

REPORT ON MACHINERY.

Port of Newcastle on Tyne

Received at London Office WED. 18 MAR 1903

No. in Survey held at South Shields Date, first Survey Oct 7 '02 Last Survey Feb 21 '03
 Reg. Book. S/S "T. Gwyn" (Number of Visits 27)
 51 on the S/S "T. Gwyn" Tons { Gross 308 1/2
 Master S. Gabley Built at South Shields By whom built Messrs John Radhead & Sons Net 198 9
 Engines made at South Shields By whom made Messrs John Radhead & Sons When built 1903
 Boilers made at - do - By whom made - do - when made 1903
 Registered Horse Power 281 Owners Hain S/S Co Ltd. Port belonging to S. Gabley
 Nom. Horse Power as per Section 28 281 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion vertical surface condensing No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 24" 40" 64" Length of Stroke 42" Revs. per minute 60 Dia. of Screw shaft 12 1/2" as per rule 12 1/2" Lgth. of stern bush 4'-6"
 Dia. of Tunnel shaft 11 1/2" as per rule 11 1/2" Dia. of Crank shaft journals 12" as per rule 12" Dia. of Crank pin 12" Size of Crank webs 8 1/2 x 15 1/2" Dia. of thrust shaft under
 collars 12 1/2" Dia. of screw 16-5" Pitch of screw 15 1/4 x 6 1/2" No. of blades 4 State whether moveable no Total surface 71 1/2
 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 3/8" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 1 1/2" & 2 1/2" double acting No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 2 wing 3" dia. 2 centre 3 1/2" dia. In Holds, &c. For hold 2 wing 3" dia. For main hold
wing 3" dia. After hold 2 wing 3" dia. After well 1 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 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 by
 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 T) Total Heating Surface of Boilers 4444.8 sq ft Is forced draft fitted no
 No. and Description of Boilers 2 Cylindrical Single Ended Working Pressure 160 Tested by hydraulic pressure to 320
 Date of test 11.12.02 Can each boiler be worked separately yes Area of fire grate in each boiler 45 sq ft No. and Description of safety valves to
 each boiler 2 Spring loaded Area of each valve 7.07" Pressure to which they are adjusted 165 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 18" Mean dia. of boilers 15-3" Length 10-4" Material of shell plates steel
 Thickness 3/32" Range of tensile strength 28-32 Are they welded or flanged no Descrip. of riveting: cir. seams lap double long. seams double butt
 Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 20 1/2"
 Percentages of strength of longitudinal joint rivets 84 1/2% Working pressure of shell by rules 164 Size of manhole in shell 16" x 12"
 Size of compensating ring 6 x 1 1/2" No. and Description of Furnaces in each boiler 3 horizontal Material steel Outside diameter 3'-10"
 Length of plain part top 1 1/2" Thickness of plates bottom 1 1/2" Description of longitudinal joint welded No. of strengthening rings none
 Working pressure of furnace by the rules 171 Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 3/8"
 Pitch of stays to ditto: Sides 9 x 8 1/2" Back 9 x 8 1/2" Top 8 1/2 x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 168
 Material of stays iron Diameter at smallest part 1 7/8" Area supported by each stay 79.6 Working pressure by rules 186 End plates in steam space:
 Material steel Thickness 1 1/2" Pitch of stays 17 x 17 1/2" How are stays secured by nut & washer Working pressure by rules 168 Material of stays steel
 Diameter at smallest part 2 1/2" Area supported by each stay 300 Working pressure by rules 166 Material of Front plates at bottom steel
 Thickness 3/4" Material of Lower back plate steel Thickness 1 1/2" Greatest pitch of stays 12" Working pressure of plate by rules 175
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates steel Thickness: Front 3/4" Back 3/4" Mean pitch of stays 11
 Pitch across wide water spaces 14" Working pressures by rules 183 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 8 1/2" Number and pitch of Stays in each two 8"
 Working pressure by rules 199 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 ✓
 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 *Meredith's patent vertical*
Made at *Stockton* By whom made *Riley Bros* When made *1902* Where fixed *Stockton*
Working pressure *80 lbs* tested by hydraulic pressure to *160* No. of Certificate *2841* Fire grate area *21 ft* Description of safety valves *spring loaded*
No. of safety valves *1* Area of each *15.9* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *7'-6"* Length *15'-0"* Material of shell plates *steel* Thickness *5/16"* Range of tensile strength *27632* Descrip. of riveting long. seams *double riveted lap* Dia. of rivet holes *7/16"* Whether punched or drilled *Yes* Pitch of rivets *3 1/4"*
Lap of plating *6 1/2"* Per centage of strength of joint *75.1* Thickness of shell crown plates *5/16"* Radius of do. *3'-9"* No. of Stays to do. *1*
Dia. of stays *1 1/2"* Diameter of furnace Top *5'-0"* Bottom *6'-5"* Length of furnace *2'-9"* Thickness of furnace plates *5/16"* Description of joint *Lap double riveted round butt* Thickness of furnace crown plates *9/16"* Stayed by *Dished 3'-0" radius* Working pressure of shell by rules *89 lbs*
Working pressure of furnace by rules *80 lbs* Diameter of uptake *3"* Thickness of uptake plates *F 3/16 B 3/16* Thickness of water tubes *5/16"*

SPARE GEAR. State the articles supplied:— *Connecting rod by and bolts that 2 ft 11 in and bolts that 2 ft 11 in*
bearing bolts. 1 set coupling bolts. 1 set each feed. pipe. air & circulating pump valves
1/2 crank shaft 1 propeller shaft 1 propeller assisted bolt nuts & washers

The foregoing is a correct description,

John Headhead Manufacturer.

Dates of Survey while building
During progress of work in shops—
During erection on board vessel—
Total No. of visits

1902 Oct. 7, 12, 17, 23, 26 Nov. 7, 11, 12, 17, 24 Dec. 2, 9, 13, 16, 22, 31 1903 Jan. 6, 13, 20, 27, 30, 31 Feb. 5, 11, 12

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

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

good & the machinery not fitted aft.

Material of screw shaft *Scraper* 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 *Yes*

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 *Yes* If two liners are fitted, is the shaft lapped or protected between the liners *Yes*

The machinery of this vessel has been built under Special Survey & is eligible in our opinion for record + L.M.C. 3.03

It is submitted that
this vessel is eligible for
THE RECORD— L.M.C. 2.03

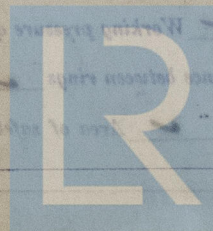
The amount of Entry Fee. £ 2 : : : When applied for, *17 MAR 1903*
Special .. £ 34 : : :
Donkey Boiler Fee .. £ : : :
Travelling Expenses (if any) £ : : : When received, *19 MAR 1903*

Committee's Minute

Assigned

FRI. 20 MAR 1903

MACHINERY CERTIFICATE
WRITTEN.



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