

REPORT ON MACHINERY.

No. 22289

Port of SunderlandReceived at London Office 2 JUN 1905

No. in Survey held at Sunderland Date, first Survey 7th Octr, 1904 Last Survey 24th May, 1905
 Reg. Book. on the Steel Screw Steamer "MIMOSA" (Number of Visits 28)
 Master J. S. Bone Built at Sunderland By whom built Short Bros (Lini) Tons { Gross 3466
 Engines made at Sunderland By whom made George Clark (Lini) when made 1905
 Boilers made at Sunderland By whom made George Clark (Lini) when made 1905
 Registered Horse Power Owners L. Stephens & Sons Ltd. Port belonging to London
 Nom. Horse Power as per Section 28 325 Is Refrigerating Machinery fitted no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders three No. of Cranks three
 Dia. of Cylinders 24½-40-66 Length of Stroke 45 Revs. per minute 62 Dia. of Screw shaft as per rule 13.84 Material of 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 — Length of stern bush 4-8
 Dia. of Tunnel shaft as per rule 12.24 Dia. of Crank shaft journals as per rule 12.86 Dia. of Crank pin 2½ Size of Crank webs 8½x8½ Dia. of thrust shaft under
 collars 13¼ Dia. of screw 14-0 Pitch of screw 14-3 No. of blades four State whether moveable no Total surface 88 sq ft
 No. of Feed pumps two Diameter of ditto 2½ Stroke 26 Can one be overhauled while the other is at work yes
 No. of Bilge pumps two Diameter of ditto 4½ Stroke 26 Can one be overhauled while the other is at work yes
 No. of Donkey Engines two Sizes of Pumps 9x10 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room two 3½ hp — three 3½ hp In Holds, &c. two 2½ hp — one 2½ hp — one 2½ hp
 No. of bilge injections one sizes 5½ Connected to condenser, or to circulating pump no Is a separate donkey suction fitted in Engine room & size yes 5½
 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 no
 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 8/3/05 Is the screw shaft tunnel watertight yes
 Is it fitted with a watertight door yes worked from top platform

BOILERS, &c.— (Letter for record 5) Total Heating Surface of Boilers 4099 sq ft Is forced draft fitted yes
 No. and Description of Boilers Two, single ended, Cyl. Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb.
 Date of test 11/2/05 Can each boiler be worked separately yes Area of fire grate in each boiler 60 sq ft No. and Description of safety valves to
 each boiler Two, direct spring Area of each valve 9.620 Pressure to which they are adjusted 185 lb. Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers 13-6" Length 11-9" Material of shell plates steel
 Thickness 1½" Range of tensile strength 28½-32 Are they welded or flanged no Descrip. of riveting: cir. seams lap 5x long. seams 5x8-TR
 Diameter of rivet holes in long. seams 1½" Pitch of rivets 4½" Lap of plates or width of butt straps 14½"
 Per centages of strength of longitudinal joint 90 Working pressure of shell by rules 180.5 lb. Size of manhole in shell 13x16
 Size of compensating ring 8½x1½ No. and Description of Furnaces in each boiler Three, Adamant Material steel Outside diameter 40½"
 Length of plain part top 33" Thickness of plates bottom 5½" Description of longitudinal joint welded No. of strengthening rings two
 Working pressure of furnace by the rules 185 lb. Combustion chamber plates: Material steel Thickness: Sides 2½" Back 1½" Top 1½" Bottom 1½"
 Pitch of stays to ditto: Sides 8½x9¼ Back 9¼x9¼ Top — If stays are fitted with nuts or riveted heads no Working pressure by rules 185/185 lb.
 Material of stays steel Diameter at smallest part 1½" Area supported by each stay 91x11" Working pressure by rules 205x189 End plates in steam space:
 Material steel Thickness 1½" Pitch of stays 9.8x19 How are stays secured by nuts Working pressure by rules 180.5 lb. Material of stays steel
 Diameter at smallest part 3.04" Area supported by each stay 368 sq in Working pressure by rules 97.186 Material of Front plates at bottom steel
 Thickness 3¼" Material of Lower back plate steel Thickness 5¼" Greatest pitch of stays 5½x4½" Working pressure of plate by rules 184 lb.
 Diameter of tubes 2½" Pitch of tubes 3½x3½" Material of tube plates steel Thickness: Front 3½" Back 3¼" Mean pitch of stays 9½"
 Pitch across wide water spaces 13½" Working pressures by rules 185 lb. Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 6x1½" Length as per rule — Distance apart — 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 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. *one* Description *Cylindrical 2 plan furnace, single ended.*
 Made at *Stockton* By whom made *Riley Bros. Ltd.* When made *1905* Where fixed *stockhold*
 Working pressure *100 lb* tested by hydraulic pressure to *200* No. of Certificate *3364* Fire grate area *28.4* Description of safety valves *breast spring*
 No. of safety valves *two* Area of each *4.91* 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 *9-6* Length *9-6* Material of shell plates *steel* Thickness *5/8* Range of tensile strength *24-25* Descrip. of riveting long. seams *Flat butt* Dia. of rivet holes *5/16* Whether punched or drilled *drilled* Pitch of rivets *2 3/4*
 Lap of plating *6 1/2* Per centage of strength of joint *75* Rivets *75/15* Thickness of shell *2 1/2* Radius of do. — No. of Stays to do. *four*
 Dia. of stays *3 1/4* Diameter of furnace *Top 2-11 Bottom —* Length of furnace *5-10* Thickness of furnace plates *19/32* Description of joint *Welded* Thickness of *fire* plates *2 1/2* Stayed by *new stays* Working pressure of shell by rules *102.5 lb*
 Working pressure of furnace by rules *109 lb* Diameter of *tubes 3 1/4* Thickness of *tube* plates *5/16* Thickness of *stay* tubes *5/16* — *inside 1/4*

SPARE GEAR. State the articles supplied:— *one set of coupling bolts & nuts, two each top and bottom end & main bearing bolts & nuts, one set each feed & sledge pump valves, one propeller & propeller shaft, 6 boiler tubes, 12 condenser tubes.*

The foregoing is a correct description,

FOR GEORGE CLARK LIMITED.

James C. Clark. Manufacturers *for main engines & boiler only.*

Dates of Survey { During progress of work in shops — 1904:— Oct; 7, 17, Nov; 1, 14, 15, 23, Dec; 6, 14, — 1905:— Jan; 5, 20, 24, Feb; 9, 11.
 { During erection on board vessel — 14, 18, 21, 22, Mar; 3, 8, 9, 13, 20, Apr; 11, 14, 27, May, 2, 18, 24.
 building { Total No. of visits *28* Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " " *yes*

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

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

*This vessel is eligible in my opinion to have the Notation * L M C 5.05 in the Register Book*

It is submitted that this vessel is eligible for THE RECORD

L M C 5.05 F.D. ELEC LIGHT.

The amount of Entry Fee, £ *3* :
 Special £ *36* : *5*
 Donkey Boiler Fee £ :
 Travelling Expenses (if any) £ :
 When applied for, *1.6.05*
 When received, *19.6.05*

Ed. Pnd. 2.6.05
As Lloyd
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. 6 JUN 1905

Assigned

+ Lmc 5.05

MACHINERY CERTIFICATE
 WRITTEN.



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