

# REPORT ON MACHINERY.

SAT. APR. 26 1924

No. 433677  
WFO. 20 FEB 1924  
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Received at \_\_\_\_\_ Office \_\_\_\_\_

of writing Report \_\_\_\_\_ 19 \_\_\_\_\_ When handed in at Local Office 19-1-1924 Port of Glasgow

Survey held at Glasgow & Middlesbrough Date, First Survey 3rd Oct. 1923 Last Survey 15th Feb 1924

Book on the S.S. MARTINHOE (Number of Visits 22)

Built at Glasgow By whom built Furness S. B. C. No. 59 When built 1924

Engines made at Glasgow By whom made Ross & Duncan No. 1131 when made 1924

Boilers made at Glasgow By whom made Ross & Duncan No. 1695-6 when made 1924

Indicated Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_

Horse Power as per Section 28 156 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3

No. of Cylinders 17-27 1/2-45 Length of Stroke 33 Revs. per minute \_\_\_\_\_ Dia. of Screw shaft as per rule 9.25 as fitted 10 3/16 Material of screw shaft S.

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

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

on the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If two

are fitted, is the shaft lapped or protected between the liners Length of stern bush 40 1/2

Tunnel shaft as per rule 8.62 Dia. of Crank shaft journals as per rule 9 Dia. of Crank pin 9 1/4 Size of Crank webs 17 1/8 x 6 Dia. of thrust shaft under

9 5/8 Dia. of screw 12-3 Pitch of Screw 12-6 No. of Blades 4 State whether moveable no Total surface 50 sq.

Feed pumps 2 Diameter of ditto 2 3/4 Stroke 16 1/2 Can one be overhauled while the other is at work yes

Bilge pumps 2 Diameter of ditto 3 Stroke 16 1/2 Can one be overhauled while the other is at work yes

Donkey Engines 2 Sizes of Pumps 6 x 8 x 8 : 6 x 4 1/2 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 3 @ 2 1/2 In Holds, &c. Fore hold 2 @ 3 ; aft hold 3 @ 3

and will 1 @ 2 1/2

Bilge Injections 1 sizes 4 Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes - 3 1/2

Are the bilge suction pipes fitted with roses boxes Are the roses in Engine room always accessible yes Are the sluices on Engine room bulkheads always accessible none

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

Are the pipes carried through the bunkers none How are they protected yes

Are Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yes

Are Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yes

Is Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top platform.

ENGINES, &c.—(Letter for record S) Manufacturers of Steel D. Colville & Sons

Heating Surface of Boilers 2806 sq. ft. Is Forced Draft fitted no No. and Description of Boilers 2- Single ended

Working Pressure 180 Tested by hydraulic pressure to 320 Date of test 22-1-24 No. of Certificate 16407.

Can each boiler be worked separately yes Area of fire grate in each boiler 39.5 sq. ft. No. and Description of Safety Valves to

each boiler 2- Spring loaded Area of each valve 4.97 Pressure to which they are adjusted 185 lb Are they fitted with easing gear yes

Minimum distance between boilers or uptakes and bunkers or woodwork 2-0 Mean dia. of boilers 12-0 Length 10-6 Material of shell plates S

Minimum thickness 1 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams I. R.

Standard T.R.I.B.S. Diameter of rivet holes in long. seams 1 Pitch of rivets 7 Lap of plates or width of butt straps 14 7/8

Minimum thickness of strength of longitudinal joint rivets 86.4 Working pressure of shell by rules 182 Size of manhole in shell 16 x 12

Minimum thickness of plate 95.7 No. and Description of Furnaces in each boiler 2- Horizontal Material S Outside diameter 3-7 1/8

Minimum thickness of plain part top 9.16 Description of longitudinal joint welded No. of strengthening rings 1

Working pressure of furnace by the rules 189 Combustion chamber plates: Material S Thickness: Sides 1/16 Back 5/8 Top 1/16 Bottom 1/16

Minimum thickness of stays to ditto: Sides 9 1/2 x 9 Back 8 1/2 x 8 1/2 Top 9 1/2 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 187

Minimum thickness of stays S Area at smallest part 2.07 Area supported by each stay 85.5 Working pressure by rules 195 End plates in steam space:

Minimum thickness S Thickness 1 Pitch of stays 16 x 17 How are stays secured I.N.L.W. Working pressure by rules 197 Material of stays S.

Minimum thickness at smallest part 4.57 Area supported by each stay 272 Working pressure by rules 182 Material of Front plates at bottom S.

Minimum thickness 7/8 Material of Lower back plate S Thickness 2 1/32 Greatest pitch of stays 14 x 8 1/2 Working pressure of plate by rules 216

Minimum thickness of tubes 3 1/4 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates S Thickness: Front 7/8 Back 3/4 Mean pitch of stays 10

Minimum thickness across wide water spaces 14 Working pressures by rules 183 Girders to Chamber tops: Material S. Depth and

Minimum thickness of girder at centre 7 x 1 3/4 Length as per rule 30 5/8 Distance apart 9 Number and pitch of stays in each 2-9 1/2

Minimum thickness Working pressure by rules 214 Steam dome: description of joint to shell % of strength of joint

Minimum thickness Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes

Minimum thickness rivets Working pressure of shell by rules Crown plates Thickness How stayed

Minimum thickness SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Minimum thickness Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Minimum thickness of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

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IS A 'DONKEY' BOILER FITTED? NO If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two each of connecting rod top-end, bottom-end and main bearing bolts and nuts: one set of coupling bolt and nuts: one set of bilge pump valves: assorted bolts & nuts: iron of various sizes: one on and one donkey feed check valve, and one safety valve spring

The foregoing is a correct description,

Ross Duncan

Manufacturer.

Dates of Survey while building: During progress of work in shops - - - 1923 Oct 3, 17 Nov 5, 9, 16, 24, 27, 28 Dec 4, 10, 13, 17, 20, 27 1924 Jan 8, 11, 15, 22, 23, 29 Feb 4, 15  
During erection on board vessel - - -  
Total No. of visits 22

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 28-11-23 Slides 23-1-24 Covers 23-1-24 Pistons 23-1-24 Rods 23-1-

Connecting rods 23-1-24 Crank shaft 4-12-23 Thrust shaft 23-1-24 Tunnel shafts 23-1-24 Screw shaft 15-2-24 Propeller 29-1-

Stern tube 29-1-24 Steam pipes tested 19-3-24 Engine and boiler seatings 25-2-24 Engines holding down bolts 24-3-

Completion of pumping arrangements 11-4-24 Boilers fixed 11-4-24 Engines tried under steam 11-4-24

Completion of fitting sea connections 20-2-24 Stern tube 25-2-24 Screw shaft and propeller 25-2-24

Main boiler safety valves adjusted 11-4-24 Thickness of adjusting washers Port Bln P-3/8 Star B S-3/8

Material of Crank shaft S Identification Mark on Do. 1131 HC Material of Thrust shaft S Identification Mark on Do. 1131

Material of Tunnel shafts S Identification Marks on Do. 1131 HC Material of Screw shafts S Identification Marks on Do. 1131

Material of Steam Pipes Solid structure Copper Test pressure 360 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 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 Boilers have been built under special survey in accordance with the Rules and approved plans, the materials and 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 boilers are being shipped to middles where they will be fitted on board.

The engines and boilers have now been satisfactorily secured on board examined under steam and found satisfactory and render the usual slip in my opinion to have the notation of L.M.C. - 4.24 in the Register Book

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for,  
Special <sup>4</sup>/<sub>3</sub> ... £ 31 : 4 : 0 1924  
Donkey Boiler Fee ... £ : : :  
Travelling Expenses (if any) £ : : : 20.2.24

Jas Cairns  
Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute GLASGOW 19 FEB 1924  
Assigned Defered.



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