

REPORT ON MACHINERY

No. 4737
MAR. 1922

Received at London Office

Date of writing Report 24th Feb 1922 When handed in at Local Office 24th Feb 1922 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 8th Oct. 1920 Last Survey 21st 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. Bln 764 when made 1922

Registered Horse Power Owners Cia Carbonifera y de Fundicion Schwager Port belonging to Valparaiso

Com. 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 1/4 as fitted 11 3/4 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

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 9/16 as fitted 10 1/2 Dia. of Crank shaft journals as per rule 10 1/4 as fitted 10 1/2 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 1/2 Pitch of Screw 14 0 No. of Blades 4 State whether moveable No Total surface 65 sq ft

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 tank) 1 @ 6 1/2 x 4 1/2 x 6 General Ballast No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 4 @ 3" Tunnel well 1 @ 3" In Holds, &c. No 1-2 @ 3" No 2-2 @ 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 in 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 S) Manufacturers of Steel Steel Co of Scotland.

Total Heating Surface of Boilers 4788 sq ft 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 ft No. and Description of Safety Valves to

each boiler Two spring loaded Area of each valve 4.9 sq ft 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 15/16" 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 DS-T.R. Diameter of rivet holes in long. seams 13/16" 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 plate 85.4 Working pressure of shell by rules 181 Size of manhole in shell 16" x 12"

Size of compensating ring 33 x 29 x 1 7/8" No. and Description of Furnaces in each boiler 3 Corrugated Material S Outside diameter 41"

Length of plain part top 18 1/2 bottom 18 1/2 Thickness of plates crown 3 1/2 bottom 3 1/2 Description of longitudinal joint welded 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 Yes Working pressure by rules 186

Material of stays S Area at smallest part 1 7/8 sq ft Area supported by each stay 77.5 sq ft 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 ft Area supported by each stay 34.5 sq ft 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

1800-604M

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 piston valve, 1 spare cylinder studs, 1 set 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. 18. 25 Aug 1. 8. 15. 22. 29 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. 8. 15. 22. 29 Feb 2. 9. 16. 23. 30 Mar 1. 8. 15. 22. 29 Apr 1. 8. 15. 22. 29 May 1. 8. 15. 22. 29 Jun 1. 8. 15. 22. 29 Jul 1. 8. 15. 22. 29 Aug 1. 8. 15. 22. 29 Sep 1. 8. 15. 22. 29 Oct 1. 8. 15. 22. 29 Nov 1. 8. 15. 22. 29 Dec 1. 8. 15. 22. 29
During erection on board vessel -- 1920 Oct 25. 27. 28. 29. 30 Nov 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30
Total No. of visits 69.

Is the approved plan of main boiler forwarded herewith

Supplied

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. 1/8 S. 7/16 C. 1/8 S. 7/16 S. 3/8 S. 7/16

Material of Crank shaft S Identification Mark on Do. 6312 R.F. 11-10-21 Material of Thrust shaft S Identification Mark on Do. 6312 R.F. 11-10-21

Material of Tunnel shafts S Identification Marks on Do. 6312 R.F. 11-10-21 Material of Screw shafts S Identification Marks on Do. 6312 R.F. 11-10-21

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. "Pucholo" ✓

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 2/3/22

The amount of Entry Fee ... £ 4 : : When applied for, 23.2.1922
Special ... £ 63 : 2 :
Donkey Boiler Fee ... £ : : When received, 25.2.1922
Travelling Expenses (if any) £ : :

J. Bellis

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned + L.M.C. 2.22 subject to class of hull

1922 MAR 7 1922
Lloyd's Register
Foundation