

REPORT ON MACHINERY.

No. 13615

Received at London Office WED. JUL 30 1924

Date of writing Report 24-7-24 19 When handed in at Local Office 24-7-24 19 Port of Aberdeen

No. in Survey held at Aberdeen Date, First Survey Sept. 17th 1923 Last Survey July 14th 1924

Reg. Book. on the Single Screw Steamer **S^r. MAGNUS.**

Master Built at Aberdeen By whom built Hall Russell & Co. Ltd. No. 683 Tons Gross 1529.40 Net 857.71 When built 1924

Engines made at Aberdeen By whom made Hall Russell & Co. Ltd. E No. 683 when made 1924

Boilers made at do By whom made do B. No. 683 when made 1924

Registered Horse Power Owners North of Scotland & Ork. & Shet. Steam Navigation Co. Ltd. Port belonging to Aberdeen

Vol. Horse Power as per Section 28 ~~237~~ 250. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 20", 33 1/2", 56" Length of Stroke 36" Revs. per minute 95 Dia. of Screw shaft as per rule 11.18" Material of screw shaft as fitted 11.5" 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

Is the propeller boss Yes If the liner is in more than one length are the joints burned on length 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 file tightly If two

liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 4'-0"

Dia. of Tunnel shaft as per rule 10.336" Dia. of Crank shaft journals as per rule 10.96" Dia. of Crank pin 11.125" Size of Crank webs 7" x 1 1/2" Dia. of thrust shaft under

rollers 11 1/2" Dia. of screw 12'-9" Pitch of Screw 16'-0" No. of Blades 4 State whether moveable No Total surface 48 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 20" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 20" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 1-8 x 5-8" & 1-6 x 4 1/2 x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 3 @ 2 3/4" diameter In Holds, &c. Fore hold 1 @ 2" Main 2 @ 2 1/2" After hold 1 @ 2 1/2" Tunnel well 1 @ 2 1/2"

No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 3 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 none

Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both 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 below

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 3 Bilge & 4 Tank suction How are they protected Strong 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

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top Engine grating

MANUFACTURERS, &c.—(Letter for record S (7)) Manufacturers of Steel The Steel Company of Scotland Ltd

Total Heating Surface of Boilers 4302 sq ft Is Forced Draft fitted No No. and Description of Boilers 2, S.E. Cyl. Multi

Working Pressure 200 lbs Tested by hydraulic pressure to 350 lbs Date of test 3-4-24 No. of Certificate 1024

Can each boiler be worked separately Yes Area of fire grate in each boiler 66 sq ft No. and Description of Safety Valves to

each boiler 2, Direct spring Area of each valve 7.67 Pressure to which they are adjusted 200 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 5'-6" Int dia. of boilers 6'-0" Length 10'-9" Material of shell plates Steel

Thickness 1 5/16" Range of tensile strength 29-33 lbs Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R. Line

seams T.R. D.B.S Diameter of rivet holes in long. seams 1 3/4" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 20 1/2"

Percentages of strength of longitudinal joint rivets 98.6% Working pressure of shell by rules 200.4 Size of manhole in shell 20" x 16"

of compensating ring 34 1/8 x 32 1/8 No. and Description of Furnaces in each boiler 3 Deighton Material Steel Outside diameter 4'-0"

Length of plain part top 4' 1/2" bottom 4' 1/2" Thickness of plates crown 5/8" bottom 5/8" Description of longitudinal joint Welded No. of strengthening rings

Working pressure of furnace by the rules 201.5 Combustion chamber plates: Material Steel Thickness: Sides 29/32 Back 25/32 Top 25/32 Bottom 25/32

No. of stays to ditto: Sides 10 3/4 x 8 1/2 Back 9 1/2 x 9 1/2 Topping 9 1/2 x 9 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 201

Material of stays IRON Area at smallest part margin 2.71" Area supported by each stay 90.2" Working pressure by rules 201 End plates in steam space:

Material Steel Thickness 1 3/16" Pitch of stays 19 1/2 x 19 How are stays secured D.N.W Working pressure by rules 203 Material of stays Steel

Area at smallest part 6.66" Area supported by each stay 365.7" Working pressure by rules 201.5 Material of Front plates at bottom Steel

Thickness 5/8" Material of Lower back plate Steel Thickness 29/32 Greatest pitch of stays 15 1/2 x 9 1/2 Working pressure of plate by rules 205.8

Diameter of tubes 3 1/2" Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 15/16 Back 9 1/2 Mean pitch of stays 11"

Clearance across wide water spaces 14 1/2" Working pressures by rules outer 201.3 inner 213 Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 20 7/8" Length as per rule 32 1/2" Distance apart 9 1/2" Number and pitch of stays in each 2 @ 10 1/2"

Working pressure by rules 203 Steam dome: description of joint to shell None % of strength of joint

Material Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Material 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

Material of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Material of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted



