

REPORT ON MACHINERY.

No. 12723

Port of Greenock

Received at London Office

No. in Survey held at Port Glasgow
Reg. Book.Date, first Survey 10th March 1903Last Survey 27th Aug 1903

1098.

on the

Screw Steamer "Volne"

Master

Built at Port GlasgowBy whom built Byde Shipbuilding & Eng6th LinWhen built 1903Engines made at Port GlasgowBy whom made Byde Shipbuilding & Eng6th Linwhen made 1903Boilers made at Port GlasgowBy whom made Byde Shipbuilding & Eng6th Linwhen made 1903

Registered Horse Power

Owners Goole Steam Shipping Co LtdPort belonging to GooleNom. Horse Power as per Section 28 239Is Refrigerating Machinery fitted NoIs Electric Light fitted No

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

Dia. of Cylinders 21"-33"-58" Length of Stroke 36" Revs. per minute 100 Dia. of Screw shaft 11.6" Material of Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No liners Is the after end of the liner made water tight

in the propeller boss Yes 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 ✓ If two

liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 4'3"

Dia. of Tunnel shaft 10.3" Dia. of Crank shaft journals 10.8" Dia. of Crank pin 11" Size of Crank webs 21 1/2 x 7 1/2 Dia. of thrust shaft under

collars 11" Dia. of screw 12'9" Pitch of screw 15'6" No. of blades 4 State whether moveable No Total surface 58 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/4" Stroke 20" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/4" Stroke 20" Can one be overhauled while the other is at work Yes

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

In Engine Room Three: one 2 1/4" dia. Two 2" dia. In Holds, &c. 2 1/2" Hold: 1-3" dia 2 1/2" Hold: 2-2" dia

2 1/2" Hold: 2-2" dia. Tunnel well 1-2 1/4" dia.

No. of bilge injections 1 sizes 5" Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes: 2 1/4"

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 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

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 Suctions How are they protected Wood casings

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock See Vessel Is the screw shaft tunnel watertight Yes

Is it fitted with a watertight door Yes worked from Top platform

BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 3670 sq. ft. Is forced draft fitted No

No. and Description of Boilers Two: Cylindrical: Single Ended Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs

Date of test 29/7/03 Can each boiler be worked separately Yes Area of fire grate in each boiler 40 1/2 sq ft No. and Description of safety valves to

each boiler Two: Direct Spring Area of each valve 7.04 sq in 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 About 6 ft Mean dia. of boilers 13'6 1/4" Length 12'0" Material of shell plates Steel

Thickness 1 3/8" Range of tensile strength 28-32 tons Are they welded or flanged No Descrip. of riveting: cir. seams Lap Double long. seams Double Butt Snaps

Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 5/8" 4 3/8" Lap of plates on width of butt straps 20 1/2"

Per centages of strength of longitudinal joint 91.5 Working pressure of shell by rules 227 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 32" x 24" x 1 1/8" No. and Description of Furnaces in each boiler 3: Brown Material Steel Outside diameter 42"

Length of plain part 7'6" Thickness of plates 9 1/8" Description of longitudinal joint Weld No. of strengthening rings partial at

Working pressure of furnace by the rules 193 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/8" Back 1 1/8" Top 1 1/8" Bottom 1 1/8"

Pitch of stays to ditto: Sides 9' x 8 1/2" Back 9' x 9" Top 9' x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 202 lbs

Material of stays Steel Diameter at smallest part 1 5/8" Area supported by each stay 81 sq in Working pressure by rules 229 lbs End plates in steam space:

Material Steel Thickness 1 3/8" Pitch of stays 18' x 17 1/2" How are stays secured 8 lbs nuts Working pressure by rules 229 lbs Material of stays Steel

Diameter at smallest part 3 1/4" Area supported by each stay 353 sq in Working pressure by rules 226 lbs Material of Front plates at bottom Steel

Thickness 1 5/8" Material of Lower back plate Steel Thickness 1 5/8" Greatest pitch of stays 14 1/2" Working pressure of plate by rules 214 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 1 5/8" Back 1 5/8" Mean pitch of stays 10'3 1/2"

Pitch across wide water spaces 14 1/2" Working pressures by rules 214 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 10 1/2" x 1 1/2" Length as per rule 34 1/4" Distance apart 9' Number and pitch of Stays in each 3: 9'

Working pressure by rules 205 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

separately Yes Diameter 10' Length 10' Thickness of shell plates 1 1/8" Material Steel Description of longitudinal joint Weld Diam. of rivet

holes 1 1/8" Pitch of rivets 9 5/8" Working pressure of shell by rules 227 lbs Diameter of flue 16" Material of flue plates Steel Thickness 1 1/8"

If stiffened with rings Yes Distance between rings 10' Working pressure by rules 229 lbs End plates: Thickness 1 1/8" How stayed Yes

Working pressure of end plates 205 lbs Area of safety valves to superheater None Are they fitted with easing gear Yes

DONKEY BOILER— No. *None* Description

Made at _____ By whom made _____ When made _____ Where fixed _____
 Working pressure _____ tested by hydraulic pressure to _____ No. of Certificate _____ Fire grate area _____ Description of safety valves _____
 No. of safety valves _____ Area of each _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____
 Dia. of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____ Range of tensile strength _____
 Descrip. of riveting long. seams _____ Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
 Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
 Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace plates _____ Description of joint _____
 Thickness of furnace crown plates _____ Stayed by _____ Working pressure of shell by rules _____
 Working pressure of furnace by rules _____ Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *3 crank shaft, Propeller shaft & propeller, 2 crank pin Bolts, 2 cross-head Bolts, 2 main Bearing Bolts, 1 set Coupling Bolts, 1 set Piston Bolts, 1 set Feed & Bilge pump valves Assorted Bolt nuts. Iron & brass sizes.*

The foregoing is a correct description,

Manufacturer.

THE CLYDE SHIPBUILDING & ENGINEERING CO. LIMITED,

Don Rimmer Secretary.

Dates of Survey while building { During progress of work in shops— *1903. March 10. 17. 20. 24. April 1. 2. 4. 9. 13. 14. 15. 16. 24. 30. May 7. 8. 13. 20. 26. 29. June 1. 2. 5. 10. 16. 17. 18. 19. 25. 29. July 15. 16. 17. 20. 22. 24. 27. 29. Aug 4. 6. 10. 12. 14. 18. 20. 21. 25. 27.*
 During erection on board vessel — *26. 29. June 1. 2. 5. 10. 16. 17. 18. 19. 25. 29. July 15. 16. 17. 20. 22. 24. 27. 29. Aug 4. 6. 10. 12. 14. 18. 20. 21. 25. 27.*
 Total No. of s *48.* Is the approved plan of main boiler forwarded herewith *Yes.*

" " " donkey " " " *No*

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

The Engines and Boilers of this vessel have been built under Special Survey and the materials and workmanship are good. When completed they were examined under steam on a full power trial in the Tirth, and found to work satisfactorily.

*The machinery throughout is now in good and efficient condition and eligible in my opinion to have the record of **LMC 8, 03.** marked in the Society's Register Book.*

It is submitted that this vessel is eligible for THE RECORD

LMC 8.03.

Rms.
8.9.03.
9.9.03

The amount of Entry Fee. £ *2* : : : When applied for, *1.9.1903*
 Special .. £ *31* : *9* : : :
 Donkey Boiler Fee .. £ : : : When received, *3.9.1903*
 Travelling Expenses (if any) £ : : : *3.9.1903*

Thos. R. Austin.
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

Glasgow - 7 SEP 1903

Assigned

+ LMC 8.03. *b.b.c.*



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