

REPORT ON MACHINERY.

Port of Dundee

Received at London Office

WED. FEB 27 1901

No. in Survey held at Dundee

Date, first Survey 21st Sept, 1900 Last Survey 26th February 1901

Reg. Book.

(Number of Visits 44)

on the Steel Screw Steamer "Tinana"

Tons Gross 790.55
Net 469.91

Master Cunningham Built at Dundee

By whom built Caldon Shipbuilding Co

When built 1901

Engines made at Dundee

By whom made Caldon Shipbuilding Co

when made 1901

Boilers made at Dundee

By whom made Caldon Shipbuilding Co

when made 1901

Registered Horse Power

Owners Australasian United Navigation Co

Port belonging to Adelaide

Nom. Horse Power as per Section 28 130

Is Refrigerating Machinery fitted no

Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Inverted Direct Acting Triple Expansion No. of Cylinders three No. of Cranks 3
 Dia. of Cylinders 17-28-45 Length of Stroke 33 Revs. per minute 90 Dia. of Screw shaft as per rule 8.9 as fitted 9.12 Lgth. of stern bush 38"
 Dia. of Tunnel shaft as per rule none Dia. of Crank shaft journals as per rule 8.73 as fitted 9 Dia. of Crank pin 9 Size of Crank webs 16½ x 6½ Dia. of thrust shaft under
 collars 9" Dia. of screw 10'-0" Pitch of screw 15'-0" No. of blades 4 State whether moveable yes Total surface 34.8 sq ft
 No. of Feed pumps 2 Diameter of ditto 2½ Stroke 18" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 2½ Stroke 18" Can one be overhauled while the other is at work yes
 No. of Donkey Engines Two Sizes of Pumps Ballast = 2½ 6 Pulsmeter Fuel = 5½ x 3½ x 5" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two 2¼" dia suction No 2 hold two 2" suction In Holds, &c. No 1 hold two 2" suction

No. of bilge injections 1 sizes 4½ Connected to condenser to circulating pump yes Is a separate donkey suction fitted in Engine room & size yes-2¼"
 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 below
 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 before launch Is the screw shaft tunnel watertight none
 Is it fitted with a watertight door ✓ worked from ✓

OILERS, &c.— (Letter for record (R)) Total Heating Surface of Boilers 2153 Is forced draft fitted no

No. and Description of Boilers One cylindrical Single Ended Working Pressure 160 Tested by hydraulic pressure to 320
 Date of test 21/12/00 Can each boiler be worked separately ✓ Area of fire grate in each boiler 66 sq ft No. and Description of safety valves to
 each boiler 2 Spring Area of each valve 7.07 Pressure to which they are adjusted 164 lbs Are they fitted with easing gear yes
 Smallest distance between boilers on supports and bunkers or woodwork 15" Mean dia. of boilers 15'-6" Length 11'-0" Material of shell plates steel
 Thickness 1½" Range of tensile strength 28-32 Are they welded or flanged no Descrip. of riveting: cir. seams Lap. 8bl long. seams 5 Rins per 8bl
 Diameter of rivet holes in long. seams 1¼" Pitch of rivets 8½" Lap of plates width of butt straps 18½"
 Per centages of strength of longitudinal joint rivets 103 plate 85.29 Working pressure of shell by rules 174 Size of manhole in shell 17 x 13
 Size of compensating ring McNeil No. and Description of Furnaces in each boiler 3- Morrison's Material steel Outside diameter 50
 Length of plain part top ✓ Thickness of plates crown 9" Description of longitudinal joint welded No. of strengthening rings 10
 Working pressure of furnace by the rules 176 Combustion chamber plates: Material steel Thickness: Sides 7/8 Back 7/8 Top 7/8 Bottom 1"
 Pitch of stays to ditto: Sides 8 x 7¾ Back 7½ x 8¼ Top 9 x 7¾ If stays are fitted with nuts or riveted heads nuts on fire side only Working pressure by rules 175
 Material of stays steel Diameter at smallest part 1.38 Area supported by each stay 69.75 Working pressure by rules 170 End plates in steam space:
 Material steel Thickness 1½ Pitch of stays 18 x 16 How are stays secured Hk nuts Working pressure by rules 175 Material of stays IRON
 Diameter at smallest part 2.79 Area supported by each stay 288 Working pressure by rules 160 Material of Front plates at bottom steel
 Thickness 1½ Material of Lower back plate steel Thickness 7/8 Greatest pitch of stays 13¼ Working pressure of plate by rules 186
 Diameter of tubes 3½ Pitch of tubes 4¾ Material of tube plates steel Thickness: Front 1½ x 1½ Back 1½ Mean pitch of stays 9½"
 Pitch across wide water spaces 14¾ Working pressures by rules 186 Girders to Chamber tops: Material IRON Depth and
 thickness of girder at centre 10¼ x 1½ Length as per rule 33 Distance apart 9 Number and pitch of Stays in each 3-7¾"
 Working pressure by rules 170 Superheater or Steam chest; how connected to boiler none 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 *One steel vertical with three cross tubes.*
 Made at *Gateshead* By whom made *Clarke Chapman & Co* When made *28/1/01* Where fixed *stokehold*
 Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *5977* Fire grate area *16 ft* Description of safety valves *Spring*
 No. of safety valves *2* Area of each *4.9* Pressure to which they are adjusted *83* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *5'-9"* Length *12'-0"* Material of shell plates *steel* Thickness *1 3/2"* Range of tensile strength *27-32* Descrip. of riveting long. seams *Abt Riv. Lap* Dia. of rivet holes *4/8* Whether punched or drilled *Drilled* Pitch of rivets *3"*
 Lap of plating *4 1/8"* Per centage of strength of joint *Rivets 72.3 Plates 72.9* Thickness of shell crown plates *7/8"* Radius of do. *5 ft* No. of Stays to do. *6*
 Dia. of stays. *1 5/8* Diameter of furnace Top *4-5 1/4* Bottom *4'-10"* Length of furnace *5 ft* Thickness of furnace plates *7/8* Description of joint *Lap Single* Thickness of furnace crown plates *1/2* Stayed by *as shell crown* Working pressure of shell by rules *92*
 Working pressure of furnace by rules *83* Diameter of uptake *15"* Thickness of uptake plates *1/2"* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *As per Rule and 1/3" crank shaft; one tail end shaft; one thrust shaft; 2 propeller blades, 3 valve spindles, one pair con. and bottom end brasses; one circulating pump piston and rod, one air pump bucket and rod, one eccentric strap; 36 condenser tubes, 12 Boiler tubes; 2 springs for safety valves: one set feed check valves, one piston ring for each cylinder.*

The foregoing is a correct description,

in the *Caledon Shipbuilding Co. Ltd* Manufacturer.

W. S. Thompson
 Dates of Survey while building { During progress of work in shops— *Sept 21. 24. 28; Oct 3. 5. 10. 13. 16. 18. 23. 26. 30; Nov 1. 6. 8. 13. 15. 20. 22. 30; Dec 5. 12. 19. 21. 24; - 1900*
 { During erection on board vessel— *Jan 8. 14. 17. 24. 26. 28. 30. Feb 1. 5. 6. 8. 11. 13. 18. 19. 21. 22. 25. 26. - 1901*
 Total No. of visits *44* 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 approved plans and Secretary's letters and in general conformity with the Rules. The materials and workmanship are sound and good. The Boilers and main steam pipe have been tested by hydraulic pressure and the engines and boilers have been examined under steam and found satisfactory.

The machinery is now in a good and safe working condition and renders the vessel eligible in my opinion to have the notation of L.M.C.-2.01 in the Register Book

It is submitted that this vessel is eligible for THE RECORD *L.M.C. 2.01. Electric Light.*

W. S. Thompson *27.2.01*
W. S. Thompson *27.2.01*

The amount of Entry Fee. *£ 2 : 0 : 0* When applied for, *26 Feb 1901*
 Special .. *£ 19-10-0*
 Donkey Boiler Fee .. *£ - : -*
 Travelling Expenses (if any) *£ - : -* When received, *28/2/01*

W. S. Thompson
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 1 MAR 1901

Assigned

+ L.M.C. 2.01

MACHINERY CERTIFICATE
 WRITTEN.



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Lloyd's Register
 Foundation

Under Officer

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