

REPORT ON MACHINERY.

TUES. 14 AUG 1900

Port of

Received at London Office

No. in Survey held at Greenock & Port Glasgow Date, first Survey 15th March 1899 Last Survey 10th August 1900
Reg. Book. (Number of Visits 148)

320 on the Screw Steamer "Jupiter" Tons { Gross 4896.00
Net 3216.81
Master Abilio de Legante, Built at Port Glasgow By whom built Russell & Co. When built 1900
Engines made at Greenock By whom made Rankin & Blackmore when made 1900
Boilers made at do By whom made do when made 1900
Registered Horse Power 403 Owners Francisco Martinez Rodas Port belonging to Bilbao
Nom. Horse Power as per Section 28 403 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Inverted Direct acting, Triple Expansion No. of Cylinders Three No. of Cranks Three
Dia. of Cylinders 27. 43 & 72 Length of Stroke 48 Revs. per minute 66 Dia. of Screw shaft as per rule 13.92 14.1
Dia. of Tunnel shaft as fitted 12.3/4 Dia. of Crank shaft journals as per rule 13.26 13.45 as fitted 14.3/8 Lgth. of stern bush 59
Dia. of Crank pin 13.2 Size of Crank webs 18 1/2 x 9 Dia. of thrust shaft under collars 13 1/2 Dia. of screw 18.6 Pitch of screw 17.0 No. of blades Four State whether moceable no Total surface 110 sq.
No. of Feed pumps Two Diameter of ditto 3 1/2 Stroke 26 Can one be overhauled while the other is at work yes
No. of Bilge pumps Two Diameter of ditto 4 1/2 Stroke 26 Can one be overhauled while the other is at work yes
No. of Donkey Engines Two Sizes of Pumps 14 x 10 & Duplex 4 1/2 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room Four 3 1/2 In Holds, &c. Eight 3 1/2 in holds, & One 2 1/2 in tunnel well.

No. of bilge injections one sizes 6" valve Connected to condenser, or to circulating pump & pump's 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 no
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 above
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 Bilge pipes How are they protected Wood casing
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 before launching & in Channel Dock 27.7.00 the screw shaft tunnel watertight yes
Is it fitted with a watertight door yes worked from Top platform

OILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 5121 Is forced draft fitted yes
No. and Description of Boilers Two cylindrical, multitubular Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs
Date of test 23-6-00 Can each boiler be worked separately yes Area of fire grate in each boiler 61 sq. No. and Description of safety valves to each boiler Two direct spring Area of each valve 11.04 sq. Pressure to which they are adjusted 184 lbs Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork 17" Mean dia. of boilers 15.6 Length 11.6 Material of shell plates Steel
Thickness 1 1/2 Range of tensile strength 29632 Are they welded or flanged no Descrip. of riveting: cir. seams Lap double, long. seams D.B.S. treble
Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8 3/4 & 4 3/8 Lap of plates or width of butt straps 18 1/4 straps
Percentages of strength of longitudinal joint rivets 85.8, plate 85.7 Working pressure of shell by rules 181.7 lbs Size of manhole in shell 16 x 12
Size of compensating ring 30 x 26 x 1 1/2 No. and Description of Furnaces in each boiler Three Dighton Material Steel Outside diameter 50"
Length of plain part top 19 bottom 32 Thickness of plates crown 19 bottom 32 Description of longitudinal joint Welded No. of strengthening rings 4
Working pressure of furnace by the rules 188 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/16 Back 9/16 Top 19/32 Bottom 3/4
Pitch of stays to ditto: Sides 7 3/4 x 7 3/4 Back 7 1/2 x 7 1/2 Top 8 x 8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 182 to 190
Material of stays Steel Diameter at smallest part 1 3/8, 1 1/2 & 1 3/4 Area supported by each stay 59 to 76 sq. Working pressure by rules 183 to 199 End plates in steam space:
Material Steel Thickness 1" Pitch of stays 16 x 15 3/8 How are stays secured double nuts Working pressure by rules 182 lbs Material of stays Steel
Diameter at smallest part 2 7/8 Area supported by each stay 246 sq. Working pressure by rules 192 lbs Material of Front plates at bottom Steel
Thickness 7/8 Material of Lower back plate Steel Thickness 13/16 Greatest pitch of stays 12 1/2 to 14 Working pressure of plate by rules 180 lbs
Diameter of tubes 2 1/2 Pitch of tubes 3 3/2 x 3 3/2 Material of tube plates Steel Thickness: Front 3/4 x 1/2 double Back 3/4 Mean pitch of stays 9.63
Pitch across wide water spaces 13 1/2 Working pressures by rules 204 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 3/4 x 5 1/2 double Length as per rule 34 Distance apart 8 Number and pitch of Stays in each Three 8"
Working pressure by rules 202 lbs Superheater or Steam chest; how connected to boiler no Can the superheater be shut off and the boiler worked separately no
Diameter no Length no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivets no
Pitch of rivets no Working pressure of shell by rules no Diameter of flue no Material of flue plates no Thickness no
Stiffened with rings no Distance between rings no Working pressure by rules no End plates: Thickness no How stayed no
Working pressure of end plates no Area of safety valves to superheater no Are they fitted with easing gear no

DONKEY BOILER— No. *one* Description *Cylindrical shell tubular, see Glasgow report attached, No 18071.*

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 boiler can enter the donkey boiler
No. 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:— 1 propeller. 3 Cylinders escape valves & springs. 12 shaft coupling bolts & nuts. 2 top & 2 bottom end do for connecting rods. 2 do for main bearing blocks. 6 holding down do. 6 junk ring pins. 6 Cylinder cover bolts. 6 do for valve chest covers. 2 sets of valves for circulating pumps. 2 do metallic for air pump. 2 feed & 2 bilge pump valves. 2 feed check valves. 1 feed escape valve & spring.

The foregoing is a correct description,

James Macnamara Manufacturer.

Table with columns for Dates, During progress of work in shops, During erection on board vessel, building, Total No. of visits, and Is the approved plan of main boiler forwarded herewith.

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

These Engines & Boilers have been specially surveyed during construction. Workmanship good. Shafts examined when being turned & found apparently sound. Main Steam pipes satisfactorily tested by hydraulic pressure to 400 lbs per sq. The Engines and Boilers are satisfactorily fitted in vessel, and have been tested under full steam, they are now in good order and safe working condition, and are in my opinion eligible to be noted in Register Book L.M.C. 8,00.

This vessel's main Boilers are fitted with Howden's system of forced draught

Spare gear continued

12 condenser tubes & 120 packing ferrules. 12 main boiler tubes. 6 do for Donkey boiler. 1 set safety valve springs. 2 valves & seats for feed Donkey pump. & 2 feed check valves. 1/2 set fire bars & a quantity of bolts nuts & iron assorted.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8-00 F.D.

Signature and amount 14.8-00.

Table with columns for The amount of Entry Fee, Special, Donkey Boiler Fee, Travelling Expenses (if any), and When applied for/When received.

Signature of A.B. Heron, Engineer Surveyor to Lloyd's Register of British & Foreign Shipping, Greenock District.

Committee's Minute Glasgow 13 AUG 1900 Assigned L.M.C. 8.00.



Vertical text on the left margin: Certificate (if required) to be sent to...