

## REPORT ON MACHINERY.

Port of *Sunderland*

THUR, 2 MAR 1899

Received at London Office

No. in Survey held at *Sunderland* Date, first Survey *8<sup>th</sup> June 1898* Last Survey *21<sup>st</sup> Feby 1899*  
 Reg. Book. *on the Steel Screw Steamer 'Ville de Tamatave'* (Number of Visits *45*)  
 Master *Vastan* Built at *Sunderland* By whom built *Sir J. Laing & Sons* Tons { Gross *3712*  
 Engines made at *Sunderland* By whom made *George Clark & Co* when made *1899*  
 Boilers made at *Sunderland* By whom made *George Clark & Co* when made *1899*  
 Registered Horse Power *314* Owners *Compagnie Maritime Pen de Nord Vap* Port belonging to *Havre*  
 Nom. Horse Power as per Section 28 *314* Is Electric Light fitted *yes*

ENGINES, &c.—Description of Engines *Tri. compound* No. of Cylinders *3* No. of Cranks *3*  
 Diameter of Cylinders *24 1/2" x 40" x 66"* Length of Stroke *40"* Revolutions per minute *62* Diameter of Screw shaft as per rule *12 1/8"*  
 Diameter of Tunnel shaft as fitted *12 1/8"* Diameter of Crank shaft journals *12 1/8"* Diameter of Crank pin *12 1/8"* Size of Crank webs *24 1/4" x 8 1/2"*  
 Diameter of screw *14.0* Pitch of screw *18.0* No. of blades *4* State whether moveable *no* Total surface *86 sq ft*  
 No. of Feed pumps *2* Diameter of ditto *3 1/4"* Stroke *26* Can one be overhauled while the other is at work *yes*  
 No. of Bilge pumps *2* Diameter of ditto *4 1/4"* Stroke *26* Can one be overhauled while the other is at work *yes*  
 No. of Donkey Engines *2* Sizes of Pumps *4 1/2" x 4 1/2" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room *4 of 3 1/2"* In Holds, &c. *In each hold 2 of 3 1/2" after*  
 well 2 3/4" tanks 3 1/2" centre wings 2 3/4"  
 No. of bilge injections *1* sizes *6* Connected to condenser, or to circulating pump *6.2"* Is 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 *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*  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *new vessel* Is 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 *3839 sq ft* Is forced draft fitted *yes*  
 No. and Description of Boilers *3 Ordinary Mar. Type* Working Pressure *180* Tested by hydraulic pressure to *360*  
 Date of test *23.1.99* Can each boiler be worked separately *yes* Area of fire grate in each boiler *34 sq ft* No. and Description of safety valves to  
 each boiler *2 direct spring* Area of each valve *9.62 sq in* Pressure to which they are adjusted *180 lbs* Are they fitted  
 with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *18"* Mean diameter of boilers *11' 6"*  
 Length *11.0* Material of shell plates *S* Thickness *1 3/4"* Description of riveting: circum. seams *d. r. b.* long. seams *t. r. d. b. s.*  
 Diameter of rivet holes in long. seams *1 1/8"* Pitch of rivets *4 1/2"* Lap of plates or width of butt straps *1.5 1/8"*  
 Per centages of strength of longitudinal joint rivets *9 1/5* plate *8 1/5* Working pressure of shell by rules *194* Size of manhole in shell *16" x 13"*  
 Size of compensating ring *8 3/4" x 1 1/8"* No. and Description of Furnaces in each boiler *2 Adamsons* Material *S* Outside diameter *3' 6"*  
 Length of plain part top *2.0* bottom *2.0* Thickness of plates crown *39/64"* bottom *39/64"* Description of longitudinal joint *welded* No. of strengthening rings *3*  
 Working pressure of furnace by the rules *184* Combustion chamber plates: Material *S* Thickness: Sides *3/32"* Back *3/32"* Top *3/32"* Bottom *3/32"*  
 Pitch of stays to ditto: Sides *9 x 8 3/4"* Back *9 x 8 1/2"* Top *9 x 9 1/16"* stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *183*  
 Material of stays *S* Diameter at smallest part *1 1/32"* Area supported by each stay *81 sq in* Working pressure by rules *221* End plates in steam space:  
 Material *S* Thickness *1 1/4"* Pitch of stays *18 1/2"* How are stays secured *nuts* Working pressure by rules *183* Material of stays *S*  
 Diameter at smallest part *2 1/32"* Area supported by each stay *212 sq in* Working pressure by rules *183* Material of Front plates at bottom *S*  
 Thickness *1 1/16"* Material of Lower back plate *S* Thickness *59/64"* Greatest pitch of stays *13 1/2"* Working pressure of plate by rules *180*  
 Diameter of tubes *2 1/2"* Pitch of tubes *3 3/4"* Material of tube plates *S* Thickness: Front *1 1/4"* Back *1 1/16"* Mean pitch of stays *4 1/2"*  
 Pitch across wide water spaces *13 1/2"* Working pressures by rules *180* Girders to Chamber tops: Material *S* Depth and  
 thickness of girder at centre *9 x 16 x 2* Length as per rule *30"* Distance apart *9 1/16"* Number and pitch of Stays in each *2 of 9 x 9 1/16"*  
 Working pressure by rules *194* Superheater or Steam chest; how connected to boiler *none* 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



DONKEY BOILER— Description *Mult & Two plain furnaces*

Made at *Stockton* By whom made *Sudron & Co La* When made *28.1.99* Where fixed *Under deck*

Working pressure *100* tested by hydraulic pressure to *200* No. of Certificate *1882* Fire grate area *22 sq ft* Description of safety valves *Direct spring*

No. of safety valves *2* Area of each *5.9 sq ft* Pressure to which they are adjusted *100* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No.*

Diameter of donkey boiler *8' 0"* Length *9' 0"* Material of shell plates *S 24.32* Thickness *9/16"*

Description of riveting long. seams *Treb. riv. lap.* Diameter of rivet holes *7/8"* Whether punched or drilled *drilled* Pitch of rivets *3.2"*

Lap of plating *6 3/8"* Per centage of strength of joint *48* Rivets *48* Thickness of shell *end* plates *3/4"* Radius of do. *Pitch* No. of Stays to do. *16*

Dia. of stays. *1 3/4"* Eff. Diameter of furnace *Top 24 1/8 Bottom -* Length of furnace *6' 2"* Thickness of furnace plates *9/16"* Description of joint *Welded*

Thickness of furnace crown plates *14 1/2 x 9/16* Stayed by *1 3/8" Eff. St. 8 x 8 1/2 p* Working pressure of shell by rules *101*

Working pressure of furnace by rules *105* Diameter of uptake *3"* Thickness of uptake plates *1/16"* Thickness of stay tubes *5/16"*

SPARE GEAR. State the articles supplied:— *Top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set of coupling bolts and nuts feed & bilge pump valves tail end shaft, propeller bolts nuts and iron assorted.*

The foregoing is a correct description,

FOR GEORGE CLARK LIMITED.

Manufacturer.

Dates During progress of work in shops— *1898 June 8, 9, 11, 13, 15, 17 Oct 8, 20 Nov 2, 4, 5, 18, 22, 24, 25, 28, Dec 1, 12, 14, 15, 16, 20,*  
of Survey During erection on board vessel— *22, 23, 1899 Jan 6, 7, 9, 12, 13, 17, 19, 20, 23, 24, 25, 26, 30 Feb 1, 4, 7, 9, 10, 11, 14, 20,*  
while building Total No. of visits *45*

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

ENGINES—Length of stern bush *4-4 1/16* Diameter of crank shaft journals *as per rule 12"* Diameter of thrust shaft under collars *13"*

BOILERS—Range of tensile strength *26-30* Are they welded or flanged *Flanged* DONKEY BOILERS—No. *1* Range of tensile strength *24*

Is the approved plan of main boiler forwarded herewith *Yes* No. Is the approved plan of donkey boiler forwarded herewith *no*

The machinery of this vessel has been constructed under Special Survey. The material & workman being good and efficient, and the engines when tried under steam worked satisfactory. main steam pipes have been tested by hydraulic pressure to 400 lbs per square inch and the pumps and watertight doors are in efficient working order. In my opinion this vessel is eligible for the notification in the Register Book of *L.M.C.-2.9*

It is submitted that  
this vessel is eligible for  
THE RECORD. *L.M.C. 2.99.*

F.D. & Electric Light.

*A.C.H.*

*2.3.99.*

*3.3.99*

The amount of Entry Fee... £ *3* : *0* :  
Special... £ *35* : *14* :  
Donkey Boiler Fee... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, *1.3.18.99*  
When received, *3.3.99*

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

Committee's Minute

FRI. 3 MAR 1899

Assigned

MACHINERY CERTIFICATE  
WRITTEN.



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Foundation