

## REPORT ON MACHINERY.

Port of *Sunderland*Received at London Office *JUN. 24 JUN 1902*No. in Survey held at *Sunderland* Date, first Survey *29th May, 1901* Last Survey *19th June 1902*  
Reg. Book. *S. S. "Ras Issa"* (Number of Visits *27*)on the *S. S. "Ras Issa"* Tons { Gross *3774*  
Net *2442*Master *Wm. G. Johnson* Built at *Sunderland* By whom built *Osbourne, Graham & Co* When built *1902*Engines made at *Sunderland* By whom made *Geo Clark & Co* when made *1902*Boilers made at *Sunderland* By whom made *Geo Clark & Co* when made *1902*Registered Horse Power *348* Owners *Graham & Co* Port belonging to *London*Nom. Horse Power as per Section 28 *348* Is Refrigerating Machinery fitted *No* Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines *Triple* No. of Cylinders *3* No. of Cranks *3*  
 Dia. of Cylinders *25-42-68* Length of Stroke *48"* Revs. per minute *70* Dia. of Screw shaft *13 1/2* as per rule *13 1/2* as fitted *14 1/2* Lgth. of stern bush *4-9*  
 Dia. of Tunnel shaft *12 1/4* as per rule *12 1/4* as fitted *12 3/4* Dia. of Crank shaft journals *13 1/2* as per rule *13 1/2* as fitted *13 1/2* Dia. of Crank pin *13 1/2* Size of Crank webs *20"x9"* Dia. of thrust shaft under  
 collars *14 1/4* Dia. of screw *1 1/4-3* Pitch of screw *18 ft* No. of blades *4* State whether moveable *No* Total surface *90 1/2 sq*  
 No. of Feed pumps *2* Diameter of ditto *3 3/4* Stroke *25 1/2* Can one be overhauled while the other is at work *yes*  
 No. of Bilge pumps *2* Diameter of ditto *4 3/8* Stroke *25 1/2* Can one be overhauled while the other is at work *yes*  
 No. of Donkey Engines *2* Sizes of Pumps *7 3/4 x 9 x 10* *BALLAST* *FEED* *7 1/2 x 5 x 6* No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room *3 of 3 1/2 dia* In Holds, &c. *2 in each hold 3 1/2 dia*  
*aft hold well 3 1/2*  
*Tunnel well 3 1/2*

No. of bilge injections *1* sizes *6"* Connected to condenser, or to circulating pump *C.P.* Is a separate donkey suction fitted in Engine room & size *yes 4"*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 *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 *near 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 *5398 sq* Is forced draft fitted *no*No. and Description of Boilers *2 single end ord marine type* Working Pressure *180 lbs* Tested by hydraulic pressure to *360*Date of test *28-4-02* Can each boiler be worked separately *yes* Area of fire grate in each boiler *79.5 sq* No. and Description of safety valves toeach boiler *2 direct spring loaded* Area of each valve *11.04* Pressure to which they are adjusted *180* Are they fitted with edging gear *yes*Smallest distance between boilers or uptakes and bunkers or woodwork *2'-6"* Mean dia. of boilers *16' 7 1/2"* Length *11'-6"* Material of shell plates *S*Thickness *1 1/8* Range of tensile strength *28 1/2-32* Are they welded or flanged *end plates flanged* Descrip. of riveting: cir. seams *D.R.L.* long. seams *T.R.D.B.*Diameter of rivet holes in long. seams *1 1/16* Pitch of rivets *8 3/4* width of butt straps *20 1/8*Per centages of strength of longitudinal joint rivets *87* Working pressure of shell by rules *180* Size of manhole in shell *16x13*Size of compensating ring *8 3/8 x 1 1/16* No. and Description of Furnaces in each boiler *4 Jols* Material *S* Outside diameter *3-9 1/2*Length of plain part *top ✓* Thickness of plates *crown 1 1/16* Description of longitudinal joint *welded* No. of strengthening rings *✓*Working pressure of furnace by the rules *193* Combustion chamber plates: Material *S* Thickness: Sides *1/16* Back *1/16* Top *1/16* Bottom *1/16*Pitch of stays to ditto: Sides *9"x10* Back *9x10* Top *8 3/8* If stays are fitted with nuts or riveted heads *NUTS* Working pressure by rules *181*Material of stays *S* Diameter at smallest part *1-6* Area supported by each stay *87* Working pressure by rules *188* End plates in steam space:Material *S* Thickness *1 1/32* Pitch of stays *22 3/8 x 17* How are stays secured *NUTS* Working pressure by rules *183* Material of stays *S*Diameter at smallest part *2-9 1/2* Area supported by each stay *384* Working pressure by rules *186* Material of Front plates at bottom *S*Thickness *3/4* Material of Lower back plate *S* Thickness *29/32* Greatest pitch of stays *14* Working pressure of plate by rules *182*Diameter of tubes *3 1/4* Pitch of tubes *4 1/2* Material of tube plates *S* Thickness: Front *1 1/4* Back *25/32* Mean pitch of stays *9"*Pitch across wide water spaces *14 1/4* Working pressures by rules *182* Girders to Chamber tops: Material *S* Depth andthickness of girder at center *10 1/2" x 1 1/16" x 2* Length as per rule *3-0* Distance apart *9 1/4* Number and pitch of Stays in each *3-8 3/8*Working pressure by rules *181* 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



*SPARE GEAR.* State the articles supplied :—

The foregoing is a correct description,  
 FOR GEORGE CLARK LIMITED  
*George Clark* Manufacturer:

Is the approved plan of main boiler forwarded herewith *yes*  
 " " " donkey " " " *no*

Material of screw shaft Iron Is 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 tight in 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 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 one liner

The pumps, watertight doors, and steam steering gear are in good ~~working~~ order, & the main steam-pipes have been tested by hydraulic pressure to 400 lbs per square inch.

In my opinion, this vessel is eligible for the  
notification in the Register Book of **+ L.M.C. 6.02.**

It is submitted that  
this vessel is eligible for  
THE RECORD - L M C 6:02

*Pat<sup>r</sup> Salmon.*  
*Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.*

WED. 25 JUN 1902

*Assigned*

+ 2 m c 6.02

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Foundation