

REPORT ON MACHINERY.

No. 79870

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No. in Survey held at Lytham Date, First Survey Sept 20/18 Last Survey Oct 28 1919
 Reg. Book. on the Steel screw Rescue tug 'St. Hilary' (Number of Visits 35) Gross 411 Tons Net 11

Master Built at Lytham By whom built Lytham S.B. & Eng. Co. When built 1919

Engines made at Lytham By whom made Do when made 1919

Boilers made at Do By whom made Do when made 1919

Registered Horse Power Owners Admiralty Port belonging to London

Nom. Horse Power as per Section 28 208 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

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

Dia. of Cylinders 18 1/4 + 28 + 48 1/4 Length of Stroke 28 Revs. per minute 122 Dia. of Screw shaft as per rule 9.6 Material of screw shaft M.S. as fitted 10

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liners 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 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 3'-6"

Dia. of Tunnel shaft as per rule 8.53 Dia. of Crank shaft journals as per rule 8.9 Dia. of Crank pin 9 Size of Crank webs 6 1/4 x 6 1/2 Dia. of thrust shaft under collars 9 Dia. of screw 10'-7" Pitch of Screw 12'-0" No. of Blades 4 State whether moveable no Total surface 340'

No. of Feed pumps 2 Diameter of ditto 3 1/8 Stroke 13 1/2 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/8 Stroke 13 1/2 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 7 1/2 + 5 1/2 x 15 W.H. & 6 + 4 1/2 x 6 W.H. No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room three - 2 1/2" In Holds, &c. A.P. 3" F.P. 3" Chain locker 2" Fore hold 2"

No. of Bilge Injections one sizes 6" Connected to condenser or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes, 2 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

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 Yes

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 none How are they protected Yes

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 none Is it fitted with a watertight door Yes worked from Yes

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Beardmore & Co.

Total Heating Surface of Boilers 3380 Is Forced Draft fitted Yes No. and Description of Boilers Two S.E. cylindrical

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 17.7.18 & 8.8.19. No. of Certificate 2081/3

Can each boiler be worked separately Yes Area of fire grate in each boiler 42 1/4 sq ft No. and Description of Safety Valves to each boiler 2, spring loaded Area of each valve 7.070 sq in 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'-2" Mean dia. of boilers 12'-6" Length 11'-0" Material of shell plates steel

Thickness 1 1/2" Range of tensile strength 28-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R. lap long. seams T.R. double butt Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 7 3/8 Lap of plates or width of butt straps 16"

Per centages of strength of longitudinal joint rivets 87.5 Working pressure of shell by rules 182 lbs Size of manhole in shell 16 x 12" plate 85.5

Size of compensating ring 5 1/2 x 4 x 1 1/32 No. and Description of Furnaces in each boiler 3 corrugated Material M.S. Outside diameter 3'-3 1/4"

Length of plain part top bottom Thickness of plates crown 1 1/2 bottom Description of longitudinal joint lap weld No. of strengthening rings

Working pressure of furnace by the rules 192 Combustion chamber plates: Material M.S. Thickness: Sides 2 1/32 Back 2 1/32 Top 2 1/32 Bottom 3/4

Pitch of stays to ditto: Sides 8 x 9 Back 8 1/8 x 9 1/8 Top 8 3/4 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 200

Material of stays M.S. Area at smallest part 1.73 sq in Area supported by each stay 74 1/2 sq in Working pressure by rules 200 End plates in steam space: Material M.S. Thickness 1/8 Pitch of stays 18 x 18 How are stays secured D. nuts Working pressure by rules 185 Material of stays M.S. Area at smallest part 6.33 sq in Area supported by each stay 324 sq in Working pressure by rules 200 Material of Front plates at bottom M.S. Thickness 1 5/16 Material of Lower back plate M.S. Thickness 2 7/32 Greatest pitch of stays as per plan Working pressure of plate by rules 185

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4 + 3 5/8 Material of tube plates M.S. Thickness: Front 1 5/16 Back 2 3/32 Mean pitch of stays 7'-6"

Pitch across wide water spaces 13 1/2" Working pressures by rules 185 Girders to Chamber tops: Material M.S. Depth and thickness of girder at centre 7 1/2 x 12 1/8 Length as per rule 2'-6 1/8 Distance apart 8 3/4 Number and pitch of stays in each 2 @ 8 1/2"

Working pressure by rules 182 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

SUPERHEATER. 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

