

REPORT ON MACHINERY.

Port of Greenwich

Received at London Office 18

No. in Survey held at Greenwich & Port Glasgow Date, first Survey March 24 Last Survey 10th Nov. 1894

Reg. Book.

(Number of Visits 73)on the Screw Steamer, "Marbella"Gross 932.58
Tons }
Net 384.11Master Smith Built at Port Glasgow By whom built Wm. Hamilton & Co. When built 1894Engines made at Greenwich By whom made Parkin & Blackmore when made 1894Boilers made at do By whom made do when made 1894Registered Horse Power 209 Owners W. A. Bailey Port belonging to HullNom. Horse Power as per Section 28 209

ENGINES, &c.— Description of Engines Inverted Direct Acting, Triple Expansion No. of Cylinders Three

Diameter of Cylinders 20.33 & 54 Length of Stroke 36 Revolutions per minute 97 Diameter of Screw shaft as per rule 2.87
as fitted 10"

Diameter of Tunnel shaft as per rule 2.3 Diameter of Crank shaft journals 10" Diameter of Crank pin 10" Size of Crank webs 13 1/2 x 7 1/4
as fitted 9 5/8

Diameter of screw 12.6 Pitch of screw 14.0 No. of blades Four State whether moveable no Total surface 57 square feet

No. of Feed pumps Two Diameter of ditto 3" Stroke 22" Can one be overhauled while the other is at work yes

No. of Bilge pumps Two Diameter of ditto 4" Stroke 22" Can one be overhauled while the other is at work yes

No. of Donkey Engines Two Sizes of Pumps 6 x 8 & 4 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 2 1/2, one in Engine room & one in stokehold, In Holds, &c. Two 2 1/2, Two 2" & one 2 1/4" in tunnel and

No. of bilge injections one sizes 4" Connected to condenser, or to circulating pump no Is a separate donkey suction fitted in Engine room & size yes 2 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 yes

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 none How are they protected —

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 on slip before launching 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 3645 sq feet

No. and Description of Boilers Two Round Horizontal Multitubular Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs

Date of test 31.8.94 Can each boiler be worked separately yes Area of fire grate in each boiler 61.5 sq feet No. and Description of safety valves to each boiler Two Direct Spring Area of each valve 5.93 sq Pressure to which they are adjusted 183 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 6.0 Mean diameter of boilers 14.0

Length 11.0 Material of shell plates steel Thickness 1 3/8 Description of riveting: circum. seams Lap double long. seams 9.3 drops treble

Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 9 x 4 1/2 Lap of plates or width of butt straps 19 1/2 straps

Per centages of strength of longitudinal joint 88.9 Working pressure of shell by rules 201 lbs Size of manhole in shell 16 x 12

Size of compensating ring 31 x 27 x 1 3/8 No. and Description of Furnaces in each boiler Three ribbed Material steel Outside diameter 42

Length of plain part top 9 between crown & bottom 11 Thickness of plates crown 7/8 bottom 1 Description of longitudinal joint welded No. of strengthening rings —

Working pressure of furnace by the rules 193 lbs Combustion chamber plates: Material steel Thickness: Sides 9/16 Back 9/16 Top 5/8 Bottom 3/4

Pitch of stays to ditto: Sides 7 3/8 x 7 3/8 Back 7 3/8 x 7 3/8 Top 8 1/2 x 7 3/8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 186 lbs top

Material of stays steel Diameter at smallest part 1 1/4 & 1 3/8 Area supported by each stay 51.3 & 62.4 Working pressure by rules 180 & 189 lbs End plates in steam space:

Material steel Thickness 1 1/8 Pitch of stays 15 3/8 x 15 3/8 How are stays secured double nuts Working pressure by rules 240 lbs Material of stays steel

Diameter at smallest part 2 1/2 Area supported by each stay 232 sq Working pressure by rules 181 lbs Material of Front plates at bottom steel

Thickness 5/8 Material of Lower back plate steel Thickness 5/8 Greatest pitch of stays 13" Working pressure of plate by rules 191 lbs

Diameter of tubes 3 1/2 Pitch of tubes 4 1/8 x 4 5/8 Material of tube plates steel Thickness: Front 3/4 & 1/2 Back 15/16 Mean pitch of stays 9 1/4

Pitch across wide water spaces 14" Working pressures by rules 182 & 186 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 1/2 x 3/4 double Length as per rule 33 3/4 Distance apart 8 1/2 Number and pitch of Stays in each Three 7 3/8

Working pressure by rules 204 lbs Superheater or Steam chest; how connected to boiler — 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 —

If not, state whether, and when, one will be sent?

Is a Report also sent on the Hull of the ship?

Lloyd's Register of Shipping—Form No. 8—1-2-92—Copyrighted Ink.

DONKEY BOILER— Description *See Middlesbrough Report attached.*
 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 _____
 Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
 Description of riveting long. seams _____ Diameter 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:— *2 top & 2 bottom end bolts & nuts. 2 main bearing bolts. 1 set coupling bolts. 1 set feed & bilge pump valves. 1 set piston springs. 1 air pump bucket & head valve & rod. 1 circulating pump piston & rod. 1 set of valves for Air & pump. 1 Connecting rod bottom end bush. 2 safety valve springs. Cylinder escape valve springs. 50 tubes for Condenser with packings. 12 tubes for main boilers. a quantity of bolts nuts & iron assorted.*
 The foregoing is a correct description,
Ranham & Blakmore Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)
*These Engines and Boilers have been specially surveyed during construction, quality of workmanship good. plain shafts examined when being turned and found apparently sound. Main steam ^{piston} tested by hydraulic pressure to 360 lbs per sq. inch. tests satisfactory. The Engines and Boilers are satisfactorily fitted on board, 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. **LMC 11.94.***

It is submitted that this vessel is eligible for THE RECORD + L.M.C 11-94

*M.A.
13-11-94*

[Large blue ink signature]

Certificate (if required) to be sent to *Greenock*
 The amount of Entry Fee.. £ 2 : : : When applied for,
 Special £ 30 : 9 : : 10. 11. 18. 94
 Donkey Boiler Fee £ : : : When received,
 Travelling Expenses (if any) £ : : : 12. 11. 94
F. Rymer
C.A.C. Heron
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
 Greenock District.

Committee's Minute **FRIDAY 10 NOV 1894**
 Assigned *+ LMC 11.94*