

# REPORT ON MACHINERY.

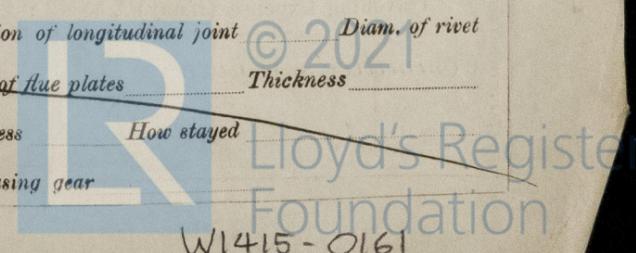
Received at London Office **MES. 6 SEP 1910**

Date of writing Report 19 **2<sup>nd</sup> Sept 1910** Port of **Hull**  
 No. in Survey held at **Hull** Date, First Survey **July 20<sup>th</sup>** Last Survey **24<sup>th</sup> Aug 1910**  
 Reg. Book. on the **Steel S. Sr. Coronel.** (Number of Visits **25**)  
 Master **Built at Kralupen a/d yul** By whom built **of Otto + Tonen** Tons **Gross 242**  
**Net 125**  
 Engines made at **Hull** By whom made **Messrs Earle's Co Ltd** when made **1910**  
 Boilers made at **Hull** By whom made **Messrs Earle's Co Ltd** when made **1910**  
 Registered Horse Power **Owners Rocha Silva + Co.** Port belonging to **Para**  
 Nom. Horse Power as per Section 28 **43** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **No**

**ENGINES, &c.**—Description of Engines **Compound** No. of Cylinders **2** No. of Cranks **2**  
 Dia. of Cylinders **15" - 30"** Length of Stroke **18"** Revs. per minute **130** Dia. of Screw shaft **as per rule 6.76" as fitted 6.875"** Material of screw shaft **Steel**  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube **No** 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 **No Lewis** 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 **27"**  
 Dia. of Tunnel shaft **as per rule 5.76" as fitted 6.0"** Dia. of Crank shaft journals **as per rule 6.05" as fitted 6.4"** Dia. of Crank pin **6 1/4"** Size of Crank webs **12" x 4 1/2"** Dia. of thrust shaft under collars **6 1/4"** Dia. of screw **7'-6"** Pitch of Screw **8'-6"** No. of Blades **3** State whether moveable **No** Total surface **24 sq ft**  
 No. of Feed pumps **1** Diameter of ditto **2 1/2"** Stroke **4 1/2"** Can one be overhauled while the other is at work **—**  
 No. of Bilge pumps **1** Diameter of ditto **2 1/2"** Stroke **4 1/2"** Can one be overhauled while the other is at work **—**  
 No. of Donkey Engines **One** Sizes of Pumps **5 1/2" x 3 1/2" x 5"** No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room **One 2", One 2 1/2"** In Holds, &c. **One to each side, each 2 1/4"**  
**One 2 1/4" to fore peak tank**  
 No. of Bilge Injections **1** sizes **3** Connected to condenser, or to circulating pump **pump** 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 **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 **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**  
 Dates of examination of completion of fitting of Sea Connections **14. 8. 10** of Stern Tube **17. 8. 10** Screw shaft and Propeller **17. 8. 10**  
 Is the Screw Shaft Tunnel watertight **None** Is it fitted with a watertight door **—** worked from **—**

**BOILERS, &c.**—(Letter for record **S**) Manufacturers of Steel **The Steel Coy of Scotland.**  
 Total Heating Surface of Boilers **810 sq ft** Is Forced Draft fitted **No** No. and Description of Boilers **One Cyl. Multi. S. Ended**  
 Working Pressure **130 lbs** Tested by hydraulic pressure to **260 lbs** Date of test **12. 8. 10** No. of Certificate **1762**  
 Can each boiler be worked separately **—** Area of fire grate in each boiler **35 sq ft** No. and Description of Safety Valves to each boiler **Two Spring** Area of each valve **4.90"** Pressure to which they are adjusted **130 lbs** Are they fitted with easing gear **Yes**  
 Smallest distance between boilers or uptakes and bunkers or woodwork **8 1/2"** Mean dia. of boilers **10'-0"** Length **9'-6 3/4"** Material of shell plates **S**  
 Thickness **1 1/8"** Range of tensile strength **28-32** Are the shell plates welded or flanged **No** Descrip. of riveting: cir. seams **L D**  
 long. seams **O. B. S. D. R** Diameter of rivet holes in long. seams **1 5/16"** Pitch of rivets **5 3/8"** Lap of plates or width of butt straps **10"**  
 Per centages of strength of longitudinal joint **83.4** Working pressure of shell by rules **136 lbs** Size of manhole in shell **16" x 12"**  
 Size of compensating ring **5" x 7/8"** No. and Description of Furnaces in each boiler **Two plain** Material **S** Outside diameter **36"**  
 Length of plain part **top 6'-9" bottom 8'-10 1/2"** Thickness of plates **top 1 1/8" bottom 1 1/16"** Description of longitudinal joint **Welded** No. of strengthening rings **0**  
 Working pressure of furnace by the rules **102 lbs** Combustion chamber plates: Material **S** Thickness: Sides **1 1/8"** Back **5/8"** Top **9/16"** Bottom **1 1/16"**  
 Pitch of stays to ditto: Sides **10 1/4" x 6 3/4"** Back **9 3/4" x 9 3/4"** Top **6 3/4" x 11"** If stays are fitted with nuts or riveted heads **Nuts** Working pressure by rules **142 lbs**  
 Material of stays **S** Diameter at smallest part **1 1/2"** Area supported by each stay **95 sq ft** Working pressure by rules **148 lbs** End plates in steam space: Material **S** Thickness **3 3/32"** Pitch of stays **15" x 19"** How are stays secured **O. R. W. 6 1/2" x 1 1/2"** Working pressure by rules **132 lbs** Material of stays **S**  
 Diameter at smallest part **2 5/8"** Area supported by each stay **285 sq ft** Working pressure by rules **153 lbs** Material of Front plates at bottom **S**  
 Thickness **2 1/8"** Material of Lower back plate **S** Thickness **3 3/32"** Greatest pitch of stays **14" x 9 3/4"** Working pressure of plate by rules **195 lbs**  
 Diameter of tubes **3"** Pitch of tubes **4 1/4" x 4 1/2"** Material of tube plates **S** Thickness: Front **3 3/32"** Back **1 1/8"** Mean pitch of stays **12 1/4" x 8 1/4"**  
 Pitch across wide water spaces **14"** Working pressures by rules **150 lbs** Girders to Chamber tops: Material **S** Depth and thickness of girder at centre **6 1/2" x 1 1/2"** Length as per rule **25"** Distance apart **11"** Number and pitch of stays in each **Two 6 3/4"**  
 Working pressure by rules **134 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 in superheater Are they fitted with easing gear

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



**VERTICAL DONKEY BOILER—** Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Working pressure tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_

Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Date of adjustment \_\_\_\_\_

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 \_\_\_\_\_ Plates \_\_\_\_\_

Working pressure of shell by rules \_\_\_\_\_ 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 \_\_\_\_\_

Working pressure of furnace by rules \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_

Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_ Dates of survey \_\_\_\_\_

SPARE GEAR. State the articles supplied:— Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each air circulating, feed & bilge pump valves & a quantity of assorted bolts nuts etc.

FOR EARLE'S SHIPBUILDING & ENGINEERING CO. LIMITED  
The foregoing is a correct description,  
F. J. Salethorpe SECRETARY, Manufacturer.

Dates of Survey while building { During progress of work in shops - } 1910. - July 20. 21. 22. 23. 25. 27. Aug 3. 5. 6. 8. 9. 10. 11. 12. 13. 16. 17. 19. 20. 22. 23. 24.  
{ During erection on board vessel - } Aug 25. 26. 27  
Total No. of visits 25

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 5.8.10 Slides 6.8.10 Covers 17.8.10 Pistons 6.8.10 Rods 5.8.10  
Connecting rods 5.8.10 Crank shaft 5.8.10 Thrust shaft 5.8.10 Tunnel shafts 13.8.10 Screw shaft 13.8.10 Propeller 17.8.10  
Stern tube 10.8.10 Steam pipes tested 20.8.10 Engine and boiler seatings 17.8.10 Engines holding down bolts 22.8.10  
Completion of pumping arrangements 27.8.10 Boilers fixed 22.8.10 Engines tried under steam 27.8.10  
Main boiler safety valves adjusted 27.8.10 Thickness of adjusting washers 3/8 Star, 13/32 port  
Material of Crank shaft 5. Identification Mark on Do. 431 DFC. Material of Thrust shaft Steel Identification Mark on Do. -  
Material of Tunnel shafts S Identification Marks on Do. 382 AR Material of Screw shafts Steel Identification Marks on Do. 382 AR  
Material of Steam Pipes Solid drawn Copper Test pressure 260 lbs. per sq. inch.

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler) of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are good. The boiler tested by hydraulic pressure and with the engines secured on board and tested under steam, and found satisfactory. They are now in good order and safe working condition, and respectfully submitted, as being eligible in our opinion to be classed with the notation of L.M.C. 8.10 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. & L.M.C. 8.10.

The amount of Entry Fee .. £ : : :  
Special .. £ 8 : : :  
Donkey Boiler Fee .. : : :  
Travelling Expenses (if any) £ : : :  
When applied for, 5-9-1910  
When received, 15-9-1910

James Barclay, John W. Gwynne  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 9 SEP 1910

Assigned

+ hmc 8.10



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