

PORT ON MACHINERY.

Port of *Newcastle on Tyne*

17 JUN 1903

Received at London Office

No. in Survey held at *South Shields* Date, first Survey *Nov. 7 '02* Last Survey *9th June 1903*
 Reg. Book. *51* on the *Steel Screw Steamer "Gerty"* (Number of Visits *32*)
 Master *Loanick* Built at *S. Shields* By whom built *J. Readhead & Sons* When built *1903*
 Engines made at *S. Shields* By whom made *J. Readhead & Sons* when made *1903*
 Boilers made at *do* By whom made *do* when made *1903*
 Registered Horse Power *322.5* Owners *Gerty Steamship Co* Port belonging to *Swire*
 Nom. Horse Power as per Section 28 *322.5* Is Refrigerating Machinery fitted *No* Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines *Single Expansion Surface Condensing* No. of Cylinders *3* No. of Cranks *3*
 Dia. of Cylinders *25" 42" 68"* Length of Stroke *45"* Revs. per minute *60* Dia. of Screw shaft *13.47"* as per rule *13.47"* Lgth. of stern bush *4'-7"*
 Dia. of Tunnel shaft *12.97"* as per rule *12.57"* Dia. of Crank shaft journals *12.57"* as fitted *12.57"* Dia. of Crank pin *12 3/4"* Size of Crank webs *8 1/2" x 17"* Dia. of thrust shaft under collars *12 3/4"* Dia. of screw *16'-6"* Pitch of screw *16'-6" 5 19'-0"* No. of blades *4* State whether moveable *No* Total surface *74.8 sq ft*
 No. of Feed pumps *2* Diameter of ditto *3 1/2"* Stroke *24"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *4 1/2"* Stroke *24"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *2 (two)* Sizes of Pumps *6 x 4 x 6 1/2" duplex* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *1 Centre 3 1/2" dia 2 wing 3 1/2" dia* In Holds, &c. *Fore 2 wing 3 1/2" dia Main fore 2 wing 3 1/2" dia After main 2 wing 3 1/2" dia After hold 2 wing 3 1/2" dia After well 1 x 2 1/2" dia*
 No. of bilge injections *1* sizes *5 1/2"* Connected to condenser, or to circulating pump *Yes* Is a separate donkey suction fitted in Engine room & size *Yes 3 1/2" dia*
 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 *✓* Is the screw shaft tunnel watertight *Yes*
 Is it fitted with a watertight door *Yes* worked from *Engine Room Grating*

BOILERS, &c.— (Letter for record *Y*) Total Heating Surface of Boilers *5026 sq ft* Is forced draft fitted *No*
 No. and Description of Boilers *Two Single Ended Multitubular* Working Pressure *160* Tested by hydraulic pressure to *320 lbs*
 Date of test *1.4.03* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *60.75* No. and Description of safety valves to each boiler *Two Spring loaded* Area of each valve *7.06 sq in* 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 *16"* Mean dia. of boilers *16'-6"* Length *10'-4"* Material of shell plates *Steel*
 Thickness *1 1/4"* Range of tensile strength *27/32* Are they welded or flanged *No* Descrip. of riveting: cir. seams *Double lap long. seams D. butt. Sub riv*
 Diameter of rivet holes in long. seams *1 7/16"* Pitch of rivets *9"* Lap of plates or width of butt straps *22"*
 Per centages of strength of longitudinal joint *85.6* Working pressure of shell by rules *160.8 lbs* Size of manhole in shell *16" x 12"*
 Size of compensating ring *6" x 1 1/4"* No. and Description of Furnaces in each boiler *3 Dighton's* Material *Steel* Outside diameter *48"*
 Length of plain part *✓* Thickness of plates *12"* Description of longitudinal joint *Welded* No. of strengthening rings *✓*
 Working pressure of furnace by the rules *170.5* Combustion chamber plates: Material *Steel* Thickness: Sides *5 1/8"* Back *5 1/8"* Top *5 1/8"* Bottom *3 1/8"*
 Pitch of stays to ditto: Sides *8 1/2" x 9 1/4"* Back *8 1/2" x 9"* Top *8" x 9 1/2"* If stays are fitted with nuts *Yes* Working pressure by rules *171 lbs*
 Material of stays *Bron* Diameter at smallest part *1 9/16"* Area supported by each stay *78.6 sq in* Working pressure by rules *240* End plates in steam space:
 Material *Steel* Thickness *1 3/8"* Pitch of stays *19 1/2" x 20"* How are stays secured *D. nuts & washers* Working pressure by rules *171 lbs* Material of stays *Steel*
 Diameter at smallest part *3"* Area supported by each stay *390* Working pressure by rules *185* Material of Front plates at bottom *Steel*
 Thickness *3 1/4"* Material of Lower back plate *Steel* Thickness *1 3/8"* Greatest pitch of stays *14"* Working pressure of plate by rules *197*
 Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4"* Material of tube plates *Steel* Thickness: Front *3 1/4"* Back *3 1/4"* Mean pitch of stays *9 1/2"*
 Pitch across wide water spaces *14"* Working pressures by rules *182* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *8" x 1 1/2"* Length as per rule *28 1/2"* Distance apart *9 1/2"* Number and pitch of Stays in each *2-8"*
 Working pressure by rules *178* 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 to superheater *✓* Are they fitted with easing gear *✓*

DONKEY BOILER— No. *1* Description *Single Ended Multitube*
 Made at *L. Shields* By whom made *John Readhead & Sons* When made *1903* W. *marked*
 Working pressure *100* tested by hydraulic pressure to *200 lb* No. of Certificate *6463* Fire grate area *22 sq* Description of safety valves *Spring loaded*
 No. of safety valves *2* Area of each *7.06 sq* Pressure to which they are adjusted *100 lb* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *9'-0"* Length *9'-0"* Material of shell plates *Steel* Thickness *5/8"* Range of tensile strength *27 1/2* Descrip. of riveting long seams *D. riveted lap* Dia. of rivet holes *1 1/16"* Whether punched or drilled *Drilled* Pitch of rivets *3 5/8"*
 Lap of plating *4 3/8"* Per centage of strength of joint *89.74* Rivets *69.74* Thickness of shell plates *5/8"* Radius of do. *Pitch* of Stays to do. *18 x 16*
 Dia. of stays *2 1/4"* Diameter of furnace Top *34"* Bottom *24"* Length of furnace *6'-1 1/2"* Thickness of furnace plates *1/2" top 3/4" bottom* Description of joint *Single R. lap* Thickness of furnace crown plates *✓* Stayed by *✓* Working pressure of shell by rules *100 lb*
 Working pressure of furnace by rules *107 lb* Diameter of uptake *✓* Thickness of uptake plates *13/16" + 1/16"* Thickness of water tubes *3 1/4" dia 10 B.W.G.*

SPARE GEAR. State the articles supplied:— *Propeller, propeller shaft, 2 Connecting rod top & bottom bolts 2 main bearing bolts 1 set coupling bolts 1 set each feed, bilge, air & circulating pump valves, 12 boiler tube nuts assorted etc.*

The foregoing is a correct description,

John Readhead & Sons Manufacturer.

Dates { During progress of work in shops— 1902 Nov. 7, 11, 21, 24, Dec. 3, 5, 11, 16, 22, 31. 1903 Jan. 10, 12, 20, 30. Feb. 5, 12, 21. Mch. 3, 10, 17, 30. Apr. 16, 20, 25, 28. May 11, 18, 20, 26, 27 June 4.
 of Survey { During erection on board vessel —
 while building { Total No. of visits *32* Is the approved plan of main boiler forwarded herewith *Yes*
 " " " donkey " " " *Yes*

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

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 *✓*

The machinery of this vessel has been built under special survey, the material & workmanship good & eligible in my opinion to have record of LMC 6.03.

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

17.6.03

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The amount of Entry Fee.. £ *3* : : When applied for, *16/6/1903*
 Special £ *36* . 2 : : *15/6/1903*
 Donkey Boiler Fee £ : :
 Travelling Expenses (if any) £ : :
 Committee's Minute *FRI. 19 JUN 1903*
 Assigned *+ LMC 6.03*

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



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MACHINERY CERTIFICATE WRITTEN.

Newcastle-on-Tyne.

Certificate (if required) to be sent to below the space for Committee's Minute.