

REPORT ON MACHINERY.

Port of *West Harlepool*

THUR. 25 JUN 1903

Received at London Office *Aug 1* 1902

No. in Survey held at *West Harlepool* Date, first Survey *23rd Apr 90* Last Survey *28th July 1902*
 Reg. Book. (Number of Visits *46*)

on the *La Constructora Naval Espanola No 24* Tons { Gross
now named "PEDRO LUIS LACAVE" Net

Master *José Romero* Built at *Cádiz* By whom built *Constructora Naval Espanola* When built

Engines made at *West Harlepool* By whom made *Central Marine Eng Works* when made *1902*

Boilers made at *DO* By whom made *DO* when made *1902*

Registered Horse Power Owners *Compania Gacitana de Navegacion* Port belonging to *Cádiz*

Nom. Horse Power as per Section 28 *1844* Is Refrigerating Machinery fitted *NO* Is Electric Light fitted *no*

ENGINES, &c.—Description of Engines *Direct acting triple expansion* No. of Cylinders *3* No. of Cranks *3*

Dia. of Cylinders *21-33-53* Length of Stroke *36* Revs. per minute *65* Dia. of Screw shaft *as per rule 11.55* Lgth. of stern bush *13' 11"*

Dia. of Tunnel shaft *as per rule 9.84* Dia. of Crank shaft journals *as per rule 10.33* Dia. of Crank pin *10.5* Size of Crank webs *4 3/8 x 6 3/8* Dia. of thrust shaft under

collars *10.5* Dia. of screw *13' 6"* Pitch of screw *13' 6"* No. of blades *4* State whether moveable *NO* Total surface *63 #*

No. of Feed pumps *2* Diameter of ditto *2 1/2"* Stroke *24"* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* Diameter of ditto *3"* Stroke *24"* Can one be overhauled while the other is at work *yes*

No. of Donkey Engines *2* Sizes of Pumps *3 1/2 x 5 + 10 x 9* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *1 Circulating suction 5", 1 Donkey Suction in Holds, &c. forward No. 2 of 2 1/4, two hand 2 1/4, tank No. 2 of 2 1/4 and 3" and three Bilge pump suction 2 1/4. Top 3 1/4, 1st hold 3 of 2 1/4, two hand 2 1/4, tank 1 of 1 1/2, tunnel one 2 1/4*

No. of bilge injections *1* sizes *5* Connected to condenser, or to circulating pump *Pump* 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 *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 *yes*

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 *yes*

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 launch* Is the screw shaft tunnel watertight *yes*

Is it fitted with a watertight door *yes* worked from *deck*

BOILERS, &c.—(Letter for record *(S)*) Total Heating Surface of Boilers *2950 #* Is forced draft fitted *no*

No. and Description of Boilers *Two single ended steel* Working Pressure *165 lbs* Tested by hydraulic pressure to *330 lbs*

Date of test *17-8-01* Can each boiler be worked separately *yes* Area of fire grate in each boiler *35.5 #* No. and Description of safety valves to

each boiler *Two Spring* Area of each valve *7.07* Pressure to which they are adjusted *165 lbs* Are they fitted with easing gear *yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *14 inches* Mean dia. of boilers *12' 11"* Length *10' 0"* Material of shell plates *Steel*

Thickness *1 1/2* Range of tensile strength *27-30* Are they welded or flanged *both* Descrip. of riveting: cir. seams *Lap* Double long. seams *Double*

Diameter of rivet holes in long. seams *1 1/16* Pitch of rivets *7 1/16* Lap of plates or width of butt straps *16"*

Percentages of strength of longitudinal joint rivets *86.8* Working pressure of shell by rules *167.7* Size of manhole in shell *16" x 12"*

Size of compensating ring *2' 8" x 2' 4" x 1 1/8* No. and Description of Furnaces in each boiler *3 burners* Material *Steel* Outside diameter *2' 11 1/8*

Length of plain part top *6.4* Thickness of plates crown *7/16* Description of longitudinal joint *weld* No. of strengthening rings *1*

Working pressure of furnace by the rules *176* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8* Back *5/8* Top *5/8* Bottom *5/8*

Pitch of stays to ditto: Sides *9* Back *9* Top *9* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *166.6*

Material of stays *Steel* Diameter at smallest part *1-5* Area supported by each stay *81 #* Working pressure by rules *176* End plates in steam space:

Material *Steel* Thickness *1 1/16* Pitch of stays *17 1/2" 17 1/2"* How are stays secured *nuts* Working pressure by rules *165.1* Material of stays *Steel*

Diameter at smallest part *2.66* Area supported by each stay *306 #* Working pressure by rules *181* Material of Front plates at bottom *Steel*

Thickness *1 1/16* Material of Lower back plate *Steel* Thickness *1 1/16* Greatest pitch of stays *15"* Working pressure of plate by rules *198*

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

Pitch across wide water spaces *14 1/2"* Working pressures by rules *166.2* Girders to Chamber tops: Material *Steel* Depth and

Thickness of girder at centre *7 3/4" x 1 1/4"* Length as per rule *2' 3"* Distance apart *8"* Number and pitch of Stays in each *Two 9" pitch*

Working pressure by rules *169* Superheater or Steam chest; how connected to boiler *none* Can the superheater be shut off and the boiler worked

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

holes *yes* Pitch of rivets *yes* Working pressure of shell by rules *yes* Diameter of flue *yes* Material of flue plates *yes* Thickness *yes*

stiffened with rings *yes* Distance between rings *yes* Working pressure by rules *yes* End plates: Thickness *yes* How stayed *yes*

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

DONKEY BOILER— No. 1 Description Vertical Crop Tubes
Made at Stockton By whom made J Ludron & Co When made Where fixed in front of main boiler
Working pressure 80 tested by hydraulic pressure to 160 No. of Certificate 2532 Fire grate area 26 1/2 Description of safety valves Spring
No. of safety valves 1 Area of each 12.5664 Pressure to which they are adjusted 80 If fitted with easing gear Yes If steam from main boilers
enter the donkey boiler No Dia. of donkey boiler 6' 6" Length 13' 6" Material of shell plates Steel Thickness 7/8 Range of ten
strength 27-32 Descrip. of riveting long. seams Lap double riveted Dia. of rivet holes 1 1/8 Whether punched or drilled Punched Pitch of rivets 2
Lap of plating 4 1/2 Per centage of strength of joint Rivets 72% Plates 71% Thickness of shell crown plates 9/16 Radius of do. 5' 0" No. of Stays to do. 6
Dia. of stays. 1 5/8 Diameter of furnace Top 5' 2" Bottom 5' 9" Length of furnace 5' 9" Thickness of furnace plates 5/8 Description of
joint Lap Single Thickness of furnace crown plates 9/16 Stayed by same as shell crown Working pressure of shell by rules 8
Working pressure of furnace by rules 85 lbs Diameter of uptake 18" Thickness of uptake plates 7/16 Thickness of water tubes 7/8

SPARE GEAR. State the articles supplied:— Propeller, 2 main bearing bolts & nuts 26
end bolts and nuts 2 bottom end bolts and nuts 1 set of
Shaft coupling bolts nuts 1 set of feed pump valves, 1
of bilge pump valves Springs for HP piston nuts bolts & iron.
The foregoing is a correct description, for the Central Marine Eng. Co.
Manufacturer. (signed) Wm C. Borrowman. Manager.

Dates During progress of work in shops— 1901. Apr 23. 26. 30. May 7. 9. 13. 16. 20. 22. 31 June 3. 4. 5. 7. 8. 11. 13. 14. 17. 18. 19. 20. 21. 24
of Survey During erection on board vessel— July 2. 3. 5. 9. 10. 11. 12. 13. 16. 17. 18. 20. 23. 25. 29. Aug 15. 17. 20. 26 (1902) July 28
while building Total No. of visits 46 Is the approved plan of main boiler forwarded herewith Yes
In badly trials su ship 19 July " " " donkey " " " No

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery has been specially
surveyed during construction, the material workmanship good and renders the ves
eligible in my opinion to have the record + LMC when the machinery has been efficient
fitted & the main & donkey valves adjusted

Material of screw shaft Iron 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 If the liner is in more than one length are the joints burned No
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
non-corrosive No If two liners are fitted, is the shaft lapped or protected between the liners painted

The Machinery and boilers have been shipped to Cadiz
to be fitted.

The Machinery and boilers have now been fitted in this ves
all to my intire satisfaction, and I have seen the Eng.
working for four hours, to my satisfaction also, the safe
valves of Main and donkey boilers have also been adj
under steam to lift at 165 and 80, this vessels Machin
being now eligible in my opinion to have record + LMC.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 6.03.

26.6.03

26.6.03

The amount of Entry Fee.. £ 2. : : : When applied for,
Special .. £ 18. 8 : : : 6. 8. 02
Donkey Boiler Fee .. £ : : : When received,
Travelling Expenses (if any) £ : : : 5. 1. 03

Committee's Minute FRI. 26 JUN 1903

Assigned

+ LMC 6.03

(Signed) Richard Hirst
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping



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Foundation