

REPORT ON MACHINERY

No. 20056

Received at London Office 7 JAN. 1921

Date of writing Report 14th Jan. 1921. When handed in at Local Office 6th Jan. 1921. Port of **NEWPORT, MON.**
 Date, First Survey Nov. 25th Last Survey Dec. 31st 1920.
 Survey held at **Chepstow** (Number of Visits 5)
 on the **S/S "Adige" ea Mar Epic**
 Master **G. Guli** Built at **Chepstow** By whom built **Monmouth S. B. Co. Ltd.**
 Engines made at **Manchester** By whom made **Metropolitan Vickers E. Co.**
 Boilers made at **Huddersfield** By whom made **D. Pearson & Sons**
 Oilers made at **Kinross** By whom made **Balcock & Milnes Ltd.** 401. when made 1910-8
 when made 1918.
 Registered Horse Power **2900** Owners **Societa Riunita Florio Rubattino & Lloyd Italiano.** Port belonging to **Genoa.**
 Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes.**

LINE ENGINES, &c.—Description of Engines **Rateau Turbines & D.R. Gear** No. of Turbines **2.**
 of Rotor Shaft Journals, H.P. **4 1/2"** L.P. **4 1/2"** Diameter of Pinion Shaft **1" 4 1/2"** **2" 9"**
 of Journals **1" 4 1/2" 2" 9"** Distance between Centres of Bearings **1" 2 1/2" 2" 4 1/2"** Diameter of Pitch Circle **1" 6.302" 2" 13.379"**
 of Wheel Shaft **1" 9" 2" 14 1/4"** Distance between Centres of Bearings **1" 26" 2" 45 1/2"** Diameter of Pitch Circle of Wheel **1" 49.656" 2" 76.765"**
 Face **1" 8" 2" 33 1/2"** Diameter of Thrust Shaft under Collars **15"** Diameter of Tunnel Shaft as per rule **13 1/4"**
 as fitted
 New Shafts **One** Diameter of same as per rule **15 1/4" Cent** Diameter of Propeller **17'-9"** Pitch of Propeller **16'-6"**
 as fitted
 Blades **4** State whether Moveable **No** Total Surface **100 sq ft** Diameter of Rotor Drum, H.P. ☒ L.P. ☒ Astern ☒
 at Bottom of Groove, H.P. ☒ L.P. ☒ Astern ☒ Revs. per Minute at Full Power, Turbine **3,500** Propeller **80.**

CULARS 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.	
1 1/8" 1 1/8"	3'-2 1/2" 3'-3 1/4"	2		1 1/8"	3'-3 3/8"	1		1 1/16" 2 1/4"	3'-2 1/2" 3'-3 1/4"	2	
1 1/16"	3'-2 1/16"	1		1 1/8"	3'-3 3/8"	1					
1"	3'-3"	1		2 1/2"	3'-4 1/2"	1					
1 1/16"	3'-2 1/16"	1		3 1/16"	3'-5 1/16"	1					
1 1/8"	3'-3 1/8"	1		4 3/4"	3'-6 3/4"	1					
				6 1/8"	3'-8 1/8"	1		2 1/16"	3'-4 1/16"	1	
				7"	3'-9"	1		4"	3'-6"	1	

Size of Feed pumps **2. 11 1/2" Steam, 8" Water & 24" Stroke.**
 Size of Bilge pumps **1 Bilge & Ballast 10 1/2" Steam, 14" Water & 24" Stroke, 1 Gen. Serv. 7" x 8" x 20" Stroke.**
 Size of Bilge suction in Engine Room **Four 3 1/2", One independent 8"**
 In Holds, &c. **N^o 1 hold 1, 3 1/2", N^o 2-2, 3 1/2" Reel. Bunker 2, 2 1/2" & Centre. Dup Tank 1, 3 1/2", N^o 3 Hold 3, 3 1/2", N^o 4 Hold 1-3 1/2" & 2, 2 1/2", Tunnel 2, 2 1/2", 1-3 1/2" In well.**
 Injections **One** sizes **14"** Connected to condenser, or to circulating pump **Yes** Is a separate Donkey Suction fitted in Engine Room & size **4 1/2" & 8"**
 Bilge suction pipes fitted with roses **Yes** Are the roses in Engine room always accessible **Yes.**
 Connections with the sea direct on the skin of the ship **No** Are they Valves or Cocks **Both.**
 Fitted 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.**
 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.**
 Pipes are carried through the bunkers **Bilge & Fore Peak Suctions** How are they protected **Steel covers.**
 Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times **Yes.**
 Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges **Yes.**
 New Shaft Tunnel watertight **Yes.** Is it fitted with a watertight door **Yes.** worked from **E. R. grating at line of upper d.k.**

RS, &c.—(Letter for record **S.**) Manufacturers of Steel **Balcock & Milnes Ltd. of Scotland Stewart & Lloyd's**
 Heating Surface of Boilers **9636 sq ft** Is Forced Draft fitted **Yes.** No. and Description of Boilers **3 Balcock & Milnes Marine**
 Pressure **200 lbs.** Tested by hydraulic pressure to **400 lbs.** Date of test **Nov. 25th 1920** No. of Certificate **19.**
 Boiler to be worked separately **Yes.** Area of fire grate in each boiler **85 3/4 sq ft** No. and Description of Safety Valves to **2 Spring loaded**
 Area of each valve **3 1/2" dia.** Pressure to which they are adjusted **200 lbs.** Are they fitted with easing gear **Yes.**
 Distance between boilers or uptakes and bunkers or woodwork **6 ft.** Mean dia. of boiler **4 ft.** Length **15'-1 1/4"** Material of shell plates **S.**
 Range of tensile strength **28/32.** Are the shell plates welded or flanged **Yes** Descrip. of riveting: cir. seams **D. R.**
 as **T. R. Single B. S.** Diameter of rivet holes in long. seams **2 9/16"** Pitch of rivets **3.53** Lap of plates or width of butt straps **7 1/4"**
 rivets **76.7** Working pressure of shell by rules **238** Size of manhole in shell **15" x 11"**
 plates **74.4**
 Compensating ring **2'-4 3/4" x 1'-10 1/4"** No. and Description of Furnaces in each Boiler ☒ Material ☒ Outside diameter ☒
 plain part ☒ Thickness of plates ☒ Description of longitudinal joint ☒ No. of strengthening rings ☒
 pressure of furnace by the rules ☒ Combustion chamber plates: Material ☒ Thickness: Sides ☒ Back ☒ Top ☒ Bottom ☒
 stays to ditto: Sides ☒ Back ☒ Top ☒ If stays are fitted with nuts or riveted heads ☒ Working pressure by rules ☒
 of stays ☒ Diameter at smallest part ☒ Area supported by each stay ☒ Working pressure by rules ☒ End plates in steam space ☒
S. Thickness **1/16"** Pitch of stays ☒ How are stays secured **Radius** Working pressure by rules **240** Material of stays ☒
 at smallest part ☒ Area supported by each stay ☒ Working pressure by rules ☒ Material of Front plates at bottom ☒
 Material of **Head** Thickness **1/32"** Greatest pitch of stays ☒ Working pressure of plate by rules ☒
 of tubes **1 1/2" 3/16"** Pitch of tubes **2 1/4" & 2 1/8"** Material of tube plates **S.** Thickness: Front **1/16"** Back ☒ Mean pitch of stays ☒
 across wide water spaces ☒ Working pressures by rules ☒ Girders to Chamber tops: Material ☒ Depth and ☒
 thickness of girder at centre ☒ Length as per rule ☒ Distance apart ☒ Number and pitch of stays in each ☒
 Working pressure by rules ☒ Steam dome: description of joint to shell ☒ Diameter of strength of joint ☒
 Thickness of shell plates **3/4"** Material **S.** Description of longitudinal joint **Weld** Diameter 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 ✓

IS A DONKEY BOILER FITTED? Two (Loachron) If so, is a report now forwarded? No.

SPARE GEAR. State the articles supplied:—Two bearing blades for Turbine spindles, four diaphragm packing rings, Gland casing for spindles, One Thrust shaft bearing, Assorted bolts & nuts, Assorted spanners etc. Wear down gauges for Turbines, 2 Bearing bushes for slow speed wheel shaft, 2 Bearing bushes for slow speed Pinion shaft, 2 Bearing bushes for high speed wheel shaft, 2 Bearing bushes for high speed Pinion shaft, White metal linings for bearings, Wear down gauges, overhauling gear & as per spec.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 18-26-28 June 5. 11. 17. 24 July 28 Aug. 3. 9. 20. 30 Sept. 15 Oct. 11. 29 Nov. 10. 24 Dec. 1916. 6 Jan. 2. 10 Mar. 5. 12. 13 Aug. 1917.
During erection on board vessel --- Nov. 25th Dec. 7. 15. 31. 1920.
Total No. of visits 30

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Casings June 1918 Rotors July 1918 Blading July 1918 Gearing June 1918
Rotor shaft July 1918 Thrust shaft Nov. 25th 1920 Tunnel shafts Nov. 25th 1920 Screw shaft Nov. 25th 1920 Propeller Nov. 25th 1920
Stern tube Nov. 25th 1920 Steam pipes tested Nov. 25th 1920 Engine and boiler seatings Nov. 25th 1920 Engines holding down bolts Nov. 25th 1920
Completion of pumping arrangements Nov. 30th 1920 Boilers fixed Nov. 30th 1920 Engines tried under steam Dec. 7th 1920
Main boiler safety valves adjusted Dec. 7th 1920. Thickness of adjusting washers Port B. P.V. 7/16" S.V. 7/32" Cent. B. P.V. 7/32" S.V. 7/16" H.P. 7/16" L.
Material and tensile strength of Rotor shaft Forged mild steel 34.4 tons □ 32.9 tons □ Identification Mark on Do. U460 + U461
Material and tensile strength of Pinion shafts Nickel Chrome steel 52.4 tons □ Identification Mark on Do. N-3 A
Material of Wheel shafts Mild steel Identification Mark on Do. 112 A Material of Thrust shafts Mild steel Identification Mark on Do. N-15
Material of Tunnel shafts Steel Identification Marks on Do. (J.T.) (W.G.H.) (J.H.W.) Material of Screw shafts Steel Identification Marks on Do. 2657
Material of Steam Pipes Solid drawn steel Test pressure 600 lbs.

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. ✓

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

Is this machinery a duplicate of a previous case Yes. If so, state name of vessel N.1. Standard.

General Remarks (State quality of workmanship, opinions as to class, &c.) The Boilers (see Glasgow Rept. N° 383) & the Machinery (see Manchester Rept. N° 4645) of this vessel have been fitted & secured on board & tried under full working conditions with satisfactory results & are now eligible in our opinion for award of + L.M.C. 12-20, subject to the water tube boilers being surveyed annually.

Two Vertical Donkey Boilers (placed on board by new Owners) & by Messrs Loachron & Co. Dunham L^{td} & marked.

Boilers well & workmanship & general condition appears good. The Safety Valves 3 1/2" dia. adjusted to 100 lbs. steam pressure. Thickness of Rings etc. B. S.V. 7/16" P.V. 7/8" Port B. S.V. 7/8" P.V. 3/5".

The amount of Entry Fee ... £ : :
Special Fitting on board £ 36 10/4
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 18/1 1921
When received, 10-3 1921

John W. Gwynne Thos. M. Gibbs
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

+ L.M.C. 12, 20 7D subject
Water tube boilers



© 2021

Lloyd's Register
Foundation