

REPORT ON MACHINERY.

No. 18253

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Writing Report 2.6.1924 When handed in at Local Office 27.6.1924 Port of GreenockSurvey held at Greenock Date, First Survey 6th May, 1920 Last Survey 1-7-1924
Book. Sigs "Mariston" (Number of Visits 79)Built at Pililangow By whom built Lithgow & Co. 744 When built 1924Machinery made at Greenock By whom made Rankine Blackmore & Co. (HOB) when made 1924Machinery made at ditto By whom made ditto (HOB when made 1924)Registered Horse Power 404 Owners W. S. Miller, C. Port belonging to GlasgowHorse Power as per Section 28 404 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted YesMACHINERY, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3of Cylinders 26"-42"-40" Length of Stroke 48" Revs. per minute 65 Dia. of Screw shaft 14 1/2" as per rule 14 1/2" as fitted 14 3/4" Material of screw shaft SIs the screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight YesIf the liner is in more than one length are the joints burned Yes If the liner does not fit tightly at the part YesWhen the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes If two YesIf the shaft is lapped or protected between the liners Yes Length of stern bush 60"Dia. of Tunnel shaft 13 1/8" as per rule 13 1/8" as fitted 13 1/8" Dia. of Crank shaft journals 13 1/8" as per rule 13 1/8" as fitted 13 1/8" Dia. of Crank pin 13 1/8" Size of Crank webs 25 3/8" Dia. of thrust shaft under 13 1/8"Dia. of screw 18.0" Pitch of Screw 18.6" No. of Blades 4 State whether moveable No Total surface 100 sq ftof Feed pumps 2 Diameter of ditto 33 1/4" Stroke 24" Can one be overhauled while the other is at work Yesof Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yesof Donkey Engines 3 Sizes of Pumps Ball 12 1/2" 5 1/2" 3 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps 2. 3" + 6. 3 1/4"Engine Room 30' x 24 1/2' Tunnel 1.2' x 4' In Holds, &c. 2. 3" + 6. 3 1/4"of Bilge Injections 1 sizes 6" Connected to condenser or to circulating pump Pump Is a separate Donkey Suction fitted in Engine room & size Yes 4 1/2"Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible YesAre all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks BothAre 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 aboveAre 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 YesWhat pipes are carried through the bunkers Bilge Suction How are they protected wood casingAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times YesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges YesIs the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Upper PlatformMILLERS, &c.—(Letter for record S) Manufacturers of Steel Lanarkshire, Steel Co. James DunlopTotal Heating Surface of Boilers 6713 sq ft Is Forced Draft fitted No No. and Description of Boilers 3 Single EndedWorking Pressure 180 Tested by hydraulic pressure to 320 Date of test 1-5-24 No. of Certificate 1651Can each boiler be worked separately Yes Area of fire grate in each boiler 613 1/4 sq ft No. and Description of Safety Valves to 1on each boiler Double Spring Area of each valve 706 sq in Pressure to which they are adjusted 185 Are they fitted with easing gear YesSmallest distance between boilers or uptakes and bunkers or woodwork 5.0" Mean dia. of boilers 15.0" Length 11.0" Material of shell plates SThickness 17/32 Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DRLong. seams TR.D.B.S. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 15/16" Lap of plates or width of butt straps 18 5/8"Percentage of strength of longitudinal joint 86.74 Working pressure of shell by rules 181 Size of manhole in ends 16 x 12"Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 corrugated Material S Outside diameter 48 1/2"Length of plain part top 7 9/16" Thickness of plates crown 7 9/16" Description of longitudinal joint weld No. of strengthening rings 1Working pressure of furnace by the rules 181 Combustion chamber plates: Material S Thickness: Sides 49/64" Back 2 1/2" Top 49/64" Bottom 3/4"Pitch of stays to ditto: Sides 9 3/4" x 8 5/8" Back 9 1/4" x 8 5/8" Top 9 3/4" x 8 5/8" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 184Material of stays S Area at smallest part 77.23 sq in Area supported by each stay 84 sq in Working pressure by rules 186 End plates in steam space: SMaterial S Thickness 1 5/16" Pitch of stays 22 1/2" + 26" How are stays secured DN Working pressure by rules 180 Material of stays SArea at smallest part 7.24 sq in Area supported by each stay 405 sq in Working pressure by rules 181 Material of Front plates at bottom SThickness 27/32 Material of Lower back plate S Thickness 13/16" Greatest pitch of stays 13 1/4" x 8 15/16" Working pressure of plate by rules 183Diameter of tubes 3 1/4" Pitch of tubes 4 3/8" x 4 3/8" Material of tube plates S Thickness: Front 27/32 DP Back 3/4" Mean pitch of stays 13 1/4" x 12 1/8"Pitch across wide water spaces 13 3/4" Working pressures by rules 184 Girders to Chamber tops: Material S Depth and 18 1/8"Thickness of girder at centre 9 x 3 1/4" (2) Length as per rule 22.19/32 Distance apart 9 3/4" Number and pitch of stays in each 20 x 8 5/8"Working pressure by rules 188 Steam dome: description of joint to shell % of strength of jointDiameter 18 1/2" Thickness of shell plates 13/16" Material S Description of longitudinal joint Weld Diam. of rivet holes 1 1/4"Pitch of rivets 8 15/16" Working pressure of shell by rules 181 Crown plates S Thickness 13/16" How stayed 2020SUPERHEATER. Type Horizontal Date of Approval of Plan 1-5-24 Tested by Hydraulic Pressure to 320Date of Test 1-5-24 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler YesDiameter of Safety Valve 1 1/2" Pressure to which each is adjusted 180 Is Easing Gear fitted Yes

IS A DONKEY BOILER FITTED?

90 ✓

If so, is a report now forwarded?

SPARE GEAR.

State the articles supplied:— 2 Connecting Rod w/ Ind. bolts nuts, dults for bottom end. 2 For an Bearing bolts. 1 Set of Coupling bolts. 1 Set of Feed. 1 Set of Pump. 1 Set of a quantity of assorted bolts. 1 Set of Iron of various sizes.

The foregoing is a correct description,

RANKIN & BLACKMORE, LTD.,

Director.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1920. May 6. 10. 15. 18. 21. 26. 27. 31. June 4. 9. July 26. Aug 7. 13. Oct 20. Nov 10. 15. 1923. Jan 29. Feb 12. 19. 28. Mar 2. 8. 12. 20. 26. 29. Apr 3. 4. 12. 17. 25. During erection on board vessel - - 27. May 2. 11. 22. 25. 29. June 6. 7. 12. 15. 19. July 13. 24. Aug 8. 16. 28. Sept 5. Oct 2. Nov 8. 29. Dec 10. 18. 1924. Jan 7. 24. Feb 5. Apr 23. May 1. 2. 7. 9. 14. 16. 19. 23. Total No. of visits 26. 27. 28. June 3. 5. 6. 16. 19. 21. 23. 24. 25. 27. July 1. 49 Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders 7. 6. 23 Slides 25. 5. 23 Covers 7. 6. 23 Pistons 25. 5. 23 Rods 24. 7. 23

Connecting rods 16. 5. 23 Crank shaft 14. 5. 24 Thrust shaft 14. 5. 24 Tunnel shafts 14. 5. 24 Screw shaft 7. 5. 24 Propeller 7. 5. 24

Stern tube 7. 5. 24 Steam pipes tested 23. 6. 24 Engine and boiler seatings 23. 4. 24 Engines holding down bolts 24. 6. 24

Completion of pumping arrangements 24. 6. 24 Boilers fixed 19. 6. 24 Engines tried under steam 24. 6. 24

Completion of fitting sea connections 19. 5. 24 Stern tube 19. 5. 24 Screw shaft and propeller 3. 6. 24

Main boiler safety valves adjusted 25. 6. 24 Thickness of adjusting washers P 15/32 S 1/2 P 15/32 S 7/16 F 13/32 S 7/16

Material of Crank shaft S Identification Mark on Do. *Lloyds WGM 403* Material of Thrust shaft S Identification Mark on Do. *Lloyds WGM 403*

Material of Tunnel shafts S Identification Marks on Do. *403* Material of Screw shafts S Identification Marks on Do. *447 524*

Material of Steam Pipes

Test pressure 540 lb

Is an installation fitted for burning oil fuel 90 ✓

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 duplicate of a previous case 90 ✓ If so, state name of vessel —

General Remarks (State quality of workmanship, opinions as to class, &c. These Engines & Boiler have been built under Special Survey in accordance with the approved plan & the workmanship & material are of good quality. They have now been securely fitted on board, tried under steam & found satisfactory. The machinery is eligible in my opinion for the use of L M C 7 - 24

It is submitted that this vessel is eligible for THE RECORD. + L M C 7. 24. CL.

W. J. D. 10/7/24

The amount of Entry Fee ... £ 5 : - / When applied for. Special ... £ 55 : 12 : 27-6-1924 Donkey Boiler Fee ... £ : : When received. Travelling Expenses (if any) £ : : 30-6-1924

Committee's Minute GLASGOW -8 JUL 1924

Assigned + L M C 7. 24

W. J. D.

Engineer Surveyor to Lloyd's Register of Shipping.



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