

REPORT ON MACHINERY.

No. 14509

Port of *Greenock*

Received at London Office

JUNES. 12 DEC 1905

No. in Survey held at *Port Glasgow*Date, first Survey *25th July 1905*Last Survey *26th Nov 1905*

Reg. Book.

(Number of Visits *37*)on the **SCREW STEAMER** *DON CARLOS*.Master *A. Pherson*Built at *Port Glasgow*By whom built *Blyde S.S. & Eng. Co. Ltd.*When built *1905*Engines made at *Port Glasgow*By whom made *Blyde S.S. & Eng. Co. Ltd.*when made *1905*Boilers made at *Port Glasgow*By whom made *Blyde S.S. & Eng. Co. Ltd.*when made *1905*

Registered Horse Power

Owners

Port belonging to *Lota*Nom. Horse Power as per Section 28 *244*Is Refrigerating Machinery fitted *No*Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines

*Triplic expansion*No. of Cylinders *Three*No. of Cranks *Three*Dia. of Cylinders *22"-33"-59"*Length of Stroke *39"*Revs. per minute *40*Dia. of Screw shaft *as per rule 12"*Material of *Steel*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

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' 2"*Dia. of Tunnel shaft *as per rule 10"*Dia. of Crank shaft journals *as per rule 11"*Dia. of Crank pin *12"*Size of Crank webs *21 1/2" x 4 1/2"*

Dia. of thrust shaft under

collars *12"*Dia. of screw *15' 2"*Pitch of screw *16' 3"*No. of blades *4*State whether moveable *No*Total surface *74 sq. ft.*No. of Feed pumps *2*Diameter of ditto *3"*Stroke *21"*Can one be overhauled while the other is at work *Yes*No. of Bilge pumps *2*Diameter of ditto *4"*Stroke *21"*Can one be overhauled while the other is at work *Yes*No. of Donkey Engines *Three*Sizes of Pumps *(3" x 3" x 6") (18" x 9" x 8") (6" x 4" x 6")*

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *Two - 3" dia.*In Holds, &c. *Forward Hold Two - 3" dia.*After Hold *Three - 3" dia.*Tunnel well *one - 2 1/2" dia.*No. of bilge injections *1*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 *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 *Awash*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 *Hot Suctions*How are they protected *By 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 *Nov 1905*Is the screw shaft tunnel watertight *Yes*Is it fitted with a watertight door *Yes*worked from *Upper platform*

BOILERS, &c.—

(Letter for record *S*)Total Heating Surface of Boilers *5880 sq. ft.*Is forced draft fitted *No*No. and Description of Boilers *Two: Cylindrical: Simple ended*Working Pressure *180 lbs*Tested by hydraulic pressure to *360 lbs*Date of test *11/11/05*Can each boiler be worked separately *Yes*Area of fire grate in each boiler *57 sq. ft.*

No. and Description of safety valves to

each boiler *2: Direct spring*Area of each valve *5.94"*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 18"*Mean dia. of boilers *14' 6"*Length *10' 6"*Material of shell plates *Steel*Thickness *3/32"*Range of tensile strength *32 tons*Are they welded or flanged *No*Descrip. of riveting: cir. seams *Lap double*long. seams *Butt straps*Diameter of rivet holes in long. seams *1 1/8"*Pitch of rivets *9 1/4"*Lap of plates or width of butt straps *18"*

Per centages of strength of longitudinal joint

rivets *92*Working pressure of shell by rules *181 lbs*Size of manhole in shell *16" x 12"*Size of compensating ring *3 1/2" x 2 1/2" x 1 1/2"*No. and Description of Furnaces in each boiler *3: Corrugated*Material *Steel*Outside diameter *4 1/4"*Length of plain part *top 1' 5" bottom 1' 5"*Thickness of plates *top 9/16" bottom 7/16"*Description of longitudinal joint *Welded*No. of strengthening rings *None*Working pressure of furnace by the rules *186 lbs*Combustion chamber plates: Material *Steel*Thickness: Sides *3/16"*Back *5/8"*Top *9/16"*Bottom *13/16"*Pitch of stays to ditto: Sides *7 1/4" x 7 1/4"*Back *9 1/4" x 8"*Top *7 1/4" x 7 1/2"*If stays are fitted with nuts or riveted heads *Nuts*Working pressure by rules *181 lbs*Material of stays *Steel*Diameter at smallest part *1 1/8" x 1 1/2"*Area supported by each stay *74"*Material *Steel*Thickness *1 1/32"*Pitch of stays *20 1/2" x 19 1/2"*How are stays secured *Double nuts*Working pressure by rules *180 lbs*Material of stays *Steel*Diameter at smallest part *1 1/8"*Area supported by each stay *29 1/2"*Working pressure by rules *191 lbs*Material of Front plates at bottom *Steel*Thickness *3/4"*Material of Lower back plate *Steel*Thickness *13/16"*Greatest pitch of stays *13 1/4"*Working pressure of plate by rules *180 lbs*Diameter of tubes *5 1/2"*Pitch of tubes *4 1/2" x 4 1/2"*Material of tube plates *Steel*Thickness: Front *3/4"*Back *3/4"*Mean pitch of stays *10.4"*Pitch across wide water spaces *14 1/2"*Working pressures by rules *181 lbs*Girders to Chamber tops: Material *Steel*

Depth and

thickness of girder at centre *9 1/4" x 1 1/2"*Length as per rule *34.6"*Distance apart *7 1/2"*Number and pitch of Stays in each *3: 7 1/4"*Working pressure by rules *182 lbs*Superheater or Steam chest; how connected to boiler *None*

Can the superheater be shut off and the boiler worked

separately *—*

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

holes

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

DONKEY BOILER— No. ✓ Description See second sheet.
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:— Two main Bearing Bolts, 2 Crank pin Bolts, 2 Cross head Bolts, 1 set Coupling Bolts, 1 set Feed Valve pump valves, 1 set piston springs, 1 Propeller, 1 piston valve, 10 main Boiler tubes, 6 Donkey Boiler tubes, 1 set Air pump valves, 1 Propeller shaft, Extra set Feed pump valves, Bolts, nuts & iron assorted.
The foregoing is a correct description, **THE GLYDE SHIPBUILDING & ENGINEERING CO. LIMITED,**
Manufacturer. *John Brown* Director.

Dates of Survey while building { During progress of work in shops - 1905. July 25. 28. Aug. 2. 3. 4. 7. 10. 21. 29. 31. Sep. 4. 7. 12. 14. 19. 20. 22. 26. Oct. 2. 6. 10. 11.
During erection on board vessel - 16. 17. 20. 24. 26. 27. 31. Nov. 1. 8. 13. 14. 16. 21. 22. 26.
Total No. of visits 37.
Is the approved plan of main boiler forwarded herewith Yes.
" " " donkey " " " Yes.

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 while running full power trials and found to work well.
The machinery throughout is now in good and efficient condition and eligible in my opinion to have the record of **LMC 11,05** marked in the Society's Register Book.

It is submitted that this vessel is eligible for THE RECORD **LMC 11.05** ELEC. LIGHT.

W.S.
12.12.05
R.L.
13.12.05

The amount of Entry Fee.. £ 2 : : : When applied for, 6/12/05
Special £ 32 : 4 : :
Donkey Boiler Fee £ : : : When received, 9/12/05
Travelling Expenses (if any) £ : : :
Committee's Minute Glasgow 11 DEC 1905

Assigned **LMC 11, 05** Annual

MACHINERY CERTIFICATE
WRITTEN 12/12/05

 © 2021
Lloyd's Register
Foundation

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