

REPORT ON MACHINERY

No. 1642

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of writing Report 22nd June 1916 When handed in at Local Office 6th July 1916 Port of Barrow-in-Furness

in Survey held at Barrow-in-Furness Date, First Survey 15th June 1914 Last Survey 19

Book. 29 on the Twin Screw Icebreaker "J. D. HAZEN" (Number of Visits)

Registered at Montreal By whom built Messrs Canadian-Vickers Ltd When built 1916

Engines made at Barrow-in-Furness By whom made Messrs Vickers Ltd (Eng 457) when made 1916

Boilers made at Barrow-in-Furness By whom made Messrs Vickers Ltd when made 1916

Registered Horse Power 1355 Owners Imperial Russian Government Port belonging to

Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

GINES, & Co. — Description of Engines 3 Triple Expansion Surface Condensing of Cylinders 3 Each engine No. of Cranks 3 Each engine
No. of Cylinders 29 — 46 — 76 Length of Stroke 48 Revs. per minute 100 Dia. of Screw shaft 14.87 Material of screw shaft Steel

Is the after end of the liner made water tight 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 7'-0"
Dia. of Tunnel shaft 13.9 Dia. of Crank shaft journals 14.6 Dia. of Crank pin 16 3/4 Size of Crank webs 33 x 11 1/2 Dia. of thrust shaft under bars 16 1/2 Dia. of screw 15'-0" Pitch of Screw 19'-0" No. of Blades 4 State whether moveable Total surface 88 sq ft

Can one be overhauled while the other is at work Diameter of ditto 7 x 12 1/2 Stroke 24 Can one be overhauled while the other is at work

Can one be overhauled while the other is at work Diameter of ditto 6 x 8 Stroke 8 Can one be overhauled while the other is at work

Sizes of Pumps 2 Oil pumps 12 x 22 x 15 2 Circulating pumps 14 1/2" discharge 1 Ballast pump 14" discharge No. and size of Suctions connected to both Bilge and Donkey pumps In Holds, &c.

Is a separate Donkey Suction fitted in Engine room Connected to condenser, or to circulating pump

Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

Are they Valves or Cocks Are the Discharge Pipes above or below the deep water line

Are the Blow Off Cocks fitted with a spigot and brass covering plate

How are they protected

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

of examination of completion of fitting of Sea Connections of Stern Tube of Screw shaft and Propeller

Is it fitted with a watertight door worked from

Manufacturers of Steel Wm Beardmore & Co Ltd; D. Colville & Co Ltd; Frithingham & Co.

Heating Surface of Boilers 11056 Is Forced Draft fitted No. and Description of Boilers Two double ended multitubular

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Dates of test 9/5/16 - 15/5/16 Nos. of Certificates 276, 277

Area of fire grate in each boiler 140 No. and Description of Safety Valves to boiler Three - spring loaded Area of each valve 15.9 Pressure to which they are adjusted Are they fitted with easing gear

Mean dia. of boilers 15'-6" Length 22'-0" Material of shell plates Steel

Range of tensile strength 28/32 tons Are the shell plates welded or flanged Descrip. of riveting: cir. seams End stroke D.R. (lap) Middle " T.R.

Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 10 Lap of plates or width of butt straps 22 1/2

Working pressure of shell by rules 211 lbs Size of manhole in shell 20" x 16"

No. and Description of Furnaces in each boiler 6 - Corrugated Material Steel Outside diameter 4'-3 1/2"

Thickness of plates 7/8 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 7/32 Back 7/32 Top 7/32 Bottom 1"

Working pressure by rules 186 lbs If stays are fitted with nuts or riveted heads Nuts

Working pressure by rules 180 lbs End plates in steam space: Steel Thickness 1 1/16 Pitch of stays 18" x 18" How are stays secured Double Nuts Working pressure by rules 189 lbs Material of stays Steel

Working pressure by rules 232 lbs Material of Front plates at bottom Steel

Working pressure of plate by rules

Material of tube plates Steel Thickness: Front 27/32 Back 1/16 Mean pitch of stays 9.06

Working pressures by rules 190 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/2" - 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 None Can the superheater be shut off and the boiler worked separately

Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

End plates: Thickness How stayed

Area of safety valves to superheater Are they fitted with easing gear

