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REPORT ON MACHINERY.

No. 42623

Received at London Office WED APR 11 1923

Date of writing Report 19 When handed in at Local Office 10. 4. 1923 Port of Glasgow.

No. in Reg. Book. Survey held at Dalmuir Date, First Survey 16th Sept 1919 Last Survey 4. April 1923.

on the TWIN SCREW S/S "CONTE VERDE" No. 612. (Number of Visits 160) Tons Gross 18383 Net 10208

Master Built at Dalmuir By whom built A. Beardmore & Co. When built 1923.

Engines made at Dalmuir By whom made A. Beardmore & Co. when made 1923.

Boilers made at do. By whom made do. when made 1923

Registered Horse Power Owner Lloyd Sabaudo Societa Anon per Azioni Port belonging to Genoa

Shaft Horse Power at Full Power 20500 NHP 5646 3650 Is Refrigerating Machinery fitted for cargo purposes Yes. Is Electric Light fitted Yes.

TURBINE ENGINES, &c.—Description of Engines Parsons Steam turbines & double reduction gear No. of Turbines 4. 2 H.P. & 2 L.P.

Diameter of Rotor Shaft Journals, H.P. 5½" L.P. 8¾" Diameter of Pinion Shaft H.P. 6½", L.P. 7½"

Diameter of Journals 6½", 7½", 16" Distance between Centres of Bearings 45¼", 103½" Diameter of Pitch Circle H.P. 103", L.P. 18·06", 2nd reduc. 29·2"

Diameter of Wheel Shaft 23" Distance between Centres of Bearings 110½" Diameter of Pitch Circle of Wheel 125·815"

Width of Face 50" Diameter of Thrust Shaft under Collars 21 5/8" Diameter of Tunnel Shaft as per rule 19½" as fitted 20½"

No. of Screw Shafts 2 (continuous liners) No oil glands Diameter of same as per rule 20·86" as fitted 22·0" Diameter of Propeller 20'0" Pitch of Propeller 24·9"

No. of Blades 4 State whether Moveable Yes. Total Surface 130 ☐ft Diameter of Rotor WHEEL Drum H.P. 17¼" 41" L.P. 23" 58" astern 48"

Thickness at Bottom of Groove, H.P. - L.P. - Astern - Revs. per Minute at Full Power, Turbine H.P. 2946 L.P. 1683 Propeller 92.

PARTICULARS OF BLADING.

		H.P. HEIGHT OF BLADES.	H.P. DIAMETER AT TIP.	H.P. NO. OF ROWS.	L.P. HEIGHT OF BLADES.	L.P. DIAMETER AT TIP.	L.P. NO. OF ROWS.	ASTERN. HEIGHT OF BLADES.	ASTERN. DIAMETER AT TIP.	ASTERN. NO. OF ROWS.
1ST EXPANSION		2¾"	22¾"	7	3¾"	48½"	4			
2ND "		3⅜"	24¾"	6	4 3/16"	50⅝"	4			
3RD "	Reaction	3 7/16"	27⅛"	5	6⅛"	53¼"	4			
4TH "		3⅝"	30¼"	4	4¼"	66½"	2			
5TH "		4⅝"	32¼"	4	5½"	69"	2			
6TH "		2⅜"	37⅝"	-	6¼"	70½"	1			
7TH "	Impulse	4⅝	40⅛"	-	7¼"	72½"	1			
8TH "					8⅝"	75¼"	1			
					10¼"	78½"	1 each extra.			
	Astern Reaction							1¼"	51"	2
								3"	54"	2
								4¼"	56½"	1
								4¼"	56½"	1
								4¼"	56½"	1
	1st Red.							1 7/8"	61"	-
	2nd "							2⅞"	62¼"	-
	3rd "							3⅜"	63½"	-

No. and size of Feed pumps Three - 17" × 12½" × 24" One aux. feed. 9½" × 7" × 24"

No. and size of Bilge pumps Two - 8" × 8" × 8"

No. and size of Bilge suctions in Engine Room Four - 3½"; In boiler rooms - 4 - 3½", One in forward boiler room & 8" emergency pump.

Deep tank (oil) blank flanges provided for pipes. In Holds, &c. Two - 3½" in each hold, one in each bunker.

No. of Bilge Injections 2 sizes 18" Connected to condenser, or to circulating pump Pump. Is a separate Donkey Suction fitted in Engine Room & size Yes. 6½"

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, except main inlet which is fitted on tunnel box. Are they Valves or Cocks Valves and cocks.

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 and bridge.

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

Total Heating Surface of Boilers (Double Ended) 36132 ft Is Forced Draft fitted Yes. No. and Description of Boilers 6 double ended, multitubular

Working Pressure 200 lbs. Tested by hydraulic pressure to 350 lbs Date of test 1-8-20/9/22 2-16-24/10/23 No. of Certificate 16104, 16105, 16118, 16125, 16064 16136

Can each boiler be worked separately Yes. Area of fire grate in each boiler 144 ft oil fired No. and Description of Safety Valves to each boiler 3 Spring loaded Area of each valve 12·56 sq" Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes.

Smallest distance between boilers or uptakes and bunkers or woodwork well clear Mean dia. of boilers 16·3" Length 22·0" Material of shell plates Steel

Thickness 1 15/32" Range of tensile strength 30/34 tons Are the shell plates welded or flanged No. Descrip. of riveting: circ. seams double & treble long. seams treble Diameter of rivet holes in long. seams 1½" Pitch of rivets 10" ~~Lap of plates or~~ width of butt straps 21¾"

Percentages of strength of longitudinal joint rivets 89.4 plates 85.0 Working pressure of shell by rules 213 lbs. Size of manhole in shell 16" × 12"

Size of compensating ring 37" × 33" × 1 15/32" No. and Description of Furnaces in each Boiler 8 Morison. 8 cf Material Steel Outside diameter 43½"

Length of plain part top ✓ bottom Thickness of plates crown 9/16" bottom Description of longitudinal joint welded. No. of strengthening rings -

Working pressure of furnace by the rules 202 lbs Combustion chamber plates: Material Steel Thickness: Sides 11/16" Back 11/16" Top 11/16" Bottom ¾"

Pitch of stays to ditto: Sides 9"×9", 8¾"×9" Back 7⅞"×10" Top 9"×9" If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 202 lbs.

Material of stays Steel Diameter (area) at smallest part 2.03 sq" Area supported by each stay 81 sq" Working pressure by rules 226 lbs. End plates in steam space

Material Steel Thickness 1 3/16" Pitch of stays 18"×17" How are stays secured nuts. Working pressure by rules 205 lbs. Material of stays Steel

Diameter at smallest part 7.06 sq" Area supported by each stay 306 sq" Working pressure by rules 202 lbs. Material of Front plates at bottom Steel

Thickness 1 1/16" Material of Lower back plate - Thickness - Greatest pitch of stays - Working pressure of plate by rules -

Diameter of tubes 3" Pitch of tubes 4⅛" × 4¼" Material of tube plates Steel Thickness: Front 1 1/16" Back ⅞" Mean pitch of stays 10½"

Pitch across wide water spaces 14" Working pressures by rules 205 lbs. Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 8⅜" × 1½" Length as per rule 29 7/16" Distance apart 9" Number and pitch of stays in each 2 of 9"

Working pressure by rules 200 lbs. 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 -

SUPERHEATER. Type Robinson's Date of Approval of Plan 1/3/20. Tested by Hydraulic Pressure to

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

Diameter of Safety Valve 2½" Pressure to which each is adjusted 210 lbs. 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.

Boiler Safety valve washers.

B1 Boiler	B2 boiler	B3 boiler	B4 boiler
P 5/16" C 19/64" B 5/16 Super 11/64"	P 5/16" C 1/2" A 2/64" Super 11/32"	F 47/64" C 25/64" A 23/64" Super 5/16.	S 13/32" P 13/32" Super. 19/64

A1 boiler	A2 boiler	A3 boiler	A4 boiler
P 9/16" C 11/32" S 23/64 Super 5/16"	F 1/4" C 5/16" A 7/64" Super 23/64"	F 1/4" C 9/32" A 11/32" Super 21/64"	S 25/64" P 7/16" Super 5/16"

The foregoing is a correct description,
FOR WILLIAM BEARDMORE & CO., LIMITED
W Guyan
ENGINEERING MANAGER
Manufacturer.

Dates of Survey while building — During progress of work in shops: 1919 Sep 16. Oct 28 1920 Jan 12 19 Apr 15 21 May 8 20 Jun 15 25 29 Aug 18 25 Sep 2 7 9 15 23 Oct 1 5 8 11 18 Nov 8 29 1921 Jan 1 8 Mar 9 Apr 21 Feb 28 Mar 14 Apr 28 May 17 Jun 8 19 20 21 Jul 5 6 7 10 25 27 Aug 1 7 8 10 15 23 25 Sep 1 8 13 15 20 22 29 Oct 2 3 6 10 13 14 18 20 — During erection on board vessel: 30 Nov 12 15 17 28 Dec 1 5 11 14 19 22 28 29 1923 Jan 10 12 15 22 26 30 Feb 8 12 16 28 Mar 5 7 14 16 19 21 23 24 25 Apr 4. Total No. of visits 100.

Is the approved plan of main boiler forwarded herewith Yes. ✓

Dates of Examination of principal parts—Casings 18/10/20 & 25/8/22. Rotors 28/2/22 Blading 24/10/22 Gearing 24/10/22

Rotor shaft 24/10/22 & 26/11/22 Thrust shaft 13/8/22 Tunnel shafts 13/8/22 Screw shaft 13/8/22 Propeller 3/10/22

Stern tube 3/10/22 Steam pipes tested from 16/9/22 & Engine and boiler seatings 3/10/22 Engines holding down bolts 19/1/23.

Completion of pumping arrangements 16/3/23. Boilers fixed 11/12/22. Engines tried under steam 4/4/23.

Main boiler safety valves adjusted 5/8/23. Thickness of adjusting washers See above.

Material and tensile strength of Rotor shaft Nickel Steel 34/38 tons. Identification Mark on Do. HP port 5424 stbd 5423 LP port 5420 stbd 5422

Material and tensile strength of Pinion shaft Nickel-Chrome-Vanadium Steel ultimate 55 tons Identification Mark on Do. HP port 6490 stbd 4686. LP " 6489 " 4680.

Material of Wheel shaft Nickel Steel Identification Mark on Do. 6536, 6537 Material of Thrust shaft Nickel Steel Identification Mark on Do. 5511, 5512

Material of Tunnel shafts Nickel Steel Identification Marks on Do. 5496, 5499, 5498, 6502, 5486, 6492, 5491, 5485, 5497, 5493 Material of Screw shafts Nickel Steel Identification Marks on Do. P 5506 stbd 5507 P 5503 5508

Material of Steam Pipes Steel ✓ Test pressure 600 lbs.

Is an installation fitted for burning oil fuel Yes. ✓ Is the flash point of the oil to be used over 150°F. Yes. ✓

Have the requirements of Section 49 of the Rules been complied with Yes. ✓

Is this machinery a duplicate of a previous case Yes. ✓ If so, state name of vessel S/S "Conte Rosso" ✓

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been built under Special Survey and the materials tested in accordance with the Rules of this Society; the materials and workmanship, so far as can be seen, are sound and good the machinery has been properly fitted on board and tried under Steam.

This machinery is eligible, in my opinion, to be classed with the notation ✠ L.M.C. 4.23, Fitted for oil fuel 4.23, F.P. above 150° F.

The amount of Entry Fee	£ 6	0	When applied for, 10. 4. 1923.
Special	£ 191	3	
Donkey Boiler Fee	£		When received, 10. 4. 1923.
Travelling Expenses (if any)	£		

R. Campbell
Engineer Surveyor to Lloyd's Register of Shipping.

MACHINERY DEPT. WRITTEN. 11/4/23

Committee's Minute GLASGOW 10 APR 1923

Assigned ✠ LMC 4.23. FD.

Fitted for oil fuel 4.23 F.P. above 150° F.

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)