

## REPORT ON MACHINERY.

No. 41720

Date of writing Report 27.2.22 When handed in at Local Office 27.2.22 Port of Glasgow  
 No. in Survey held at Dalmuir Date, First Survey 16.9.1919 Last Survey 13.2.1922  
 Reg. Book. on the S.S. "Conde Rosso" (Number of Visits 108)  
 Master Built at Dalmuir By whom built Tom Beardmore & Co. (611) When built 1922  
 Engines made at Dalmuir By whom made Tom Beardmore & Co. (611) when made 1922  
 Boilers made at Dalmuir By whom made Tom Beardmore & Co. (611) when made 1922  
 Registered Horse Power Owners Lloyd Sabauds Port belonging to Genoa  
 Shaft Horse Power at Full Power 2050 Is Refrigerating Machinery fitted for cargo purposes Yes Is Electric Light fitted Yes  
 214 P. 3446 3650

URBINE ENGINES, &c.—Description of Engines Parsons Turbines Double Reduction No. of Turbines 4 2 H.P. 2 L.P.  
 Diameter of Rotor Shaft Journals, H.P. 5 1/2" L.P. 8 3/4" Diameter of Pinion Shaft H.P. 6 1/2" L.P. 7 1/2" 7 1/2" 14"  
 Diameter of Journals 6 1/2" 7 1/2" 14" Distance between Centres of Bearings 45 1/2" 103 1/2" 2 1/2" 10 3/4" 18.05 L.P. 29.22" 20"  
 Diameter of Wheel Shaft 23" Distance between Centres of Bearings 110 1/2" Diameter of Pitch Circle of Wheel 125.815"  
 Width of Face 50" Diameter of Thrust Shaft under Collars 21 1/8" Diameter of Tunnel Shaft as fitted 20 1/2"  
 No. of Screw Shafts 2 Continuous Diameter of same as fitted 22" Diameter of Propeller 20'-0" Pitch of Propeller 24' 9"  
 No. of Blades 4 State whether Moveable Yes Total Surface 130 Diameter of Rotor H.P. 6'-8" L.P. 4'-10" Astern 4'-0"  
 Thickness at Bottom of Groove, H.P. L.P. Astern Revs. per Minute at Full Power, Turbine H.P. 2946 L.P. 1653 Propeller 92

## ARTICULARS 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	2 3/4"	22 1/4"	7	3 1/4"	48 1/2"	4	1 1/2"	51"	2
2ND	3 1/8"	24 3/4"	6	4 1/8"	50 1/8"	4	3"	54"	2
3RD	3 3/8"	27 1/8"	5	6 1/8"	53 1/4"	4	4 1/4"	56 1/2"	1
4TH	3 3/8"	30 1/4"	4	4 1/2"	66 1/2"	2	4 1/4"	"	1
5TH	4 1/8"	32 1/4"	4	5 1/2"	69"	2	4 1/4"	"	1
6TH	1st Row 2 3/8"	37 1/8"	—	6 1/2"	70 1/2"	1	1st Row 1 3/8"	61"	—
7TH	2nd Row 4 1/8"	40 1/8"	—	7 1/2"	72 1/2"	1	2nd Row 2 1/8"	62 1/4"	—
8TH	—	—	—	8 1/8"	75 1/4"	1	3rd Row 3 1/8"	63 1/2"	—

No. and size of Feed pumps (3) 17" x 12 1/2" x 24" (1) aux. feed 9 1/2" x 7" x 24" each 60 p.m.  
 No. and size of Bilge pumps (2) 8" x 8" x 8"  
 No. and size of Bilge suction in Engine Room (4) 3 1/2" in boiler room (4) 3 1/2" (1) in fore bilge room 8" Emergency pump  
 Settling tank (blanket when carrying oil) In Holds, &c. (2) 3 1/2" in each hold, (1) in each bunker

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 6 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 Deck T Bridge

OILERS, &c.—(Letter for record 5) Manufacturers of Steel Tom Beardmore & Co. Ltd.  
 Total Heating Surface of Boilers 38,322 sq. ft. Forced Draft fitted yes No. and Description of Boilers 6 Double ended  
 Working Pressure 200 Tested by hydraulic pressure to 350 Date of test 27.2.22 No. of Certificate 15712, 15713, 15714, 15715, 15716, 15717, 15718, 15719  
 Can each boiler be worked separately yes Area of fire grate in each boiler 144 sq. ft. No. and Description of Safety Valves to  
 each boiler 3 Spring loaded in 22 Area of each valve 12.56 sq. in Pressure to which they are adjusted 205 Are they fitted with easing gear yes  
 smallest distance between boilers or uptakes and bunkers or woodwork 2 ft. clear No. of boilers 16-3 Length 22' 0" Material of shell plates steel  
 Thickness 1 1/2" Range of tensile strength 36 to 34 ton Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 273 lap  
 ing. seams triple butt Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10" Lap of plates or width of butt straps 21 3/4"

Percentages of strength of longitudinal joint rivets 89.4 plates 85.0 Working pressure of shell by rules 213 Size of manhole in shell 16" x 12"  
 Size of compensating ring 37" x 33" No. and Description of Furnaces in each Boiler 8 Morrison's Material steel Outside diameter 43 1/2"  
 Length of plain part top Thickness of plates 9/16" Description of longitudinal joint welded No. of strengthening rings  
 bottom 1/16"  
 Working pressure of furnace by the rules 202 Combustion chamber plates: Material steel Thickness: Sides 4" Back 4" Top 1 1/2" Bottom 3/4"  
 Pitch of stays to ditto: Sides 9" x 9" Back 7 1/2" x 10" Top 9" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 202  
 Material of stays steel Diameter at smallest part 2.03 Area supported by stay 81 sq. in Working pressure by rules 226 End plates in steam space  
 Material steel Thickness 1 3/16" Pitch of stays 18" x 17" How are stays secured 27 1/2" Working pressure by rules 205 Material of stays steel  
 Diameter at smallest part 7/16" Area supported by each stay 306 sq. in Working pressure by rules 202 Material of Front plates at bottom steel  
 Thickness 1 1/2" Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules  
 Diameter of tubes 3" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates steel Thickness: Front 1 1/2" Back 7/8" Mean pitch of stays 10 1/2"  
 Pitch across wide water spaces 14" Working pressures by rules 205 Girders to Chamber tops: Material steel Depth and  
 Thickness of girder at centre 8 3/4" x 3/4" double Length as per rule 29 7/16 Distance apart 9" Number and pitch of stays in each (2) 9"  
 Working pressure by rules 200 Steam dome: description of joint to shell none Diameter of rivet holes Pitch of rivets  
 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



SUPERHEATER. Type *Robinson* Date of Approval of Plan *1/3/20* Tested by Hydraulic Pressure to *✓*  
Date of Test *See certificate No. C1334* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *yes*  
Diameter of Safety Valve *7/8* Pressure to which each is adjusted *210 lb* Is Easing Gear fitted *yes*

IS A DONKEY BOILER FITTED? *no* If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *as per list appended*

Thickness of safety valve washers. For S.E. Port boiler *P 3/4 S 3/4 A 3/4 P 3/4 S 3/4*  
DE " " *P 3/4 C 3/4 S 3/4 DE P 3/4 C 3/4 A 3/4*  
SD " " *P 3/4 S 3/4 A 3/4 P 3/4 C 3/4 S 3/4*  
P 3/4 C 3/4 S 3/4 " " *P 3/4 C 3/4 S 3/4*

The foregoing is a correct description,

For WILLIAM BARNARD & CO., LIMITED

Manufacturer.

*W. Barnard*

ENGINEERING MANAGER

Dates of Survey while building  
During progress of work in shops -- *1919 Sep 16 Oct 28 1920 Jan 12 19 Apr 15 21 May 11 20 Jun 15 26 29 Aug 3 16 18 25 Sep 2 7 9 15 23 Oct 5 8 11 18 Nov 29 Dec 6 2021 Jan 25 Feb 18 19 24 Mar 1 27 8 12 17 20 27 30 Apr 2 5 11 15 21 26 29 May 5 6 12 17 30 Jun 3 24 July 1 6 12 Aug 9 16 19 24 31*  
During erection on board vessel -- *22 13*  
Total No. of visits *108*

Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " " *none*

Dates of Examination of principal parts—Casings *3/5/20 5/8/20* Rotors *5/5/21* Blading *5/5/21* Gearing *5/5/21*  
Rotor shaft *5/5/21* Thrust shaft *3/3/21* Tunnel shafts *3/3/21* Screw shaft *3/3/21* Propeller *3/3/21*  
Stern tube *3/3/21* Steam pipes tested *6/7/21 10/4/22* Engine and boiler seatings *26/11/21* Engines holding down bolts *13/30/5/21*  
Completion of pumping arrangements *19/2/22* Boilers fixed *11/4/21* Engines tried under steam *13/2/21*

Main boiler safety valves adjusted *6/2/22 7/2/22 8/2/22 9/2/22* Thickness of adjusting washers *See above*

Material and tensile strength of Rotor shaft *5.225 lb 34 to 38 tons*

Identification Mark on Do. *5.22 5.23 5.24 5.25 5.26 5.27 5.28 5.29 5.30 5.31 5.32 5.33 5.34 5.35 5.36 5.37 5.38 5.39 5.40 5.41 5.42 5.43 5.44 5.45 5.46 5.47 5.48 5.49 5.50 5.51 5.52 5.53 5.54 5.55 5.56 5.57 5.58 5.59 5.60 5.61 5.62 5.63 5.64 5.65 5.66 5.67 5.68 5.69 5.70 5.71 5.72 5.73 5.74 5.75 5.76 5.77 5.78 5.79 5.80 5.81 5.82 5.83 5.84 5.85 5.86 5.87 5.88 5.89 5.90 5.91 5.92 5.93 5.94 5.95 5.96 5.97 5.98 5.99 6.00 6.01 6.02 6.03 6.04 6.05 6.06 6.07 6.08 6.09 6.10 6.11 6.12 6.13 6.14 6.15 6.16 6.17 6.18 6.19 6.20 6.21 6.22 6.23 6.24 6.25 6.26 6.27 6.28 6.29 6.30 6.31 6.32 6.33 6.34 6.35 6.36 6.37 6.38 6.39 6.40 6.41 6.42 6.43 6.44 6.45 6.46 6.47 6.48 6.49 6.50 6.51 6.52 6.53 6.54 6.55 6.56 6.57 6.58 6.59 6.60 6.61 6.62 6.63 6.64 6.65 6.66 6.67 6.68 6.69 6.70 6.71 6.72 6.73 6.74 6.75 6.76 6.77 6.78 6.79 6.80 6.81 6.82 6.83 6.84 6.85 6.86 6.87 6.88 6.89 6.90 6.91 6.92 6.93 6.94 6.95 6.96 6.97 6.98 6.99 7.00 7.01 7.02 7.03 7.04 7.05 7.06 7.07 7.08 7.09 7.10 7.11 7.12 7.13 7.14 7.15 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