

REPORT ON MACHINERY.

No. 22067

Port of *Sunderland*

Received at London Office

WED. 30 NOV 1904

No. in Survey held at *Sunderland*
Reg. Book.Date, first Survey *22nd January* Last Survey *21st Nov; 1904*(Number of Voids *48*)on the *Steel Twin Screw Steamer "Bermudez"*Tons { Gross *5530*
Net *2889*Master *P. J. Fraser* Built at *Sunderland* By whom built *Mr James Lunn & Son (Ld)* When built *1904*Engines made at *Sunderland* By whom made *George Clark (Ld)* when made *1904*Boilers made at *Sunderland* By whom made *George Clark (Ld)* when made *1904*Registered Horse Power Owners *Quebec Steamship Co. Ld.* Port belonging to *London*Nom. Horse Power as per Section 28 *1004* Is Refrigerating Machinery fitted *no*Is Electric Light fitted *yes*ENGINES, &c.—Description of Engines *Triple Expansion*No. of Cylinders *three* Each *single* No. of Cranks *three* each *right*Dia. of Cylinders *26-43-71* Length of Stroke *48* Revs. per minute *90* Dia. of Screw shaft as per rule *14.19* as fitted *15* Material of *steel* screw shaftIs the screw shaft fitted with a continuous liner the whole length of the stern tube *yes* Is the after end of the liner made water tightin the propeller boss *yes* If the liner is in more than one length are the joints burned *—* If the liner does not fit tightly at the partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *—* If twoliners are fitted, is the shaft lapped for protected between the liners *—* Length of stern bush *5-8*Dia. of Tunnel shaft as per rule *13.51* as fitted *14.00* Dia. of Crank shaft journals as per rule *14.19* as fitted *14.45* Dia. of Crank pin *15* Size of Crank webs *23x10 1/2* Dia. of thrust shaft undercollars *14 3/4* Dia. of screw *16-0* Pitch of screw *20-0* No. of blades *three* State whether moveable *yes* Total surface *65 sq ft*No. of Feed pumps *two* Diameter of ditto *3 3/4* Stroke *27* Can one be overhauled while the other is at work *yes*No. of Bilge pumps *two* Diameter of ditto *4 1/4* Stroke *27* Can one be overhauled while the other is at work *yes*No. of Donkey Engines *two* Sizes of Pumps *10x10x10* *10x7 1/2x5* feed *10x14x26* No. and size of Suctions connected to both Bilge and Donkey pumpsIn Engine Room *four 3 1/2* In Holds, &c. *Two m. each 3 1/2 dia & one m. after mid 3 1/2*No. of bilge injections *2* sizes *8* Connected to condenser, or to circulating pump *no* Is a separate donkey suction fitted in Engine room & size *yes 5*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 *—*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 through and space* How are they protected *curved through tunnel*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 *16/11/04* Is the screw shaft tunnel watertight *yes*Is it fitted with a watertight door *yes* worked from *upper platform*BOILERS, &c.— (Letter for record (5.) Total Heating Surface of Boilers *18115 sq ft* Is forced draft fitted *no*No. and Description of Boilers *Three single & three double ended* Working Pressure *200 lb* Tested by hydraulic pressure to *400 lb*Date of test *15/6/04* Can each boiler be worked separately *yes* Area of fire grate in each boiler *64.85 sq ft* No. and Description of safety valves to *580*each boiler *three & two direct acting* Area of each valve *two 12.56 sq in* Pressure to which they are adjusted *200 lb* Are they fitted with easing gear *yes*Smallest distance between boilers or uptakes and bunkers or woodwork *12* Mean dia. of boilers *14-9* Length *11 ft 18 in* Material of shell plates *steel*Thickness *1 1/2* Range of tensile strength *28 1/2 to 32 tons* Are they welded or flanged *no* Descrip. of riveting: cir. seams *lap BR & TR long* seams *5/8 - TR*Diameter of rivet holes in long. seams *1 1/2* Pitch of rivets *9 3/4* Lap of plates or width of butt straps *22 1/4*Per centages of strength of longitudinal joint rivets *87.7* Working pressure of shell by rules *230 lb* Size of manhole in shell *12x18*Size of compensating ring *9 3/8 x 1 1/2* No. and Description of Furnaces in each boiler *three & one pump* Material *steel* Outside diameter *47 1/2 dia*Length of plain part top *—* bottom *—* Thickness of plates crown *4 1/4* bottom *4 1/4* Description of longitudinal joint *Weld* No. of strengthening rings *—*Working pressure of furnace by the rules *218 lb* Combustion chamber plates: Material *steel* Thickness: Sides *5/8* Back *4/8* Top *3/4* Bottom *1 1/8*Pitch of stays to ditto: Sides *9 3/4 x 8 1/2* Back *9 x 8 3/8* Top *flanges* If stays are fitted with nuts or riveted heads *into* Working pressure by rules *210 & 202*Material of stays *steel* Diameter at smallest part *1 1/2 - 1.61* Area supported by each stay *83 + 108* Working pressure by rules *220 lb* End plates in steam space:Material *steel* Thickness *1 1/2* Pitch of stays *18 1/2 x 16* How are stays secured *by N.* Working pressure by rules *277 lb* Material of stays *steel*Diameter at smallest part *2.92* Area supported by each stay *295* Working pressure by rules *225 lb* Material of Front plates at bottom *steel*Thickness *7/8* Material of Lower back plate *steel* Thickness *1 1/4* Greatest pitch of stays *17 1/4* Working pressure of plate by rules *202 lb*Diameter of tubes *3 1/4* Pitch of tubes *4 1/2 x 4 9/16* Material of tube plates *steel* Thickness: Front *1 1/2* Back *7/8* Mean pitch of stays *11 5/8*Pitch across wide water spaces *14 1/4* Working pressures by rules *200 lb* Girders to Chamber tops: Material *steel* Depth andthickness of girder at centre *16 3/4 x 15 3/4 x 1 1/2* Length as per rule *—* Distance apart *13 1/2* Number and pitch of Stays in each *—*Working pressure by rules *—* Superheater or Steam chest; how connected to boiler *—* Can the superheater be shut off and the boiler workedseparately *—* Diameter *—* Length *—* Thickness of shell plates *—* Material *—* Description of longitudinal joint *—* Diam. of rivetholes *—* 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 *—*580
7510-3327
4633-0157

DONKEY BOILER— No. Description

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

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 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:— one set of pumping bolts & nuts, two each top & bottom head & main bearing bolts & nuts. one set each feed & helge pump valves, one set propeller blades one propeller shaft, $\frac{1}{2}$ crank shaft, one eccentric stick complete, one pair crosshead pins 50 condenser & 50 boiler tubes, circulating pump base, 1 valve spindle &c.—

The foregoing is a correct description,

FOR GEORGE CLARK LIMITED.

Guyblanch

Manufacturer.

Dates During progress of work in shops— 1904:— Jan 22, Mar 2, 8, 14, 23, 29, Apr 7, 15, 19, 25, 28, May 4, 16, 31, June 2, 7, 9, 15, 27, July 5, 8, 14, 20, 22, 26, Aug 5, 12, 18, 19, Sep 6, 7, 16, 22, 27, 30, Oct 3, 4, 11, 15, 18, 20, 26, Nov 1, 3, 10, 12, 16, 21. 48

Is the approved plan of main boiler forwarded herewith ☒ yes

" " " donkey " " " " " " " " " " " "

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

The Machinery of this Vessel has been built under special survey, the material & workmanship sound & good. the Boilers and steam pipes have been tested by hydraulic pressure in accordance with the Rules, the whole of the machinery worked well & the safety valves have been fitted with easing gear & adjusted to the working pressure under steam.

This Vessel is Eligible in my Opinion to have the Notation of *LMC 11.04 from screw with Electric Light, in the Register Book

It is submitted that this vessel is eligible for THE RECORD LMC 11.04. ELEC. LIGHT

End

30.11.04

The amount of Entry Fee.. £ 3 : : When applied for, 29.11.1904

Special .. £ 70 : 4 : : When received, 1.12.1904

Donkey Boiler Fee .. £ : : : 3.12.04

Travelling Expenses (if any) £ : : : 1.12.1904

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

Committee's Minute

FRI. 2 DEC 1904

Assigned

+ LMC 11.04
Elec. light

MACHINERY CERTIFICATE WRITTEN.



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