

Rpt. 4.

REPORT ON MACHINERY.

No. 2922

Date of writing Report 25 Aug 1920 When handed in at Local Office 19 20 Port of Melford Received at London Office FRI AUG 27 1920

No. in Survey held at Melford Haven Date, First Survey 7 June Last Survey 21 July 1920

Reg. Book. on the ST "William Mannel" (Number of Visits 10)

Master Nightingale Built at Middlesbro By whom built Smith Dock Co L^d Tons ^{Gross} 1917 When built

Engines made at Middlesbro By whom made Smith Dock Co L^d when made 1917

Boilers made at Newcluth on Tyne By whom made Hawthorn Leslie & Co L^{td} when made 1917

Registered Horse Power _____ Owners Mrs Bishop Port belonging to ✓

Nom. Horse Power as per Section 28 87 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted ✓

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

Dia. of Cylinders 12 1/2" x 21" x 35" Length of Stroke 26 Revs. per minute 110 Dia. of Screw shaft 7 5/8 Material of screw shaft Iron

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 ✓ 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 34"

Dia. of Tunnel shaft 6 5/8 Dia. of Crank shaft journals 6 7/8 Dia. of Crank pin 7 1/8 Size of Crank webs 14 x 4 1/2 Dia. of thrust shaft under collars 7 1/8 Dia. of screw 9 1/8 Pitch of Screw 11 1/2 No. of Blades 4 State whether moveable No Total surface 35.5

No. of Feed pumps 2 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 2 1/2 Stroke 12 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Suction Sizes of Pumps 6 x 3 x 6, & 6 x 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 1 2' forward & 1 2' aft & 2" Superheater In Holds, &c. from Holds, and sluck well and also ejector from all parts

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

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

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 Forward Suction 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

Is the Screw Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

OILERS, &c.—(Letter for record S) Manufacturers of Steel

Total Heating Surface of Boilers 1619 Is Forced Draft fitted No No. and Description of Boilers Single ended

Working Pressure 180 Tested by hydraulic pressure to 360 lbs Date of test 1/2/17 No. of Certificate 2431

Can each boiler be worked separately ✓ Area of fire grate in each boiler 50 No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 4.9 Pressure to which they are adjusted 182 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 7 Mean dia. of boilers 13.6 Length 10.6 Material of shell plates S

Thickness 3/32 Range of tensile strength 28 - 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams double Long. seams T.R.B.S Diameter of rivet holes in long. seams 1 1/32 Pitch of rivets 8 Lap of plates or width of butt straps 17

Per centages of strength of longitudinal joint 89.3 Working pressure of shell by rules 180 Size of manhole in shell 16 x 12

Size of compensating ring 9" x 1 3/32 No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 40 9/16

Length of plain part 81 1/2 Thickness of plates 25 Description of longitudinal joint Welded No. of strengthening rings ✓

Working pressure of furnace by the rules 188 Combustion chamber plates: Material S Thickness: Sides 1/16 Back 21/32 Top 1/16 Bottom 7/8

Pitch of stays to ditto: Sides 9 1/2 x 9 1/2 Back 9 1/2 x 7 1/2 Top 8 1/2 x 9 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 181

Material of stays S Area at smallest part 2.07 Area supported by each stay 9825 Working pressure by rules 205 End plates in steam space: Material S Thickness 1/16 Pitch of stays 17 1/2 x 18 How are stays secured DNW Working pressure by rules 181 Material of stays S

Area at smallest part 6.10 Area supported by each stay 295 Working pressure by rules 215 Material of Front plates at bottom S

Thickness 3/32 Material of Lower back plate S Thickness 15/16 Greatest pitch of stays 14.9 Working pressure of plate by rules 219

Diameter of tubes 3 1/2 Pitch of tubes 5 x 4 3/4 Material of tube plates S Thickness: Front 3/32 Back 7/8 Mean pitch of stays 10

Pitch across wide water spaces 14 Working pressures by rules 184 Girders to Chamber tops: Material S Depth and thickness of girder at centre 8 3/4 x 1 3/4 Length as per rule 32 Distance apart 8 3/4 Number and pitch of stays in each Two 8 3/4

Working pressure by rules 197 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 ✓

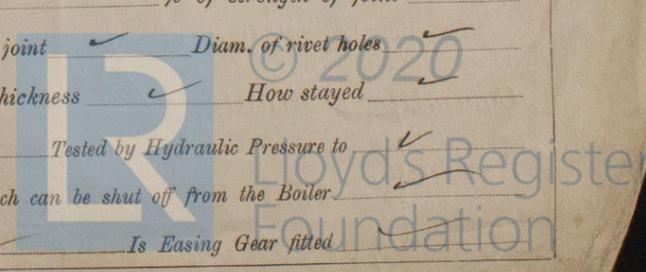
PERHEATER. Type ✓ Date of Approval of Plan ✓ Tested by Hydraulic Pressure to ✓

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

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

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.

W1030-0210



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Four top end bolts, and nuts 2 Bottom end bolts, and nuts 1 set of Coupling bolts and nuts 1 Set Air, feed, and bilge pump valves complete Set of piston studs & nuts 4 Condenser tubes 3 boiler tubes 4 tube stoppers 1 Set of donkey suction valves. assorted quantity of iron bolts, and nuts*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
{ During erection on board vessel - - - }
Total No. of visits

Is the approved plan of main boiler forwarded herewith

“ “ “ donkey “ “ “

Dates of Examination of principal parts—Cylinders	Slides	Covers	Pistons	Rods
Connecting rods	Crank shaft	Thrust shaft	Tunnel shafts	Screw shaft
Propeller	Stern tube	Steam pipes tested	Engine and boiler seatings	Engines holding down bolts
Completion of pumping arrangements	Boilers fixed	Engines tried under steam		
Completion of fitting sea connections	Stern tube	Screw shaft and propeller		
Main boiler safety valves adjusted	Thickness of adjusting washers			
Material of Crank shaft <i>Iron</i>	Identification Mark on Do. <input checked="" type="checkbox"/>	Material of Thrust shaft <i>Iron</i>	Identification Mark on Do.	
Material of Tunnel shafts	Identification Marks on Do. <input checked="" type="checkbox"/>	Material of Screw shafts <i>Iron</i>	Identification Marks on Do.	
Material of Steam Pipes	<i>S D Copper</i>	Test pressure		
Is an installation fitted for burning oil fuel	<i>No</i>	Is the flash point of the oil to be used over 150°F.		
Have the requirements of Section 49 of the Rules been complied with	<i>Yes</i>			
Is this machinery duplicate of a previous case	<i>Yes</i>	If so, state name of vessel		

General Remarks (State quality of workmanship, opinions as to class, &c. *The workmanship of this vessel's machinery appears good. The machinery was built under British Corporation Survey, the plans, and specification being mutually approved by this Society, and the B.C. In my opinion the vessel is eligible to have L.M.C 7.20 entered in the Register*)

Certificate (if required) to be sent to the Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ...	£ 10 : 10	When applied for,	
Special <i>mi</i> ...	£ :	When received,	<i>8 Aug 19.20</i>
Donkey Boiler Fee ...	£ :		
Travelling Expenses (if any) £	:		<i>4/11/ 19.20</i>

J. H. Johnstone
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *FRI. SEP. 3 1920*
Assigned *Lm 6 7.20*

