SHERBROOKE, Que.

C. A. Danks - Mech. Engr.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1920, Apr. 20, May 4, 21, June 11, 24, August 23, July 16.  
During erection on board vessel -- 1920, April 16, May 11-15, June 8-24-28, July 21, Aug 3-5-10, 31, Sept. 23-24  
Total No. of visits 20.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 24-6-20 Slides 23-8-20 Covers 16-7-20 Pistons 16-7-20 Rods 16-7-20

Connecting rods 23-8-20 Crank shaft 24-6-20 Thrust shaft 23-8-20 Tunnel shafts 16-4-20 Screw shaft 11-5-20 Propeller 8-6-20

Stern tube June 24<sup>th</sup> 1920 Steam pipes tested Sept 13<sup>th</sup> 1920 Engine and boiler seatings May 25<sup>th</sup> 1920 Engines holding down bolts Sept 13-20

Completion of pumping arrangements Sept 16<sup>th</sup> 1920 Boilers fixed Aug 3<sup>rd</sup> 1920 Engines tried under steam Sept 23<sup>rd</sup> 1920

Completion of fitting sea connections July 21<sup>st</sup> 1920 Stern tube June 24<sup>th</sup> 1920 Screw shaft and propeller June 28<sup>th</sup> 1920

Main boiler safety valves adjusted Sept 23<sup>rd</sup> 1920 Thickness of adjusting washers Stbd. 7/16" aft 5/8" Port. 1/2" aft 5/8" Port. 1/2" aft 5/8"

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

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

Material of Steam Pipes Steel Test pressure 555 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 Miner"

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 quality 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. 9.20

21/12/20

The amount of Entry Fee ... £ 15.00  
Special ... £ 70.00  
Installation ... £ 50.75  
Donkey Boiler Fee ... £  
Travelling Expenses (if any) £ 68.00

When applied for, Oct. 9, 1920  
When received, 11.11.21

Shook for O. G. Jones.

W. J. Adams  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned + L.M.C. 9.20

ERI.24 DEC. 1920

CERTIFICATE WRITTEN



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