

REPORT ON MACHINERY.

No. 43772

Received at London Office

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Date of writing Report 20 June 1924 When handed in at Local Office 30 June 1924 Port of Glasgow
 Jo. in Survey held at Glasgow Date, First Survey 11th Jan 1924 Last Survey 20 June 1924
 Reg. Book. on the Steel Steamer "DONA FLORA" Number of Visits 20 Gross Tons 87
 Master Built at Middlesbrough By whom built Furness S. B. C. N° 71 When built 1924
 Engines made at Glasgow By whom made Ross & Duncan N° 1136 when made 1924
 Boilers made at do By whom made Ross & Duncan N° 1703 when made 1924
 Registered Horse Power _____ Owners _____ Port belonging to _____
 Nom. Horse Power as per Section 28 1344 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 16" - 26" - 44" Length of Stroke 30" Revs. per minute _____ Dia. of Screw shaft 9.03 Material of screw shaft S.
 Is 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 in the propeller boss _____
 If the liner is in more than one length are the joints burned _____ If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If two liners are fitted, is the shaft lapped or protected between the liners _____ Length of stern bush 87 1/2"
 Dia. of Tunnel shaft 8.65 Dia. of Crank shaft journals 8.45 Dia. of Crank pin 8.75 Size of Crank webs 16 1/2 x 5 1/2" Dia. of thrust shaft under collars 8 1/2" Dia. of screw 11.0" Pitch of Screw 11.0" No. of Blades 4 State whether maceable no Total surface 42 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 16 1/2" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 2 3/4" Stroke 16 1/2" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 8 x 9 x 8 1/4" - 6 x 4 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps _____
 In Engine Room 2 @ 2 1/2" In Hold, &c. 2 @ 3"
 No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 3 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 none
 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 above
 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 Hold suction How are they protected rim pipes; covered wood cutting
 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 none Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel D. Colville & Sons
 Total Heating Surface of Boilers 2337 Is Forced Draft fitted no No. and Description of Boilers 1 - Horizontal
 Working Pressure 180 lbs Tested by hydraulic pressure to 320 Date of test 17.16.24 No. of Certificate 16533
 Can each boiler be worked separately yes Area of fire grate in each boiler 66.14 No. and Description of Safety Valves to each boiler 1 - Spring loaded Area of each valve 7.66 Pressure to which they are adjusted _____ Are they fitted with easing gear _____
 Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean dia. of boilers 15.6" Length 10.6" Material of shell plates S.
 Thickness 1 1/32" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams D.R. long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 5/16" Pitch of rivets 9" Lap of plates or width of butt straps 19 3/8"
 Per centages of strength of longitudinal joint _____ rivets 90.4 Working pressure of shell by rules 182.3 Size of manhole in shell 16" x 12"
 Size of compensating ring 31 1/2" x 29" No. and Description of Furnaces in each boiler 3 - horizontal Material S Outside diameter 47 1/8"
 Length of plain part _____ Thickness of plates _____ crown 19 1/32" Description of longitudinal joint weld No. of strengthening rings _____
 Working pressure of furnace by the rules 183 Combustion chamber plates: Material S Thickness: Sides 1 1/16" Back 5/8" Top 1 1/16" Bottom 1 1/16"
 Pitch of stays to ditto: Sides 10 3/8" x 8 1/2" Back 9 3/8" x 9" Top 10 3/8" x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180
 Material of stays S Area at smallest part 1.73 Area supported by each stay 88 Working pressure by rules 185 End plates in steam space: Material S Thickness 1 1/16" Pitch of stays 19" x 18" How are stays secured D.N.L.W. Working pressure by rules 184 Material of stays S
 Area at smallest part 6.10 Area supported by each stay 342 Working pressure by rules 196 Material of Front plates at bottom S
 Thickness 13/16" Material of Lower back plate S Thickness 13/16" Greatest pitch of stays 18" Working pressure of plate by rules 193
 Diameter of tubes 3 1/2" Pitch of tubes 4 6/8" x 4 1/2" Material of tube plates S Thickness: Front 1 1/16" x 13/16" Back 13/16" Mean pitch of stays 9" x 11 7/8"
 Pitch across wide water spaces 14" Working pressures by rules 202 Girders to Chamber tops: Material S Depth and thickness of girder at centre 8 1/4" x 1 1/2" Length as per rule 33 1/2" Distance apart 8 1/2" Number and pitch of stays in each 2 - 10 3/8"
 Working pressure by rules 184 Steam dome: description of joint to shell _____ % of strength of joint _____
 Diameter _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. 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? *yes* If so, is a report now forwarded? *yes: Gln N° 43293*

SPARE GEAR. State the articles supplied:— *Two each of connecting rod top-end, bottom-end and main braining bolts & nuts: One set of coupling bolts & nuts: One set each of feed and bilge pump valves: assorted bolts & nuts: iron of various sizes: One main & one donkey feed check valve, one safety valve spring (D. Pk.) and minor gear.*

The foregoing is a correct description,

Ross Duncan

Manufacturer.

Dates of Survey while building: During progress of work in shops - *1924 Jan 11. 15 Feb 6. 15-28 Mar 4. 6. 7 Apr 3. 10. 14. 17. 24 May 1. 13. 22 Jun 2. 6. 19. 20*
During erection on board vessel - - -
Total No. of visits *20*

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

" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders *29.2.24* Slides *22.5.24* Covers *22.5.24* Pistons *22.5.24* Rods *22.5.24*

Connecting rods *22.5.24* Crank shaft *17.4.24* Thrust shaft *10.4.24* Tunnel shafts ✓ Screw shaft *20.6.24* Propeller *20.6.24*

Stern tube *20.6.24* Steam pipes tested *15.7.24* Engine and boiler seatings *16.6.24* Engines holding down bolts *10.7.24*

Completion of pumping arrangements *26.7.24* Boilers fixed *26.7.24* Engines tried under steam *26.7.24*

Completion of fitting sea connections *26.6.24* Stern tube *26.6.24* Screw shaft and propeller *1.7.24*

Main boiler safety valves adjusted *26.7.24* Thickness of adjusting washers *P. Valve 3/8" : S. Valve 1/2"*

Material of Crank shaft *S* Identification Mark on Do. *SC* Material of Thrust shaft *S* Identification Mark on Do. *SC*

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *S* Identification Marks on Do. *SC*

Material of Steam Pipes *Solid drawn copper (4 3/4 x N° 6)* Test pressure *400 lb*

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 duplicate of a previous case If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines and boiler have been built under special survey in accordance with the Rules, and approved plans, the materials & workmanship are good.*

The machinery is eligible in my opinion to be classed + L.M.C. with date when satisfactorily fitted on board, and tried under steam

The engines and boiler are being shipped to Fiddalibro where they will be fitted on board.

The engines, boilers and auxiliaries have now been satisfactorily secured on board in accordance with the Rules. Engines & Boilers examined under steam and safety valves adjusted

*The machinery is now in a good and safe working condition and renders the vessel eligible in our opinion to have the notation of *L.M.C.-8.24 in the Register Book*

The amount of Entry Fee ... £ *3* : - :
Special *4/8* ... £ *26* : *16* :
Donkey Boiler Fee *1/5* ... £ *6* : *14* :
Travelling Expenses (if any) £ : :
When applied for, *27.6.1924*
When received, *28.8.24*

Wm Morrison
Jas Cairns
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *GLASGOW -1 JUL 1924*
Assigned *Deferred*

FRI 22 AUG 1924
+ *L.M.C. 8.24* 2020
C.L.
CERTIFICATE WRITTEN
Lloyd's Register Foundation

GLASGOW
Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.