

REPORT ON MACHINERY

Dundee No. 6995

Litt Rpt N: 10760.

Port of Dundee

Received at London Office

SAT. 4 JUN 1904

No. in Survey held at Dundee

Date, first Survey 21st Decr 1903 Last Survey 28th May 1904

Reg. Book.

on the Steel screw steamer "Maimara"

at Grangemouth 24th Mar 1904 4th Dundee 3rd

Master M. Dischler Built at Grangemouth By whom built Grangemouth & Grangemouth & Grangemouth & Grangemouth

Engines made at Dundee By whom made Messrs Cooper & Greig when made 1904

Boilers made at Dundee By whom made Messrs Cooper & Greig when made 1904

Registered Horse Power 151 Owners Edmund des Fontaines Archangel Port belonging to Archangel

Nom. Horse Power as per Section 28 151 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 18-30-50 Length of Stroke 33 Revs. per minute 10.98 Dia. of Screw shaft as per rule 10.98 Material of iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no 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 no 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 Length of stern bush 45"

Dia. of Tunnel shaft as per rule 9.03 Dia. of Crank shaft journals as per rule 9.48 Dia. of Crank pin 9.5 Size of Crank webs 18x6 1/2 Dia. of thrust shaft under

collars 9.5 Dia. of screw 13-3 Pitch of screw 13-9 No. of blades 4 State whether moveable yes Total surface 57.5 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 16 1/2 Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 16 1/2 Can one be overhauled while the other is at work yes

No. of Donkey Engines 2 Sizes of Pumps fed 5 1/2 x 3 1/2 x 5 1/2 Ballast 6 x 8 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room four @ 2 1/2" bore Tunnel one @ 2 1/2" In Holds, &c. Main hold 2 @ 2 1/2" bore; off-hold 2 @ 2 1/2" + one @ 2 1/2"

No. of bilge injections 1 sizes 5" Connected to condenser, or to circulating pump yes Is a separate donkey suction fitted in Engine room & size yes - 2 1/2"

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 Port main hold suction How are they protected wood ceiling

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 reversed Is the screw shaft tunnel watertight yes

Is it fitted with a watertight door yes worked from Top platform

BOILERS, &c.—(Letter for record (S)) Total Heating Surface of Boilers 2267 Is forced draft fitted no

No. and Description of Boilers One cylindrical Single Ended Working Pressure 180 Tested by hydraulic pressure to 360

Date of test 10.5.04 Can each boiler be worked separately yes Area of fire grate in each boiler 74 3/4 sq ft No. and Description of safety valves to

each boiler two spring Area of each valve 8.29 Pressure to which they are adjusted 184 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 16" Mean dia. of boilers 16-1 1/2 Length 10-6 1/2 Material of shell plates steel

Thickness 1 1/2 Range of tensile strength 29-32 Are they welded or flanged no Descrip. of riveting: cir. seams Lap double long. seams 8 1/2-3 Riv

Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 10" Lap of plates or width of butt straps 23 x 1 3/2 inside

Per centages of strength of longitudinal joint rivets 93.3 plate 85. Working pressure of shell by rules 203 Size of manhole in shell 16 x 12"

Size of compensating ring 9 1/2" No. and Description of Furnaces in each boiler 4 Corrugated Material steel Outside diameter 41 1/2"

Length of plain part top 17 bottom 32 Thickness of plates Description of longitudinal joint welded No. of strengthening rings 9

Working pressure of furnace by the rules 196 Combustion chamber plates: Material steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 3/4

Pitch of stays to ditto: Sides 7 1/4 x 8 1/2 Back 8 1/2 x 8 1/2 Top 7 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 186

Material of stays steel Diameter at smallest part 1 1/2 Area supported by each stay 72.25 Working pressure by rules 198 End plates in steam space:

Material steel Thickness 1 3/8 Pitch of stays 15 1/2 x 16 1/2 How are stays secured 8" nuts Working pressure by rules 262 Material of stays steel

Diameter at smallest part 2 5/4 Area supported by each stay 240 1/4 Working pressure by rules 210 Material of Front plates at bottom steel

Thickness 7/8 Material of Lower back plate steel Thickness 1 1/8 Greatest pitch of stays 13 3/4 Working pressure of plate by rules 180

Diameter of tubes 3 1/2 Pitch of tubes 4 3/8 Material of tube plates steel Thickness: Front 1 1/8 x 7/8 Back 1 3/8 Mean pitch of stays 9 3/4"

Pitch across wide water spaces 14 1/2 Working pressures by rules 240 Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 8 1/4 x 1 1/2 Length as per rule 28 7/8 Distance apart 8 1/2 Number and pitch of Stays in each 3 @ 7"

Working pressure by rules 205 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked

separately yes Diameter 1 1/2 Length 1 1/2 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 single ended*
 Made at *Dundee* By whom made *Messrs Cooper & Greig* When made *7.5.04* Where fixed *Stokehold*
 Working pressure *180* tested by hydraulic pressure to *360* No. of Certificate *830* Fire grate area *20 sq* Description of safety valves *Spring*
 No. of safety valves *2* Area of each *3.14* Pressure to which they are adjusted *184* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *9'-5"* Length *8'-6"* Material of shell plates *steel* Thickness *7/8* Range of tensile strength *28-32* Descrip. of riveting long. seams *SH 135-3 Riveted* Dia. of rivet holes *15/16* Whether pitched or drilled *drilled* Pitch of rivets *6 1/4*
 Straps on *14 1/2* Per centage of strength of joint *84.96* Rivets *94* Thickness of shell *end* plates *15/16* Radius of do. *flat* Pitch of stays to do. *12 3/8*
 Dia. of stays *2.18* Diameter of furnace *34"* Length of furnace *5'7"* Thickness of furnace plates *5/8* Description of joint *SH 135-3 Riveted* Thickness of furnace *end* plates *15/16* Stays by *sides 8 1/2 x 7; back 8 1/4 x 8 1/2* Working pressure of shell by rules *196*
 Working pressure of furnace by rules *182* Diameter of *3 1/2* Thickness of *15/16* plates *23/32* Thickness of *stay* tubes *5/16*

SPARE GEAR. State the articles supplied:— *2 top end bolts & nuts, 2 bottom end bolts & nuts, 2 main bearing bolts and nuts: 1 set (6) coupling bolts & nuts, 1 set feed & bilge pump valves: 2 pistons rings for H.P. and one for I.P. cylinders, assorted bolts nuts & iron: 4 propeller blades, 2 safety valve springs 6 Junking bolts*

The foregoing is a correct description,

Manufacturer.

Cooper & Greig

Dates of Survey while building
 During progress of work in shops— *1903 Decr. 21. 22. 26: 1904 Jan. 11. 13. 20. 21. 22. 26. 27: Feb. 2. 6. 10. 12. 16. 23. 25: March. 1. 3. 4. 8. 11. 15*
 During erection on board vessel— *16. 24. 28. 31: Apr. 6. 8. 12. 18. 22. 25: May. 3. 4. 9. 10. 12. 13. 19. 20. 21. 26. 27. 28: June. 26. 29. 30*
 Total No. of *45* Is the approved plan of main boiler forwarded herewith *yes*
 " " " donkey " " " *yes*

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

The engines and boilers of this vessel have been built under Special Survey in accordance with the Secretary's letters, the approved plans and in general conformity with the Rules. The materials and workmanship are sound and good. The boilers and main steam pipes have been tested by hydraulic pressure and found satisfactory all the engines and boilers examined under steam and found good.

The machinery of this vessel is now in a good and safe working condition and renders the vessel eligible in our opinion to have the notation of LMC-6.04 in the Register Book

It is submitted that this vessel is eligible for THE RECORD LMC 6.04

Wm H. 6.04

The amount of Entry Fee.. £ *2 : 0 : 0* When applied for, *1st June 1904*
 Special .. £ *22 : 13 : 0*
 Donkey Boiler Fee .. £ *2 : 2 : 0* When received, *9. 6. 04*
 Travelling Expenses (if any) £ *1 : 1 : 0*

Committee's Minute

Assigned

Wm Morrison Thomas Field
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

TUES. 7 JUN 1904

+ L.M.C. 6.04



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MACHINERY CERTIFICATE
 L.M.C. 6.04

Dundee Office

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)