

REPORT ON MACHINERY.

Completion of Barrow Report No. 1672

Received at London Office

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Date of writing Report 19 When handed in at Local Office 19 Port of Montreal

No. in Survey held at Montreal Date, First Survey July 14 Last Survey Dec 15 1916
Reg. Book. Supp. 4. on the Twin Screw Icebreaker "Mikula Selianinovich" (Number of Visits)

Master John L. Reid. Built at Montreal By whom built Canadian Vickers Ltd. Tons Gross 3514 Net 2041
Engines made at Barrow in Furness By whom made Messrs Vickers Ltd (Eng 547) when made 1916
Boilers made at " " By whom made " " " when made 1916

Registered Horse Power Owners Imperial Russian Government Port belonging to Petrograd.
Nom. Horse Power as per Section 28 1355 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Sc Triple Exp. Impulse condensing No. of Cylinders 6 No. of Cranks 6
Dia. of Cylinders 29"-46"-76" Length of Stroke 48" Revs. per minute 100 Dia. of Screw shaft as per rule 14.87" as fitted 14 1/2" Material of screw shaft 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

liners are fitted, is the shaft lapped for protected between the liners Yes Length of stern bush 7' 0" If two
Dia. of Tunnel shaft as per rule 13.9" as fitted 15.5" Dia. of Crank shaft journals as per rule 14.6" as fitted 16.2" Dia. of Crank pin 16 3/4" Size of Crank webs 33" x 1 1/2" Dia. of thrust shaft under collars 16 1/2" Dia. of screw 15' 0" Pitch of Screw 19' 0" No. of Blades 4 State whether moceable Yes Total surface 88 sq ft

No. of Feed pumps 2 Diameter of ditto 14" x 12" Stroke 24 Can one be overhauled while the other is at work Yes
No. of Bilge pumps 2 Diameter of ditto 6" x 8" Stroke 8" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 10 Sizes of Pumps 2 Ben. Ben. 1 1/2" x 7 1/2" x 10" 2 circulating pumps 1 1/2" discharge
In Engine Room 1-4", 2-3", 1-3" in each Tunnel. 2-3", 2-4" in Fore Hold, 2-4" in Hold, &c. 2-4", 2-3", F.P.K. 9 1/2", 7d. Rimming tank 10 1/2"
No. 4 Tank. 2-6", No. 5 Tank 1-8", No. 6 Tank 8", No. 7 1-6" R. Rimming tank 1-9 1/2" A.P.K. 10 1/2"

No. of Bilge Injections 2 sizes 10" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size 1-4" x 2-3"

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 sized 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 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
Dates of examination of completion of fitting of Sea Connections 4/5/16 of Stern Tube 4/5/16 Screw shaft and Propeller 13/10/16

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Main Deck
BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel H. Beardmore & Co. Ltd. & G. Colville & Sons, Fife, Dundee

Total Heating Surface of Boilers 110560 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Two double & four single Multitubular
Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 9/5/16 - 15/5/16 No. of Certificate 276-277.

Can each boiler be worked separately Yes Area of fire grate in each boiler 140 sq ft No. and Description of Safety Valves to each boiler Three spring loaded Area of each valve 15.9 sq in Pressure to which they are adjusted 183 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18 in Mean dia. of boilers 15.6" Length 22' 0" Material of shell plates Steel
Thickness 17/16 Range of tensile strength 28/32 tons Are the shell plates welded or flanged No. Descrip. of riveting: cir. seams Middle Tube
long. seams Middle Tube Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 10" Lap of plates or width of butt straps 22 1/2"

Per centages of strength of longitudinal joint rivets 87.7 plate 85.3 Working pressure of shell by rules 211 lbs Size of manhole in shell 20" x 16
Size of compensating ring 3.62 x 2.634 x 17 1/8 No. and Description of Furnaces in each boiler 396 corrugated Material Steel Outside diameter 4 3/4"

Length of plain part top bottom Thickness of plates crown 5/8" Description of longitudinal joint Weld No. of strengthening rings
Working pressure of furnace by the rules 196 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/32" Back 19/32" Top 9/32" Bottom 1"

Pitch of stays to ditto: Sides 8 1/4" x 7 3/8" Back 8 1/4" x 7 3/8" Top 8 1/4" x 7 3/8" If stays are fitted with nuts or riveted heads Clubs Working pressure by rules 186 lbs
Material of stays Steel Diameter at smallest part 1.44 sq in Area supported by each stay 64.5 sq in Working pressure by rules 180 lbs End plates in steam space:

Material Steel Thickness 1 1/4" Pitch of stays 18" x 18" How are stays secured South Clubs Working pressure by rules 189 lbs Material of stays Steel
Diameter at smallest part 7.23 sq in Area supported by each stay 324 sq in Working pressure by rules 232 lbs Material of Front plates at bottom Steel

Thickness 37/32 Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules
Diameter of tubes 2 1/2" Pitch of tubes 3 5/8" Material of tube plates Steel Thickness: Front 37/32 Back 1/8 Mean pitch of stays 9.06

Pitch across wide water spaces 12 3/4 Working pressures by rules 190 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/2" x 1 1/2" Length as per rule 32" Distance apart 8 3/4" Number and pitch of stays in each 3-7 3/8"

Working pressure by rules 210 lbs Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately
Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed
Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

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