

REPORT ON MACHINERY

No. 17838

WED. 22 JUN. 1921

Received at London Office

Date of writing Report 17th June 1921. When handed in at Local Office 17th June 1921 Port of Grunwick.No. in Survey held at Grunwick & Pt. Glasgow. Date, First Survey 18th May 1920 Last Survey 10th June 1921
Reg. Book. (Number of Visits 98.)on the Screw Steamer. "CLAN MACIVER"Tons { Gross 4604.
Net 2740.Master W. M. Porterfield. Built at Pt. Glasgow By whom built Lithgow Limited No. 737 When built 1921Engines made at Grunwick By whom made Rankin and Blackmore Ltd. No. 395 when made 1921Boilers made at Grunwick By whom made Rankin and Blackmore Ltd. when made 1921Registered Horse Power Owners The Clan Line Steamers Co. Port belonging to GlasgowNom. Horse Power as per Section 28 517 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yesENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3Dia. of Cylinders 27"-44"-73" Length of Stroke 48 Revs. per minute 75 Dia. of Screw shaft as per rule 14.77 Material of screw shaft I.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 tightin the propeller boss yes If the liner is in more than one length are the joints burned yes If the liner does not fit tightly at the partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive — If twoliners are fitted, is the shaft lapped or protected between the liners — Length of stern bush 61 1/4"Dia. of Tunnel shaft as per rule 13.3 Dia. of Crank shaft journals as per rule 13.99 Dia. of Crank pin 14 1/2" Size of Crank webs 28x9 Dia. of thrust shaft undercollars 14 1/2" Dia. of screw 17-9 Pitch of Screw 18-0 No. of Blades 4 State whether moveable no Total surface 100 sq. ft.No. of Feed pumps 2 Diameter of ditto 4" Stroke 24 Can one be overhauled while the other is at work yes + 2 Main 7x21No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24 Can one be overhauled while the other is at work yesNo. of Donkey Engines 3 Sizes of Pumps 7x18, 4 1/2x6, 14x24 No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room 5-3 1/2" Bore, Tunnel 1-2 1/2" Bore Holds, &c. Forward Hold & Crm BunkerNo. of Bilge Injections 1 sizes 12 Connected to condenser, or to circulating pump C.P. 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 —Are 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 BelowAre 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 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 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 Top Platform, Eng. Room.BOILERS, &c.—(Letter for record S.) Manufacturers of Steel David Colville and Son Ltd.Total Heating Surface of Boilers 7668 sq. ft. Is Forced Draft fitted yes No. and Description of Boilers 3 Cyl. Mult. Single End.Working Pressure 180 lb. sq. in. Tested by hydraulic pressure to 320 lb. sq. in. Date of test 18, 20, 25/4/21 No. of Certificate 1563, 1567, 1568Can each boiler be worked separately yes Area of fire grate in each boiler 63.33 sq. ft. No. and Description of Safety Valves toeach boiler Two Spring Area of each valve 9.6 sq. in. Pressure to which they are adjusted 185 lb. sq. in. Are they fitted with easing gear yesSmallest distance between boiler uptakes and bunkers 20" dia. of boilers 15'-6" Length 11'-6" Material of shell plates S.Thickness 1 1/4" Range of tensile strength 28/32 Tons. Are the shell plates welded or flanged no Descrip. of riveting: air. seams L.D.R.long. seams DBS/TR Diameter of rivet holes in long. seams 15/16" Pitch of rivets 9/8" Lap of plates or width of butt straps 19 1/2"Per centages of strength of longitudinal joint 88.3 Working pressure of shell by rules 182 lb. sq. in. Size of manhole in shell 16" x 12"Size of compensating ring 30 1/2 x 26 1/2 x 1 3/8" and Description of Furnaces in each boiler 3 Dighton Material S. Outside diameter 50 3/16"Length of plain part top 19 1/2" Thickness of plates bottom 23/32 Description of longitudinal joint Weld. No. of strengthening rings —Working pressure of furnace by the rules 188 lb. sq. in. Combustion chamber plates: Material S. Thickness: Sides 23/32 Back 1 1/16" Top 23/32 Bottom 23/32Pitch of stays to ditto: Sides 10 7/8 x 9/4" Back 10 1/4 x 8 3/4" Top 10 7/8 x 9/4" If stays are fitted with nuts or riveted heads nuts. Working pressure by rules 180 lb. sq. in.Material of stays S. Area at smallest part 2.39 Area supported by each stay 98.3 sq. in. Working pressure by rules 220 lb. sq. in. End plates in steam space:Material S. Thickness 1 1/32" Pitch of stays 2 1/4 x 20 1/2" are stays secured D.N. Working pressure by rules 181 lb. sq. in. Material of stays S.Area at smallest part 8.29 sq. in. Area supported by each stay 446 sq. in. Working pressure by rules 191 lb. sq. in. Material of Front plates at bottom S.Thickness 3/32" Material of Lower back plate S. Thickness 27/32" Greatest pitch of stays 13 5/8 x 8 3/4" Working pressure of plate by rules 188 lb. sq. in.Diameter of tubes 2 3/4" Pitch of tubes 4 x 3 7/8" Material of tube plates S. Thickness: Front 3/32" Back 3/4" Mean pitch of stays 9 7/8"Pitch across wide water spaces 13 5/8" Working pressures by rules 181 lb. sq. in. Girders to Chamber tops: Material S. Depth andthickness of girder at centre 10" x 1 3/4" Length as per rule 35 9/16" Distance apart 10 5/8" Number and pitch of stays in each 30 9/4"Working pressure by rules 188 lb. sq. in. Steam dome: description of joint to shell none % 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 none 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 —

004206-004212-0154

Lloyd's Register
Foundation

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two Top and bottom & nuts, Two bottom and ditto, Two main bearing ditto, set of coupling bolts, spare valves for air, feed and bilge pumps, one propeller shaft, one propeller.

The foregoing is a correct description,
RANKIN & BLACKMORE, LTD.,

M. Rankin

Director.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 1920 May 18. 21. 26. 27. 31 Jun 9 Aug 13. 17. 24 Sep. 1. 6. 8. 13. 17. 23. 29 Oct 2. 5. 8. 12. 14. 20 22. 27. 29 Nov 2. 5. 10. 15. 19. 24 29 Dec 2. 6. 9. 14. 20 24 29
During erection on board vessel - - 1921 Jan 12. 13. 17. 19. 21. 23. 26. 28. 31 Feb 1. 4. 8. 11. 14. 16. 17. 18. 21. 22. 24. 28 Mar 3. 4. 8. 10. 14. 16. 17. 21. 25. 29 30 Apr 1. 6. 12. 13. 18. 20. 25. 26. 27. 29
Total No. of visits 98.

Is the approved plan of main boiler forwarded herewith

Yes

" " " donkey " "

Yes

Dates of Examination of principal parts—Cylinders 8. 2. 2/ Slides 4. 2. 2/ Covers 17. 2. 2/ Pistons 17. 2. 2/ Rods 17. 2. 2/
Connecting rods 28. 1. 2/ Crank shaft 28. 1. 2/ Thrust shaft 31. 1. 2/ Tunnel shafts 28. 2. 2/ Screw shaft 18. 4. 2/ Propeller 6. 4. 2/
Stern tube 14. 3. 2/ Steam pipes tested 21. 5. 2/ Engine and boiler seatings 23. 5. 2/ Engines holding down bolts 3. 6. 2/
Completion of pumping arrangements 26. 5. 2/ Boilers fixed 3. 6. 2/ Engines tried under steam 10. 6. 2/
Completion of fitting sea connections 16. 2. 2/ Stern tube 29. 3. 2/ Screw shaft and propeller 9. 5. 2/
Main boiler safety valves adjusted 10. 6. 2/ Thickness of adjusting washers P. 3/4 S. 1/8 P. 7/8 S. 1/8 P. 7/8 S. 1/8
Material of Crank shaft I. S. Identification Mark on Do. 508. WL Material of Thrust shaft I. S. Identification Mark on Do. 508. WL
Material of Tunnel shafts I. S. Identification Marks on Do. 508. WL Material of Screw shafts I. S. Identification Marks on Do. 508. J. B.
Material of Steam Pipes Wrought Iron Test pressure 600 lb.

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 duplicate of a previous case

Yes

If so, state name of vessel S. S. 'CLAN MACINDOE'

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

The above Machinery and Boilers have been constructed under Special Survey and have been fitted on board the Vessel in accordance with the Society's Rules.

The Vessel is eligible, in opinion, to have certification.
+ L.M.C. 6. 21 F.D. Fitted for oil fuel. 6. 21 F.P. above 150° F.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 6. 21. FD. CL.
Fitted for oil fuel. 6. 21. F.P. above 150° F.

MACHINERY CERTIFICATE
WRITTEN 27/6/21

The amount of Entry Fee ... £ 6 : 0 : 0
Special ... £ 100 : 17 : 0
Donkey Boiler Fee ... £ - : - : -
Travelling Expenses (if any) £ - : - : -

When applied for.

14/6/1921

When received.

15/6/1921

Committee's Minute

GLASSGOW

21 JUN 1921

Assigned

+ LMC 6. 21.

FD.

Fitted for oil fuel 6. 21 F.P. above 150° F.

W. Lane & G. Robertson

Engineer Surveyor to Lloyd's Register of Shipping.



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