

REPORT ON MACHINERY.

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Date of writing Report 16th July 1916 When handed in at Local Office 10 Port of Toronto, Ont.

No. in Survey held at Collingwood, Ont Date, First Survey 8th Sep 1915 Last Survey 23rd June 1916
Reg. Book. on the Steel Screw Steamer "Royalite" (Number of Visits 22) Tons { Gross 2051.83
Net 1542.44

Master H. Scott Built at Collingwood By whom built Collingwood Shipbuilding Co When built 1916

Engines made at Collingwood By whom made Collingwood Shipbuilding Co when made 1916

Boilers made at do By whom made do when made 1915

Registered Horse Power 95.6 Owners Imperial Oil Co., Ltd. Port belonging to Sarnia

Nom. Horse Power as per Section 28 142.7 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Vertical Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 16"-26"-44" Length of Stroke 36" Revs. per minute 80 Dia. of Screw shaft 10.102 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

at 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 yes Length of stern bush 4ft

Dia. of Tunnel shaft 8.6045 Dia. of Crank shaft journals 9.084 Dia. of Crank pin 9 1/2 Size of Crank webs 6 1/2 x 7 Dia. of thrust shaft under

collars 9 1/4 Dia. of screw 13ft Pitch of Screw 12 ft No. of Blades 4 State whether moveable yes Total surface 56 sq. ft.

No. of Feed pumps 4 Diameter of ditto 2-3" Stroke 20" Can one be overhauled while the other is at work yes

No. of Bilge pumps 3 Diameter of ditto 1-1/4" x 8" Stroke 12" Can one be overhauled while the other is at work yes

No. of Donkey Engines 1 Sizes of Pumps 14 x 8 x 12 duplex No. and size of Suctions connected to both Bilge and Donkey pumps

in Engine Room 3-3" Bilge, 2-5" Tank and 1-6" Tank Suctions In Holds, &c. 1-3" suction in Fore hold, - 1-3" suction in Pump

Room, - 1-3" suction in Fore Peak, - 1-3" suction in after peak.

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump connected Is a separate Donkey Suction fitted in Engine room & size yes - 4"

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 no

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves except Bates' expansion Valve off.

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 Air Pipes to Double Bottom How are they protected Wood casing

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 13/12/15 of Stern Tube 8/12/15 Screw shaft and Propeller 12/12/15

Is the Screw Shaft Tunnel watertight no Tunnel Is it fitted with a watertight door no worked from no

MILERS, &c.—(Letter for record (r)) Manufacturers of Steel Worth Bros.

Total Heating Surface of Boilers 2443 Is Forced Draft fitted no No. and Description of Boilers 1- Single Ended

Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 12/12/15 No. of Certificate 6

Can each boiler be worked separately no Area of fire grate in each boiler 72 No. and Description of Safety Valves to

each boiler 1-3" Turin Area of each valve 7.07 Pressure to which they are adjusted 180 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 3-9" Bates' Tank Mean dia. of boilers 15ft Length 11ft Material of shell plates Steel

Thickness 1/4" Range of tensile strength 28-32 T_s Are the shell plates welded or flanged no Descrip. of riveting: cir. seams none

Long. seams 2 1/2" Straps 3/16" Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 9 7/16" Lap of plates or width of butt straps 2 1/4"

Percentages of strength of longitudinal joint rivets 95.4 Working pressure of shell by rules 210.4 Size of manhole in shell 16" x 12"

Size of compensating ring 34" x 31" No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 49.3

Length of plain part top 65 Thickness of plates bottom 65 Description of longitudinal joint Welded No. of strengthening rings 10

Working pressure of furnace by the rules 214.5 Combustion chamber plates: Material Steel Thickness: Sides 19/32 Back 19/32 Top 19/32 Bottom 3/4

Pitch of stays to ditto: Sides 7 1/2" x 6" Back 7" x 6 1/2" Top 8" x 7" If stays are fitted with nuts or riveted heads outer back nuts Working pressure by rules 195.7

Material of stays outer back Steel Diameter at smallest part 1 1/2" Area supported by each stay 45.5 Working pressure by rules 227.7 End plates in steam space:

Material Steel Thickness 3/8" Pitch of stays 16" x 16" How are stays secured secured through plates Working pressure by rules 197.6 Material of stays Steel

Diameter at smallest part 2 1/2" Area supported by each stay 256 Working pressure by rules 199.4 Material of Front plates at bottom Steel

Thickness 1/16" Material of Lower back plate Steel Thickness 1/16" Greatest pitch of stays 11" x 20" Working pressure of plate by rules 196.9

Diameter of tubes 3" Pitch of tubes 4 1/2" x 4" Material of tube plates Steel Thickness: Front 1/16" Back 1/16" Mean pitch of stays 8 1/2" x 8"

Thickness across wide water spaces 14 1/8" Working pressures by rules 191 Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 10" x 1 1/2" Length as per rule 33 Distance apart 7 1/4" x 8" Number and pitch of stays in each 3 @ 7"

Working pressure by rules 203.8 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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