

Rpt. 4a.

REPORT ON MACHINERY.

No. 40971
WED. MAR. 23 1921

Received at London Office

Date of writing Report 21.3.21 When handed in at Local Office 21.3.21 Port of Glasgow
 No. in Survey held at Dalmuir Date, First Survey 8th May 1919 Last Survey March 10th 1921
 Reg. Book. 953 Cameronia (Number of Visits 81) Gross Tons Net
 Master Built at Dalmuir By whom built Wm Beardmore & Co. (584) When built 1921
 Engines made at Dalmuir By whom made Wm Beardmore & Co. (584) when made 1921
 Boilers made at Dalmuir By whom made Wm Beardmore & Co. (584) when made 1921
 Registered Horse Power Owners Port belonging to
 Shaft Horse Power at Full Power 13500 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

URBINE ENGINES, &c.—Description of Engines Brown Anti Turbine D.R. gear No. of Turbines (6) 2HP 2IP 2LP
 Diameter of Rotor Shaft Journals, H.P. 3 1/2" I.P. 4 3/4" L.P. 5 1/2" Diameter of Pinion Shaft H.P. 7 I.P. 5 1/2" L.P. 7"
 Diameter of Journals H.P. 7 I.P. 5 1/2" L.P. 7" Distance between Centres of Bearings H.P. 7 I.P. 38 1/4" L.P. 38 1/4" Diameter of Pitch Circle H.P. 7 I.P. 8 1/2" L.P. 13-7 1/2" 2 1/2" 26-0"
 Diameter of Wheel Shaft 20" Distance between Centres of Bearings 7'-5 1/2" Diameter of Pitch Circle of Wheel 123-9 7/8"
 Width of Face 35 Diameter of Thrust Shaft under Collars 19 ✓ Diameter of Tunnel Shaft as fitted 18 ✓
 No. of Screw Shafts 2 with turn Diameter of same as fitted 19 1/2 ✓ Diameter of Propeller 20'-0" Pitch of Propeller 23' 6"
 No. of Blades 4 State whether Moveable yes Total Surface 125 1/4 each Diameter of Rotor Drum, H.P. L.P. Astern
 Thickness at Bottom of Groove, H.P. L.P. Astern Revs. per Minute at Full Power, Turbine H.P. I.P. 3300 Propeller 82

PARTICULARS OF BLADING.

	H.P.			L.P.			ASTERN.		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION									
2ND									
3RD									
4TH									
5TH									
6TH									
7TH									
8TH									

No. and size of Feed pumps 1 main turbo pump 4 7 2 auxiliary feed pumps Hens. 15 1/2" x 11 1/2" x 26" ✓
 No. and size of Bilge pumps 2 on each engine 7 1/2" x 15" and 1 independent ✓
 No. and size of Bilge suction in Engine Room (6) 3 1/2" + (3) 2 1/2" in stokeholds (1) 6" + (2) 3 1/2" ✓
 In Holds, &c. two in each fore 5 1/2" fore peak (6) 3 1/2" ✓
 No. of Bilge Injections 2 sizes 1 1/2" Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine Room & size yes ✓
 Are all the bilge suction pipes fitted with roses yes Are the roses in Engine room always accessible yes ✓
 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 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 fore bilge & ballast suction How are they protected wood casings ✓
 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 at Door or from C deck or bridge

BOILERS, &c.—(Letter for record)

(2) Manufacturers of Steel W. Beardmore & Co. Ltd 3BB + 3SB
 Total Heating Surface of Boilers 29163.8 Is Forced Draft fitted yes No. and Description of Boilers 3 D.E. multitubular
 Working Pressure 220 lbs Tested by hydraulic pressure to 3854 Date of test 10/3/20, 14/12/19, 15/20 No. of Certificate 1502, 1524, 15266.
 Can each boiler be worked separately yes Area of fire grate in each boiler 165 DB 83 50 (Total 744) No. and Description of Safety Valves to each boiler 1 triple spring loaded Area of each valve 12.56" Pressure to which they are adjusted 225 Are they fitted with easing gear yes ✓
 Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boilers 17'-6" Length 22'-6" Material of shell plates steel
 Thickness 1 1/32" Range of tensile strength 30 to 34 tons Are the shell plates welded or flanged 220 Descrip. of riveting: cir. seams lap welded
 long. seams butt table Diameter of rivet holes in long. seams 1 1/32" Pitch of rivets 10 1/2" Lap of plates or width of butt straps 23 1/2"
 rivets 92-0 Working pressure of shell by rules 230 Size of manhole in shell 16" x 12"
 plates 84-2
 Size of compensating ring 40 x 30 1/2 x 1 1/2 No. and Description of Furnaces in each Boiler 8 Monsons Material steel Outside diameter 48 1/2"
 Length of plain part top Thickness of plates crown 7 1/4 ✓ Description of longitudinal joint welded No. of strengthening rings ✓
 bottom 16
 Working pressure of furnace by the rules 231 Combustion chamber plates: Material steel Thickness: Sides 23" Back 23" Top 23" Bottom 13"
 Pitch of stays to ditto: Sides 9 1/2 x 9 1/2 Back 10 x 7 1/2 Top 9 1/2 x 9 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 237
 Material of stays steel Diameter at smallest part 2.03" Area supported by each stay 89" Working pressure by rules 230 End plates in steam space
 Material steel Thickness 1 1/4" Pitch of stays 17 1/8 x 18 How are stays secured 2 nuts Working pressure by rules 221 Material of stays steel
 Diameter at smallest part 7.06" Area supported by each stay 318" Working pressure by rules 231 Material of Front plates at bottom steel
 Thickness 1" Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules ✓
 Diameter of tubes 2 3/4" Pitch of tubes 4" x 4" Material of tube plates steel Thickness: Front 1" Back 1 1/2" Mean pitch of stays 10"
 Pitch across wide water spaces 13 3/4" with 1" double Working pressures by rules 292 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 9 x 3 1/4 double Length as per rule 30 1/2 Distance apart 8 Number and pitch of stays in each (2) 9 1/2 x 21
 Working pressure by rules 260 Steam dome: description of joint to shell none % of strength of joint Diameter
 Thickness of shell plates Material Description of longitudinal joint Diameter of rivet holes Pitch of rivets
 Working pressure of shell by rules Crown plates: Thickness How stayed

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