

Port of Dundee

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No. in Survey held at Dundee  
Reg. Book.Date, first Survey 18<sup>th</sup> MayLast Survey 14<sup>th</sup> Sept-1905(Number of Visits 31)1 Supp. on the Steel Screw Steamer MARTHAMaster J. Blonde Built at Grangemouth By whom built Grangemouth & Greenock Shyd Co When built 1905Engines made at Dundee By whom made Messrs Cooper & Greig when made 1905Boilers made at Dundee By whom made Messrs Cooper & Greig when made 1905Registered Horse Power Owners Trading & Shipping Co Ltd Port belonging to KilmportNom. Horse Power as per Section 28 113 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted noENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3Dia. of Cylinders 16½-27-44 Length of Stroke 30 Revs. per minute 85 Dia. of Screw shaft as per rule 9.56 Material of screw shaft iron  
as fitted 9½Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner Is the after end of the liner made water tight  
in the propeller boss ✓ 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 twoliners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 40"Dia. of Tunnel shaft as per rule 8.21 Dia. of Crank shaft journals as per rule 8.62 Dia. of Crank pin 8¾ Size of Crank webs 17x5½ Dia. of thrust shaft under  
as fitted 8¾ as fitted 8¾ collars 8¾ Dia. of screw 11'-0" Pitch of screw 13'-3" No. of blades 4 State whether moveable no Total surface 50.4No. of Feed pumps 2 Diameter of ditto 3" Stroke 12" Can one be overhauled while the other is at work yesNo. of Bilge pumps 2 Diameter of ditto 3" Stroke 12" Can one be overhauled while the other is at work yesNo. of Donkey Engines 2 Sizes of Pumps Feed 5½ x 3½ x 5 ft No. and size of Suctions connected to both Bilge and Donkey pumps  
Ballast 6 x 5¾ x 6 "In Engine Room 3 @ 2" In Holds, &c. Fore hold 2 @ 2" aft hold 3 @ 2"tunnel will one @ 2"No. of bilge injections 1 sizes 4" Connected to condenser, or to circulating pump yes Is a separate donkey suction fitted in Engine room & size yes 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 accessibleAre all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks bothAre 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 aboveAre 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 yesWhat 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 yesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock now Is the screw shaft tunnel watertight yesIs it fitted with a watertight door yes worked from top platformBOILERS, &c.— (Letter for record (S) ) Total Heating Surface of Boilers 1709 Is forced draft fitted noNo. and Description of Boilers One cylindrical single ended Working Pressure 180 Tested by hydraulic pressure to 360Date of test 29.8.05 Can each boiler be worked separately ✓ Area of fire grate in each boiler 53.5 sq ft No. and Description of safety valves toeach boiler Two spring Area of each valve 5.94 Pressure to which they are adjusted 187 lbs Are they fitted with easing gear yesSmallest distance between boilers on uptakes and bunkers or woodwork 10" Mean dia. of boilers 14'-7½" Length 9-9½ Material of shell plates steelThickness 1½" Range of tensile strength 28-32 Are they welded or flanged no Descrip. of riveting: cir. seams Shl Lap long. seams D Butt-3 RivDiameter of rivet holes in long. seams 1½" Pitch of rivets 8¾ Lap of plates or width of butt straps 20½ x 1½ inPer centages of strength of longitudinal joint rivets 93.7 plate 85.04 Working pressure of shell by rules 184 Size of manhole in shell 16x12"Size of compensating ring Kc Girds No. and Description of Furnaces in each boiler 3 plain Material steel Outside diameter 42½"Length of plain part top 6.8" Thickness of plates crown ¾" Description of longitudinal joint Shl Strap-Singl Riv No. of strengthening rings onebottom 6.6" bottom ¾" Working pressure of furnace by the rules 186 Combustion chamber plates: Material steel Thickness: Sides 19/32 Back 19/32 Top 5/8 Bottom 7/8"Pitch of stays to ditto: Sides 8½ x 8 Back 8 x 8 Top 8¾ x 8½ If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180Material of stays steel Diameter at smallest part 1.5" Area supported by each stay 74.375 Working pressure by rules 181 End plates in steam space:Material steel Thickness 1½" Pitch of stays 19½ x 15 How are stays secured Shl nuts Working pressure by rules 180 Material of stays steelDiameter at smallest part 2.59 Area supported by each stay 292.5 Working pressure by rules 180 Material of Front plates at bottom steelThickness ¾ Material of Lower back plate steel Thickness 5/8 Greatest pitch of stays 12½ Working pressure of plate by rules 200Diameter of tubes 3½ Pitch of tubes 4½ x 4½ Material of tube plates steel Thickness: Front 1½ x ¾ Back 1½ x ¾ Mean pitch of stays 9¾Pitch across wide water spaces 14½ Working pressures by rules 215 Girders to Chamber tops: Material steel Depth andthickness of girder at centre 8" x 1½" Length as per rule 27½ Distance apart 8¾ Number and pitch of Stays in each 2 @ 8½"Working pressure by rules 208 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler workedseparately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivetholes ✓ 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 *Steel vertical with four cross tubes*  
 Made at *Dundee* By whom made *Thoms Cooper & Grig* When made *30.8.05* Where fixed *Stokehold*  
 Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *845* Fire grate area *19.00* Description of safety valves *one Spring*  
 No. of safety valves *one* Area of each *9.62* Pressure to which they are adjusted *80* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *6'-0"* Length *12'-0"* Material of shell plates *Steel* Thickness *13/32* Range of tensile strength *27-32* Descrip. of riveting long. seams *Lap 8bl Rinted* Dia. of rivet holes *13/16* Whether punched or drilled *Drilled* Pitch of rivets *3"*  
 Lap of plating *4 1/8"* Per centage of strength of joint *84.5* Rivets *73* Thickness of shell crown plates *7/16* Radius of do. *6'-0"* No. of Stays to do. *6*  
 Dia. of stays *1 1/2 (1 1/4 off)* Diameter of furnace Top *53"* Bottom *62"* Length of furnace *72"* Thickness of furnace plates *9/16* Description of joint *Lap single* Thickness of furnace crown plates *5/8* Stayed by *same as shell crown* Working pressure of shell by rules *89 lbs*  
 \*Working pressure of furnace by rules *80 lbs* Diameter of uptake *16"* Thickness of uptake plates *1/2* Thickness of water tubes *3/8*  
 \* *Two rows of 1 1/2 (1 1/4 off) diam screwed stays pitched 12" inches & fitted with nuts on both ends*  
**SPARE GEAR.** State the articles supplied:—

*2 Piston rod, top end bolts & nuts, 2 Bottom end bolts & nuts, 2 main bearing bolts and nuts one set (6) coupling bolts & nuts, 1 set feed & bilge pump valves, Iron of various sizes & assorted bolts and nuts*

The foregoing is a correct description,

Manufacturer.

*Thoms Cooper & Grig*

Dates of Survey while building { During progress of work in shops - - *May. 18. 26. 29. 30: June. 5. 7. 12. 14. 16. 20. 22. 23. 26. 28. 29. July. 7. 12. 17. 20. Aug. 1. 11. 24*  
 { During erection on board vessel - - *29. 30: Sept. 1. 2. 6. 9. 12. 13. 14.*  
 Total No. of visits *31*

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 built under Special Survey, in accordance with the Secretary's letters, the approved plans and in general conformity with the Rules. The Boilers and main steam pipe were tested by hydraulic pressure and the engines and boilers were examined under steam and found satisfactory. The materials and workmanship are sound and 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-9.05 in the Register Book*

**It is submitted that this vessel is eligible for THE RECORD L.M.C. 9.05.**

*Publ.*  
*26.9.05*

*26.9.05*

NHP = 113

The amount of Entry Fee. £ *2: 0: 0* When applied for,  
 Special .. .. £ *16: 19: 0* .. .. 19...  
 Donkey Boiler Fee .. .. £ *2: 2: 0* When received,  
 Travelling Expenses (if any) £ *✓* : : *21.9.05*

*Wm Morrison & G. Williamson*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

*FRI. 29 SEP 1905*

Assigned

*+ L.M.C. 9.05*

MACHINERY CERTIFICATE  
 WRITTEN.



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Lloyd's Register  
 Foundation

Certificate (if required) to be sent to Dundee office

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