

# REPORT ON MACHINERY

No. 4737  
1 MAR. 1922

Received at London Office

Date of writing Report 24<sup>th</sup> Feb 1922 When handed in at Local Office 24<sup>th</sup> Feb 1922 Port of Glasgow  
 No. in Survey held at Glasgow Date, First Survey 8<sup>th</sup> Oct. 1920 Last Survey 21<sup>st</sup> Feb 1922  
 Reg. Book. on the S.S. "Bochmaule" (Number of Visits 69)

Master Built at Dublin By whom built Dublin Dockyard Co. Ltd When built 1922  
 Engines made at Glasgow By whom made D. Rowan & Co. Ltd. Ing 764 when made 1922  
 Boilers made at Glasgow By whom made D. Rowan & Co. Ltd. Blns 764 when made 1922  
 Registered Horse Power Owners Cia Carbonifera y de Fundicion Schwager Port belonging to Valparaiso  
 Nom. Horse Power as per Section 28 254 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 20" x 33" x 54" Length of Stroke 36 Revs. per minute 82 Dia. of Screw shaft as per rule 11.48 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  
 Is 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 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 Yes Length of stern bush 46"  
 Dia. of Tunnel shaft as per rule 9.9 Dia. of Crank shaft journals as per rule 10.4 Dia. of Crank pin 11" Size of Crank webs 20 1/2 x 6 3/4 Dia. of thrust shaft under  
 collars 10 3/4 Dia. of screw 14-6" Pitch of Screw 14-0" No. of Blades 4 State whether moceable No Total surface 65 sq  
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 18" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 18" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 4 Sizes of Pumps 2 @ 7 1/2 x 5 1/2 x 15" (work feed), 1 @ 6 1/2 x 4 1/2 x 6" General Ballast, 1 @ 9 x 12 x 12" No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room 4 @ 3" In Holds, &c. No 1-2 @ 3" ; No 2-2 @ 3"  
 Tunnel well 1 @ 3"  
 No. of Bilge Injections 1 sizes 6" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 3"  
 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 Below  
 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  
 That pipes are carried through the bunkers None How are they protected Yes  
 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 Yes Is it fitted with a watertight door Yes worked from Upper Deck

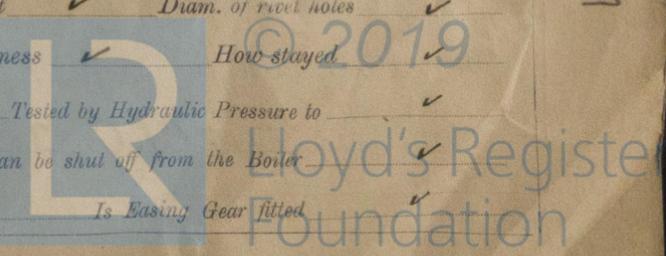
BOILERS, &c.—(Letter for record 5) Manufacturers of Steel Steel Co of Scotland.  
 Total Heating Surface of Boilers 4788 sq Is Forced Draft fitted No No. and Description of Boilers 3 Single ended multitubular  
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 Date of test 1-12-21 No. of Certificate 15952  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 50.8 sq No. and Description of Safety Valves to  
 each boiler Two spring loaded Area of each valve 4.9 sq Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 48" Mean dia. of boilers 13-3" Length 10-6" Material of shell plates S  
 Thickness 15/64" Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams L.D.R.  
 Long. seams D.S.-T.R. Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8 1/8" Lap of plates or width of butt straps 17 3/4"  
 Percentages of strength of longitudinal joint rivets 94.2 Working pressure of shell by rules 181 Size of manhole in shell 16" x 12"  
 Size of compensating ring 33 x 29 x 1 5/16" No. and Description of Furnaces in each boiler 3 Corrugated Material S Outside diameter 41"  
 Length of plain part top Thickness of plates crown 3 1/2" Description of longitudinal joint weld No. of strengthening rings None  
 Working pressure of furnace by the rules 184 Combustion chamber plates: Material S Thickness: Sides 2 1/32" Back 4 1/64" Top 2 1/32" Bottom 2 1/32"  
 Pitch of stays to ditto: Sides 10 x 7 3/4" Back 8 3/4 x 5 3/4" Top 10 x 7 3/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 186  
 Material of stays S Area at smallest part 1.76 sq Area supported by each stay 77.5 sq Working pressure by rules 182 End plates in steam space:  
 Material S Thickness 1 3/16" Pitch of stays 20 x 17 1/4" How are stays secured S. nuts Working pressure by rules 181 Material of stays S  
 Area at smallest part 5.94 sq Area supported by each stay 345 sq Working pressure by rules 180 Material of Front plates at bottom S  
 Thickness 29/32" Material of Lower back plate S Thickness 13/16" Greatest pitch of stays 13 1/8 x 8 3/4" Working pressure of plate by rules 183  
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2 x 4 3/8" Material of tube plates S Thickness: Front 29/32" Back 23/32" Mean pitch of stays 10"  
 Pitch across wide water spaces 14 Working pressures by rules 182 Girders to Chamber tops: Material S Depth and  
 thickness of girder at centre 9 x 1 3/4" Length as per rule 32 1/64" Distance apart 10" Number and pitch of stays in each 3 @ 7 3/4"  
 Working pressure by rules 186 Steam dome: description of joint to shell Yes % of strength of joint Yes  
 Diameter Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet holes Yes  
 Pitch of rivets Yes Working pressure of shell by rules Yes Crown plates Yes Thickness Yes How stayed Yes

SUPERHEATER. Type Yes Date of Approval of Plan Yes Tested by Hydraulic Pressure to Yes  
 Date of Test Yes Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes  
 Diameter of Safety Valve Yes Pressure to which each is adjusted Yes Is Easing Gear fitted Yes

RETAIN

RETAIN

1800-607M



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - 1 set each of top & bottom end, main bearing & coupling bolts nuts, 1 set each of feed, fulge, air & circulating pump valves, spare valves for donkey pump, 1 set piston valve, 1 spare cylinder studs; cast iron, assorted bolts & nuts.

The foregoing is a correct description,

David Rowan & Co Ltd Manufacturer.

Dates of Survey while building: During progress of work in shops - 1920 Oct 8 Nov 10 (1921) Jan 11 Feb 16 Mar 8. 11. 25. 29 Apr 11. 14. 18. 25 May 2. 9. 18. 30 Jun 9. 13. 27. 30 July 1. 4. 11. Aug 4. 8. 9. 10. 11. 15. 18. 29. 30 Sep 5. 13. 15. 20. 29 Oct 5. 18. 19. 20. 24. 25. 28. 31. Nov 2. 9. 17. 21. 25. 29 Dec 1. 13. 15. 20. 23 (1922) Jan 1. 19. 20. 25. 27 Feb 2. 8. 20. 21 Total No. of visits 69.

Dates of Examination of principal parts - Cylinders 15-8-21 Slides 18-10-21 Covers 18-10-21 Pistons 7-7-21 Rods 18-10-21 Connecting rods 9-8-21 Crank shaft 4-8-21 Thrust shaft 18-10-21 Tunnel shafts 17-11-21 Screw shaft 19-10-21 Propeller 18-10-21 Stern tube 25-10-21 Steam pipes tested 6-12-21 Engine and boiler seatings Dublin Rpt Engines holding down bolts 25-1-22 Completion of pumping arrangements 2-2-21 Boilers fixed 25-1-22 Engines tried under steam 21-2-22 Completion of fitting sea connections Dublin Report Stern tube Dublin Report Screw shaft and propeller 23-12-21 Main boiler safety valves adjusted 27-1-22 Thickness of adjusting washers P. P. 3/8 S. 7/16 C. P. 7/16 S. 7/16 S. P. 3/8 S. 7/16. Material of Crank shaft S Identification Mark on Do. LLOYD'S NO 764 Material of Thrust shaft S Identification Mark on Do. LLOYD'S NO 764 Material of Tunnel shafts S Identification Marks on Do. LLOYD'S NO 764 Material of Screw shafts S Identification Marks on Do. LLOYD'S NO 764 Material of Steam Pipes Lap welded iron Test pressure 540 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 Yes If so, state name of vessel S.S. "Puehoco"

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

The machinery and boilers of this vessel have been built under Special Survey and in accordance with the Rules, the materials and workmanship are sound & good, they have been fitted on board in an efficient manner, tried under working conditions and found satisfactory and are eligible in my opinion to be classed with record of + L.M.C. 2-22.

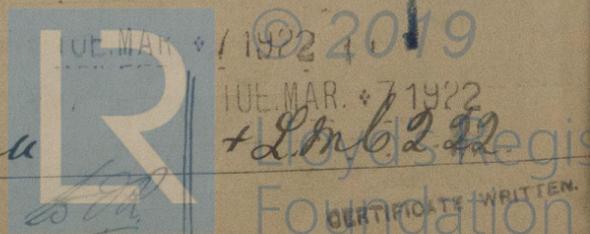
It is submitted that this vessel is eligible for THE RECORD. + L.M.C. - 2.22 C.L.

Ans J. Bellis 2/3/22

The amount of Entry Fee ... £ 4 : : When applied for, 23. 2. 22 Special ... £ 63 : 2 : : When received, 25. 2. 22 Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ : :

J. Bellis Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute GLASGOW 28 FEB 1922 Assigned + L.M.C. 2,22 subject to class " of hull



Glasgow

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