

REPORT ON MACHINERY.

No. 76569

Date of writing Report March 30 1923 When handed in at Local Office March 31 1923 Port of NEWCASTLE-ON-TYNE Received at London Office TUE 27 MAR. 1923

No. in Survey held at Newcastle on Tyne Date, First Survey Oct 4 1919 Last Survey March 19 1923 Reg. Book. 66561 on the SCREW STEAMER "MANDERAN". (Number of Visits 139)

Master Built at Alloa By whom built Forth Ship Coy. Ltd. Tons Gross 9250 Net 3390 When built 1922

Engines made at Newcastle on Tyne By whom made Sir W. Armstrong Whitworth & Co. Ltd. When made 1922

Boilers made at Glasgow By whom made Sir W. Armstrong Whitworth & Co. Ltd. When made 1922

Registered Horse Power 857 Owners Steam Navigation Co. Ltd. Port belonging to Amsterdam

Nom. Horse Power as per Section 86 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 52 52 52 Length of Stroke 54 Revs. per minute 81 Dia. of Screw shaft as per rule 17.2 as fitted 19 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 No 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 Length of stern bush 6.6

Dia. of Tunnel shaft as per rule 15.5 as fitted 15.4 Dia. of Crank shaft journals as per rule 16.3 as fitted 16.45 Dia. of Crank pin 16.75 Size of Crank webs 3 1/2 x 11 Dia. of thrust shaft under

collars 16 1/4 Dia. of screw 21.0 Pitch of Screw (mean) 15.5 No. of Blades 4 State whether moveable Yes Total surface 134.59 sq. ft

No. of Feed pumps 2 one Turbo Diameter of ditto Stroke 10 1/2 x 8 x 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 6 3/8 Stroke 15 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 10 x 12 x 12 6 x 8 x 4 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3 1/2 dia In Holds, &c. No. 1 2-3 1/2 dia No. 2 2-3 1/2 dia Deep Tank 4-3 dia

No. of Bilge Injections 1 sizes 12 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 1-3 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

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

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 & 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

What pipes are carried through the bunkers None How are they protected

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 Upper platform

BOILERS, &c.—(Letter for record 5) Manufacturers of Steel J. Colville & Sons

Total Heating Surface of Boilers 12200 Is Forced Draft fitted Yes No. and Description of Boilers 5 Water Tube Boilers

Working Pressure 180 lbs Tested by hydraulic pressure to 320 lbs Date of test 19.1.23 No. of Certificate 9419

Can each boiler be worked separately Yes Area of fire grate in each boiler 45 sq. ft No. and Description of Safety Valves to

each boiler 2 Spring loaded Area of each valve 8.290 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 1-10 Mean dia. of boilers 24 1/2 Length 413 1/5 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 rivets plate 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 top bottom Thickness of plates crown bottom 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

UPERHEATER. Type London 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 Yes

Diameter of Safety Valve 2 Pressure to which each is adjusted 190 lbs Is Easing Gear fitted Yes

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*If so, is a report now forwarded?*