

# REPORT ON MACHINERY.

No. 6246

Received at London Office Rec'd 25th SEP, 1883.

No. in Survey held at *Dumbarton* Date, first Survey *Nov 11<sup>th</sup> 82* Last Survey *Sept 20<sup>th</sup> 1883*  
 Reg. Book. *on the* *Genl Steamer "Maranoa"* (Number of Visits) *1443.00*  
 Master *W. W. Hamilton* Built at *Dumbarton* By whom built *W. & J. Duncanson* When built *1883*  
 Engines made at *Dumbarton* By whom made *Duncanson & Co.* when made *"*  
 Boilers made at *"* By whom made *"* when made *"*  
 Registered Horse Power *240* Owners *The Dumbarton & N. B. Ry. Co. Ltd.* Port belonging to *London*

## ENGINES, &c.—

Description of Engines *Compound Inverted Surface Condensing*  
 Diameter of Cylinders *28" & 68"* Length of Stroke *48"* No. of Rev. per minute *75* Point of Cut off, High Pressure *1/10"* Low Pressure *1/10"*  
 Diameter of Screw shaft *12 3/4"* Diam. of Tunnel shaft *12"* Diam. of Crank shaft journals *13 1/2"* Diam. of Crank pin *13 1/2"* size of Crank webs *8 1/4" x 17 1/4"*  
 Diameter of screw *13 1/2"* Pitch of screw *19" 0"* No. of blades *4* state whether moveable *Yes* total surface *65 sq. ft.*  
 No. of Feed pumps *Two* diameter of ditto *4 1/4"* Stroke *24 1/4"* Can one be overhauled while the other is at work *Yes*  
 No. of Bilge pumps *Two* diameter of ditto *4 1/4"* Stroke *24 1/4"* Can one be overhauled while the other is at work *Yes*  
 Where do they pump from *Bilges of Engine Room and all Compartments of Vessel.*  
 No. of Donkey Engines *One* Size of Pumps *4" x 9" Stroke* Where do they pump from *Sea. Hotwell. Bilges*  
*of Engine Room all Compartments of Vessel and through Condenser.*  
 Are all the bilge suction pipes fitted with roses *Yes* Are the roses always accessible *Yes* Are the sluices on Engine room bulkheads always accessible *Yes*  
 No. of bilge injections *One* and sizes *5 1/4" dia* Are they connected to condenser, or to circulating pump *Circulating*  
 How are the pumps worked *By Eccentrics fitted on webs of Crank shaft.*  
 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 *Fore Hold. Section* How are they protected *Wood. Casing*  
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *Yes*  
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges *Yes*  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *Before launching*  
 Is the screw shaft tunnel watertight *Yes* and fitted with a sluice door *Yes* worked from *Top.*

## BOILERS, &c.—

Number of Boilers *Two* Description *Cylindrical & Multitubular* Whether Steel or Iron *(Steel)*  
 Working Pressure *90 lbs* Tested by hydraulic pressure to *180 lbs* Date of test *6<sup>th</sup> August 1883*  
 Description of superheating apparatus or steam chest *Horizontal Steam Receiver*  
 Can each boiler be worked separately *Yes* Can the superheater be shut off and the boiler worked separately *Yes*  
 No. of square feet of fire grate surface in each boiler *106.5* Description of safety valves *Direct Spring* No. to each boiler *Two*  
 Area of each valve *28.27 in* Are they fitted with easing gear *Yes* No. of safety valves to superheater *10* area of each valve *"*  
 Are they fitted with easing gear *"* Smallest distance between boilers and bunkers or woodwork *14" inches* Diameter of boilers *13" 2 1/16"*  
 Length of boilers *15" 3 1/2"* description of riveting of shell long. seams *Double Butt* circum. seams *Double Lap* Thickness of shell plates *7/8"*  
 Diameter of rivet holes *1 1/16"* whether punched or drilled *drilled* pitch of rivets *4 1/2" x 2 1/2"* Lap of plating *12 1/2" straps*  
 Per centage of strength of longitudinal joint *72%* working pressure of shell by rules *103 lbs* size of manholes in shell *17" x 13"*  
 Size of compensating rings *Doubling Plate 34" x 28" x 1/8" thick* No. of Furnaces in each boiler *6*  
 Outside diameter *3' 2"* length, top *15' 9"* bottom *through* thickness of plates *1/2"* description of joint *Double Butt* if rings are fitted *bottom*  
 Greatest length between rings *5' 6"* working pressure of furnace by the rules *102* combustion chamber plating, thickness, sides *1/2"* back *"* top *1/2"*  
 Pitch of stays to ditto, sides *9 x 8 1/4"* back *"* top *9 x 8"* If stays are fitted with nuts or riveted heads *Nuts* working pressure of plating by rules *101*  
 Diameter of stays at smallest part *1 1/16" steel* working pressure of ditto by rules *112* end plates in steam space, thickness *7/8"*  
 Pitch of stays to ditto *17" x 16 1/2"* how stays are secured *Nuts Washers* working pressure by rules *95 lbs* diameter of stays at smallest part *2 1/16"*  
 working pressure by rules *104 lbs* Front plates at bottom, thickness *3/4"* Back plates, thickness *"*  
 Greatest pitch of stays *"* working pressure by rules *"* Diameter of tubes *3"* pitch of tubes *4 1/4" x 4 1/4"* thickness of tube plates, front *1/16"* back *1/16"* how stayed *Subs.* pitch of stays *17" x 8 1/2"* width of water spaces *6"*  
 Diameter of Superheater or Steam chest *3' 1 1/16"* length *20' 1 1/4"* thickness of plates *9/16"* description of longitudinal joint *Double Lap* diam. of rivet holes *7/8"*  
 Pitch of rivets *3 1/4"* working pressure of shell by rules *164* diameter of flue *"* thickness of plates *"* If stiffened with rings *"*  
 Distance between rings *"* working pressure by rules *"* end plates of superheater, or steam chest; thickness *7/8"* how stayed *Double*  
*a Radius of 2' 6".* Superheater or steam chest; how connected to boiler *By Two Nuts. Flanged and riveted to both.*

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DONKEY BOILER— Description *Circular. Top & bottom. Flat sided. Multitubular*  
Made at *Stambarton* by whom made *Messrs. Denny & Co.* when made *1883* where fixed *on deck*  
Working pressure *45 lb* tested by hydraulic pressure to *90 lb* No. of Certificate *1166* fire grate area *16.25 sq ft* description of safety  
valves *Disc & Spring* No. of safety valves *Two* area of each *4 sq in* if fitted with easing gear *yes* if steam from main boilers can  
enter the donkey boiler *No* diameter of donkey boiler *6' 0 1/16"* length *4' 5 1/2"* description of riveting *Double Rivet Lap*  
Thickness of shell plates *7/16"* diameter of rivet holes *7/8"* whether punched or drilled *drilled* pitch of rivets *3 3/4"* lap of plating *14 3/8"*  
percentage of strength of joint *4/3* thickness of ~~cover~~ *end* plates *9/16"* stayed by *1 1/4" stay pitched 15" x 12 3/4"*  
Diameter of furnace, top *3' 4"* bottom *3' 6"* length of furnace *5' 6"* thickness of plates *1/2"* description of joint *Double Butt*  
Thickness of furnace ~~cover~~ *combustion chamber* plates *1/2"* stayed by *round stay pitched 8 7/8" x 8"* working pressure of shell by rules *74*  
Working pressure of furnace by rules *42 lb* diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

SPARE GEAR. State the articles supplied: *The following has been supplied in addition to the*  
*requirements of the Rules. viz, 1/2 Crank shaft. 1 propeller shaft and 4*  
*blades. 1st Crank pin Bushes. 3 air or air pump rods. 2 slide*  
*Valve spindles. 1 Safety Valve spring. 26 Main Wires Scales.*  
The foregoing is a correct description,  
*Denny & Co.* Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.)  
*The above Engines & Boilers have been constructed under*  
*Special Survey. The workmanship and material are*  
*of good quality and well finished.*  
*The whole of the Machinery has been tested under steam*  
*and found to be good and efficient and is in my*  
*opinion eligible to be noted in the Society's Register Book*  
*+ Lloyd's M.C. 9.83.*

The amount of Entry Fee .. £ *2 : 0 : 0* received by me,  
*Special* .. .. £ *33 : 10 : 0*  
Donkey Boiler Fee .. .. £ *0 : 0 : 0*  
Certificate (if required) .. £ *0 : 0 : 0* *24/9/1883*  
To be sent as per margin.  
(Travelling Expenses, if any, £ .. ..)

Committee's Minute  
*TUESDAY 25 SEPT 1883*  
*L.M.E.*

*Submitted that this*  
*amount is eligible*  
*Lloyd's M.C. 9.83*  
*25-9-83*  
*M.C. 9.83*  
*W.C. Gregor*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.