

# REPORT ON MACHINERY.

Port of Newcastle

Received at London Office THUR. MAR 19 1896

No. in Survey held at Newcastle Date, first Survey 19<sup>th</sup> September Last Survey 1<sup>st</sup> March 1896

Reg. Book. (57s) on the Steel Screw Steamer "MARITTA" Tons { Gross 3013.34 Net 1930.65

Master M. B. Crighton Built at Newcastle By whom built Wm. J. Armstrong & Co. (Ld) When built 1896

Engines made at Newcastle By whom made Wallered Slipway & Engineering Co. (Ld) When made 1896

Boilers made at Newcastle By whom made Wallered Slipway & Engineering Co. (Ld) When made 1896

Registered Horse Power 290 Owners La Societe Anonyme Belge de Navigation a Vapeur. Port belonging to Antwerp

Nom. Horse Power as per Section 28 282

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

Diameter of Cylinders 44-40-64 Length of Stroke 42 Revolutions per minute 60 Diameter of Screw shaft 11.4 as per rule 11.4 as fitted 11.3/4

Diameter of Tunnel shaft 10.8 as per rule 11.4 as fitted 11.4 Diameter of Crank shaft journals 11 3/4 Diameter of Crank pin 12 Size of Crank webs 18 x 8 1/4

Diameter of screw 16-6 Pitch of screw 18-0 No. of blades four State whether moveable No Total surface 95 sq ft

No. of Feed pumps Two Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work yes

No. of Bilge pumps Two Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work yes

No. of Donkey Engines Two Sizes of Pumps Duplex Bellows 8 1/2 in x 6 inch No. and size of Suctions connected to both Bilge and Donkey pumps 4" x 6"

Engine Room Two 3 1/2 rings, Two 3 rings, one 3 1/2 Centre In Holds, &c. fore hold Two 3 1/2 rings, Main Hold 3 1/2 rings, 2 after hold Two 3 1/2 rings, One 4" Centre - Tunnel well one 4"

No. of bilge injections 1 sizes 5 Connected to condenser, or to circulating pump no Is a separate donkey suction fitted in Engine room & size yes 3"

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 None

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 fore hold + Main hold bilges How are they protected 2 1/2 inch wood

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 10/2/96 Is the screw shaft tunnel watertight yes

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

BOILERS, &c. — (Letter for record (5)) Total Heating Surface of Boilers 4490 sq ft

No. and Description of Boilers Two 52 Cyl & Multitubular Working Pressure 160 lb Tested by hydraulic pressure to 320 lb

Date of test 28/12/94 Can each boiler be worked separately yes Area of fire grate in each boiler 64 sq ft No. and Description of safety valves to each boiler Two direct spring Area of each valve 8.29 sq in Pressure to which they are adjusted 165 lb Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean diameter of boilers 16-0

Length 10-6 Material of shell plates Steel Thickness 1 3/8 Description of riveting: circum. seams Lap double shell long. seams D.P.S. Heble

Diameter of rivet holes in long. seams 1 3/8 Pitch of rivets 9" Lap of plates or width of butt straps 19 7/8"

Per centages of strength of longitudinal joint 89.2 Working pressure of shell by rules 176 lb Size of manhole in shell 16 x 12

Size of compensating ring 8 x 1 1/2 No. and Description of Furnaces in each boiler four plain Material Steel Outside diameter 40"

Length of plain part 6-4 Thickness of plates 32 Description of longitudinal joint D.P.S. Single head No. of strengthening rings one

Working pressure of furnace by the rules 160 lb Combustion chamber plates: Material Steel Thickness: Sides 19/32 Back 19/32 Top 19/32 Bottom 19/32

Pitch of stays to ditto: Sides 8 1/4 x 8 Back 8 1/4 x 8 Top 10 x 8 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 177 lb

Material of stays Steel Diameter at smallest part 1.36 Area supported by each stay 68 sq in Working pressure by rules 169 lb End plates in steam space: Material steel Thickness 1 1/8 Pitch of stays 17 x 16 1/2 How are stays secured BN + W Working pressure by rules 213 lb Material of stays steel

Diameter at smallest part 2.6 Area supported by each stay 280 sq in Working pressure by rules 197 lb Material of Front plates at bottom steel

Thickness 3/8 Material of Lower back plate steel Thickness 3/8 Greatest pitch of stays 12 3/4 Working pressure of plate by rules 162 lb

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

Pitch across wide water spaces 15" Working pressures by rules 160 lb Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 1/2 x 1 1/2 Length as per rule 34 Distance apart 10 Number and pitch of Stays in each Three 8"

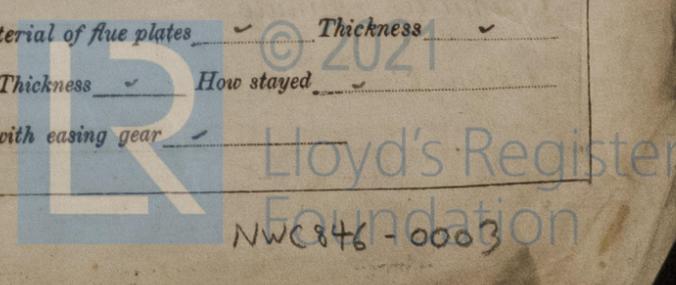
Working pressure by rules 180 lb Superheater or Steam chest; how connected to boiler yes Can the superheater be shut off and the boiler worked separately yes

Diameter 10" Length 10" Thickness of shell plates 1/2" Material Steel Description of longitudinal joint D.P.S. Heble Diam. of rivet holes 1 3/8 Pitch of rivets 9" Working pressure of shell by rules 176 lb Diameter of flue 10" Material of flue plates Steel Thickness 1/2"

If stiffened with rings yes Distance between rings 10" Working pressure by rules 176 lb End plates: Thickness 1/2" How stayed yes

Working pressure of end plates 176 lb Area of safety valves to superheater 160 lb Are they fitted with easing gear yes

Report Received 18. 3. 96 Sent to London 18. 3. 96



**DONKEY BOILER**— Description *Cylindrical s.e. Horizontal Multitubular*  
 Made at *Gtchard* By whom made *Clarke Chapman & Co* When made *11-1-96* Where fixed *Stokholm*  
 Working pressure *100 lb* Tested by hydraulic pressure to *200 lb* No. of Certificate *4757* Fire grate area *20 ft* Description of safety valves *Direct opening*  
 No. of safety valves *Two* Area of each *5.4 ft* Pressure to which they are adjusted *100 lb* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *8-0* Length *8-0* Material of shell plates *steel* Thickness *7/16*  
 Description of riveting long seams *Lap Table riveted* Diameter of rivet holes *7/8* Whether punched or drilled *Drilled* Pitch of rivets *4 1/2 - 2 1/2*  
 Lap of plating *1/2* Per centage of strength of joint *80.6* Rivets *80.6* Thickness of shell *7/16* Radius of do. *pitch* No. of Stays to do. *16*  
 Dia. of stays *1 3/4 + 1 1/2* Diameter of furnace *Top 28* Bottom *28* Length of furnace *5-9* Thickness of furnace plates *7/16* Description of joint *Lap Single Rivet* Thickness of furnace crown plates *1/2 + 1/4* Stayed by *1 1/2* eff stays *8 1/4 x 8 1/2* pitch Working pressure of shell by rules *108 lb*  
 Working pressure of furnace by rules *106 lb* Diameter of uptake *3* Thickness of uptake plates *F 3 B 4* Thickness of water tubes *5/16* dia. *9 1/2*

**SPARE GEAR.** State the articles supplied:— *2 Connecting Rod top end bolts, 2 Connecting rod Bottom end bolts & nuts, 2 Main Bearing bolts & nuts, 1 set coupling bolts, 1 set end feed & hodge pump Valve piston rings for H.P. & M.P. Cyls— 1 Tail end shaft, 1 press crank shaft one end Circular pump Valve, 2 Air pump Valve for (head bucket & foot) 2 Tube stoppers*

The foregoing is a correct description,  
 THE WALLBEND SLIPWAY & ENGINEERING CO. LIMITED. Manufacturer.

*March 17/96* *W. Lloyd*

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

Dates of survey while building  
 During progress of work in shops - 1895 - Sep 19 Oct 28 14 Nov 7 18 21 22 Dec 6 19 - 1896 - Jan 16 28 30 Feb 10  
 During erection on board vessel - 21 Mar 4 5 7 11  
 Total No. of visits 20

The Engines & Boilers of this Vessel have been built under special survey the material & workmanship sound & fit. The Boilers & Steam pipes were tested by Hydrostatic to twice the working pressure the safety valves adjusted to the working pressure under steam, the machinery worked satisfactorily rendering this Vessel eligible in my opinion to have the record **\* L.M.C. 3, 96** in the Register Book.

It is submitted that this vessel is eligible for **THE RECORD**. **\* L.M.C. 3, 96.**

*W. Lloyd* 19. 3. 96  
*Rms.* 18. 3. 96

Certificate (if required) to be sent to **NEWCASTLE-ON-TYNE**

The amount of Entry Fee. £ 2 : 0 : When applied for,  
 Special .. .. . £ 34 : 2 : 18. 3. 18. 96.  
 Donkey Boiler Fee .. .. . £ : : : When received,  
 Travelling Expenses (if any) £ : : : 25. 3. 28. 96.

*W. Lloyd*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Committee's Minute **FRI. MAR 20 1896**

Assigned **\* L.M.C. 3, 96**

