

No. 19961  
Del 5714

# REPORT ON MACHINERY.

Port of Glasgow

Received at London Office

Survey held at Glasgow

Date, first Survey 1st Aug. 1909

Last Survey 1st March 1900

(Number of Visits 48)

The Screw Steamer "Marte"

Tons { Gross 3714  
Net 2399

Built at Londonderry By whom built Londonderry S.S. Coy. Ltd. When built 1900

at Glasgow By whom made Dunsmuir & Jackson when made 1900

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orse Power Owners Port belonging to Bilbao

ower as per Section 28 344 Is Refrigerating Machinery fitted No Is Electric Light fitted No

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

ers 24 1/2 - 40 - 64" Length of Stroke 45" Revs. per minute 45 Dia. of Screw shaft as per rule 12 3/4" Lgth. of stern bush 4 1/4"

shaft as fitted 12 3/4" Dia. of Crank shaft journals as per rule 12 3/4" Dia. of Crank pin 12 3/4" Size of Crank webs 8 3/8 x 18" Dia. of thrust shaft under

" Dia. of screw 16 6/8" Pitch of screw 18 0/8" No. of blades 4 State whether moveable Yes Total surface 80 Sq. ft.

pumps 2 Diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes

Engines Two Sizes of Pumps Feed (7 1/2 x 8) Ballast (9 x 10 x 10) No. and size of Suctions connected to both Bilge and Donkey pumps

om Four 3 1/2" dia. In Holds, &c. No. 1 Hold: 2 - 3 1/2" dia. No. 2 Hold: 2 - 3 1/2" dia.

bed: 2 - 3 1/2" dia. No. 4 Hold: 1 - 3 1/2" dia. Tunnel Well: 1 - 2 1/2" dia.

suctions 1 sizes 5 Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes: 3 1/2"

suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes

ons with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both

ufficiently 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 Above

ted 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

carried through the bunkers None How are they protected Yes

ocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times Yes

suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges Yes

n tube, propeller, screw shaft, and all connections examined in dry dock New vessel Is the screw shaft tunnel watertight Yes

a watertight door Yes worked from Top platform

&c.— (Letter for record S.) Total Heating Surface of Boilers 4500 Sq. ft. Is forced draft fitted Yes

ription of Boilers 2: 2 cylind. 4' mult. Single Ended. Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs

11/99 Can each boiler be worked separately Yes Area of fire grate in each boiler 46 sq. ft. No. and Description of safety valves to

Direct Spring Area of each valve 4.06 sq. in. Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

between boilers or uptakes and bunkers or woodwork About 18" Mean dia. of boilers 14 6/8" Length 11 6/8" Material of shell plates Steel

Range of tensile strength 25-32 tons Are they welded or flanged No Descrip. of riveting: cir. seams Lap D'ble long. seams D'ble Butt Strap

t holes in long. seams 1 1/2" Pitch of rivets 8 3/4" 12 rows 2 rows 4 3/8" Top of plates width of butt straps 18 1/2"

ength of longitudinal joint rivets 8.8 plate 8.5-9 Working pressure of shell by rules 182 lbs Size of manhole in shell 16" x 13"

ing ring 34 x 26 1/2 x 1 1/8 No. and Description of Furnaces in each boiler 3: Mouson's Material Steel Outside diameter 44"

top 4 1/4" Thickness of plates crown 9" bottom 7 1/2" Description of longitudinal joint Welded No. of strengthening rings

of furnace by the rules 183 lbs Combustion chamber plates: Material Steel Thickness: Sides 5 1/8" Back 9" Top 5 1/8" Bottom 1 1/8"

ditto: Sides 9 x 8 1/4" Back 8 x 7 1/2" Top 8 1/2 x 8 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 182 lbs

Steel Diameter at smallest part 1 3/4" Area supported by each stay 4 1/4" Working pressure by rules 190 lbs End plates in steam space:

Thickness 1 3/8" Pitch of stays 18 x 16" How are stays secured D'ble nuts Working pressure by rules 185 lbs Material of stays Steel

allest part 2 9/16" Area supported by each stay 288 sq. in. Working pressure by rules 183 lbs Material of Front plates at bottom Steel

Material of Lower back plate Steel Thickness 1 1/8" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 185 lbs

2 1/2" Pitch of tubes 3 1/4 x 3 5/8" Material of tube plates Steel Thickness: Front 3 1/32" Back 1 1/16" Mean pitch of stays 9 1/4"

side water spaces 13 1/2" Working pressures by rules 185 lbs 194 lbs Girders to Chamber tops: Material Steel Depth and

er at centre 8 x 2" Length as per rule 33" Distance apart 8 1/2" Number and pitch of Stays in each 2: 8 3/4"

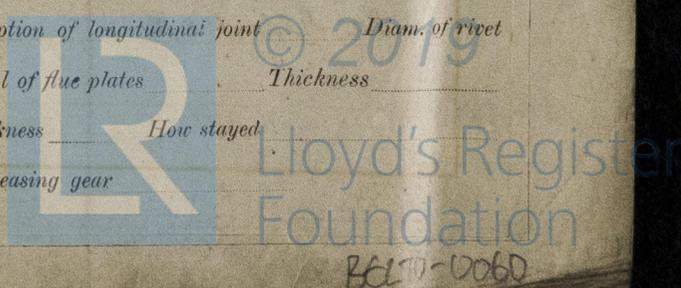
re by rules 184 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

ch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

ngs Distance between rings Working pressure by rules End plates: Thickness How stayed

e of end plates Area of safety valves to superheater Are they fitted with easing gear



BELT-0060

**DONKEY BOILER**— No. *176* Description *Cylindrical shell: Single ended.*  
 Made at *Glasgow* By whom made *Dunsmuir & Jackson* When made *28/11/99* Where fixed *On Deck*  
 Working pressure *100 lbs* tested by hydraulic pressure to *200 lbs* No. of Certificates *139* Fire grate area *30 sq ft* Description of safety valves *Direct Spring*  
 No. of safety valves *2* Area of each *49 sq in* Pressure to which they are adjusted *105 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*  
 Dia. of donkey boiler *10 ft 4 in* Length *9 ft 6 in* Material of shell plates *Steel* Thickness *1/2 in* Range of tensile strength *28-32 tons*  
 Descrip. of riveting long seams *Lap = Quadruple* Dia. of rivet holes *1/8 in* Whether punched or drilled *Drilled* Pitch of rivets *4 5/16 in*  
 Lap of plating *6 3/4 in* Per centage of strength of joint *79.8* Rivets *49.8* Thickness of shell *1/2 in* Radius of do. *2.3 in* No. of Stays to do. *15 1/2 x 1/4 in*  
 Dia. of stays *1 1/8 in* Diameter of furnace *Top 3 1/2 ft Bottom 3 1/2 ft* Length of furnace *8 1/2 ft* Thickness of furnace plates *1/2 in* Description of joint *Welded*  
 Thickness of furnace crown plates *1/2 in* Stayed by *Stay 8 x 9 1/2 in* Working pressure of shell by rules *108 lbs*  
 Working pressure of furnace by rules *130 lbs* Diameter of uptake *3 in* Thickness of uptake plates *3/4 in* Thickness of water tubes *1/4 in*  
 Thickness of boiler plates *1/2 in* Thickness of boiler plates *1/2 in* Thickness of boiler plates *1/2 in* Thickness of boiler plates *1/2 in*

**SPARE GEAR.** State the articles supplied:— *2 Propeller Blades, 2 main bearing Bolts, 2 crank pin Bolts, 2 crosshead Bolts, 1 set coupling Bolts, 4 s.p. piston Rings, 3 crank shaft, 6 Boiler tubes, 6 Condenser tubes, 1 set feed & relief pump valves, 1 set check valves, 1 set safety valve springs, 1 set valves for Ballast pump, 1 set valves for feed pump etc, Bolts, Iron etc*  
 The foregoing is a correct description,  
 Manufacturer. *Dunsmuir & Jackson*

Dates of Survey while building  
 During progress of work in shops— *1899: May 1-11-16-26. June 18-20-26. July 5-25-29. Aug. 2-14-16-25-30. Sep. 1-8-21-28. Oct. 16-26. Nov. 3-6-9-13-17-20-24-28. Dec. 5-19-27-28.*  
 During erection on board vessel— *Nov. 18-23-30-31. Dec. 16-13-14-16-21-23-28. Jan. 1-18-23-30-31.*  
 Total No. of visits *48.* 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 run on a full speed trial in the Firth and worked satisfactorily.*

*The Machinery is now in good and efficient condition and eligible in my opinion to have the record of **L.M.C. 3,00** marked in the Society's Register Book.*

IN SUBMITTED BY THE RECORD **+ LMC 3.00. F.D.**

*J.S.* *L.M.C. 3.00.*  
*9.3.00* *9/3/00.*

The amount of Entry Fee.. £ *3* : : : When applied for, *8th Dec 1899.*  
 Special .. £ *37* : *7* : : :  
 Donkey Boiler Fee .. £ : : :  
 Travelling Expenses (if any) £ *1* : *16* : : :  
 When received, *13th Mar 1900.*

Committee's Minute *TUES. 13 MAR 1900*  
 Assigned *+ LMC 3.00*  
 MACHINERY CERTIFICATE WRITTEN.  
*Wm. Austin*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Glasgow. Certificate (if required) to be sent to the Surveyors on or below the space for Committee's Minute.

