

## REPORT ON MACHINERY

No. 41350

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Date of writing Report 9.9.21 When handed in at Local Office 12.9.21. Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 9th May 1919 Last Survey 9th Sept. 1921  
 Reg. Book. T.S.S. "MATAKANA" (Number of Visits 119.) Gross Tons Net Tons

Master Built at Glasgow By whom built A. Stephen & Sons. L.N. 474 When built 192  
 Engines made at Glasgow By whom made A. Stephen & Sons L.N. 474 when made 192  
 Boilers made at Glasgow By whom made A. Stephen & Sons. L.N. 474 when made 192  
 Registered Horse Power 1084 Owners Chan, Saville & Albion Co Port belonging to Southampton  
 Shaft Horse Power at Full Power 2250 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes  
 1084 NHP Shaft.

TURBINE ENGINES, &c. — Description of Engines Double reduction geared turbine No. of Turbines 3 to each shaft  
 Diameter of Rotor Shaft Journals, H.P. 3" I.P. 4 1/4" L.P. 7" Diameter of Pinion Shaft H.P. 1 1/2" I.P. 5" L.P. 5"  
 Diameter of Journals 3 1/4" Distance between Centres of Bearings 29 1/4" 6-3" Diameter of Pitch Circle H.P. 7' 28 1/2" L.P. 10' 49" 2" Red = 19' 06"  
 Diameter of Wheel Shaft 14 1/4" JOURNAL = 15" Distance between Centres of Bearings 6-8 1/2" Diameter of Pitch Circle of Wheel 93' 40 99  
 Width of Face 2 @ 8 1/2" + 2 @ 15 1/2" Diameter of Thrust Shaft under Collars 14" 12.7 Rule Diameter of Tunnel Shaft 13 1/4" as per rule 13 1/4" approved  
 No. of Screw Shafts Two Diameter of same as per rule 14 3/8" approved 13.25 Rule Diameter of Propeller 16' 9" Pitch of Propeller 18' 0"  
 No. of Blades 3 State whether Moveable Yes Total Surface 80 ft 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  
 L.P. = 2290

PARTICULARS OF BLADING. Brown Curtis 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 Two (weirs) 13 1/2 x 10 x 24"  
 No. and size of Bilge pumps Two (---) 8 x 9 x 18"  
 No. and size of Bilge suction in Engine Room 2 @ 3 1/2" Strokehold 2 @ 3 1/2". Tunnel 3 @ 3 1/2". Refrigerator Coap Room 1 @ 3 1/2"

In Holds, &c. No. 1. 2 @ 3 1/2". No. 2. 2 @ 3 1/2". No. 3. 2 @ 3 1/2". No. 4. 2 @ 3 1/2".

No. of Bilge Injections 2 sizes 11" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine Room & size 3 @ 3 1/2"  
 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 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 Deck level

BOILERS, &c. — (Letter for record S 1) Manufacturers of Steel Beardmore 2 D 197 2 S B  
 Total Heating Surface of Boilers 9880 ft<sup>2</sup> Is Forced Draft fitted Yes No. and Description of Boilers Two double ended multitubular (72 single ended)  
 Working Pressure 220 Tested by hydraulic pressure to 380 Date of test 10-8-21 No. of Certificate 15417  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 115.5 ft<sup>2</sup> No. and Description of Safety Valves to each boiler Two spring loaded Area of each valve 12.57 ft<sup>2</sup> Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 13" Mean dia. of boilers 14-7 1/2" Length 2'-6" Material of shell plates S  
 Thickness 1 3/4" Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.S. & T.R.  
 long. seams T.R. S.S. Straps Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9 7/8" Lap of plates or width of butt straps 2 1/16"  
 rivets 85.96 Working pressure of shell by rules 220 Size of manhole in shell No. 16 x 12"  
 Per centages of strength of longitudinal joint plates 85.44  
 Size of compensating ring 33 1/2 x 29 1/2 x 1 7/16 No. and Description of Furnaces in each Boiler 6 Corrugated Material S Outside diameter 46 1/4"  
 Length of plain part top 4" Thickness of plates crown 3 1/4" Description of longitudinal joint weld No. of strengthening rings None  
 bottom 6 1/4" bottom 6 1/4"  
 Working pressure of furnace by the rules 224 Combustion chamber plates: Material S Thickness: Sides 4 1/4" Back 4 1/4" Top 4 1/4" Bottom 7/8"  
 Pitch of stays to ditto: Sides 8 x 8" Back 8 x 8" Top 8 x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 222  
 Material of stays S Diameter at smallest part 2.1 Area supported by each stay 64 Working pressure by rules 295 End plates in steam space  
 Material S Thickness 1 7/16" Pitch of stays 16 1/2 x 15" How are stays secured S. Nuts Working pressure by rules 220 Material of stays S  
 Diameter at smallest part 6.65 Area supported by each stay 247.5 Working pressure by rules 279 Material of Front plates at bottom S  
 Thickness 13/16" 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 3 1/8 x 3 7/8" Material of tube plates Thickness: Front 13/16" Back 1 1/16" Mean pitch of stays 9 1/32"  
 Pitch across wide water spaces 13 3/4" + strapping Working pressures by rules 223 Girders to Chamber tops: Material S Depth and  
 thickness of girder at centre 13 x 2" Length as per rule 51 7/8" Distance apart 8" Number and pitch of stays in each 5 @ 8"  
 Working pressure by rules 220 Steam dome: description of joint to shell % 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



