

REPORT ON MACHINERY.

Port of *Dundee*Received at London Office *2 MAR 1894*No. in Survey held at *Dundee*Date, first Survey *October 24th 1893* Last Survey *March 19th 1894*

Reg. Book.

(Number of Visits *24*)on the *Steel S.S. Princess Victoria*Tons ^{Gross} *1248*
_{Net} *572*Master *J. McNeill* Built at *Dundee* By whom built *W.B. Thompson & Co. Lim.* When built *1894*Engines made at *Dundee* By whom made *W.B. Thompson & Co. Lim.* when made *1894*Boilers made at *Dundee* By whom made *W.B. Thompson & Co. Lim.* when made *1894*Registered Horse Power *180* Owners *McLaglands & Sons* Port belonging to *Glasgow*Nom. Horse Power as per Section 28 *201*

ENGINES, &c.— Description of Engines *Triple expansion* No. of Cylinders *Three*

Diameter of Cylinders *22"-35"-54"* Length of Stroke *39* Revolutions per minute *85* Diameter of Screw shaft ^{as per rule} *10.36*
_{as fitted} *12"*

Diameter of Tunnel shaft ^{as per rule} *9.84* Diameter of Crank shaft journals *12* Diameter of Crank pin *12* Size of Crank webs *8½ x 22*
_{as fitted} *11*

Diameter of screw *13' 0"* Pitch of screw *15' 6"* No. of blades *4* State whether moveable *no* Total surface *65.2 ft*

No. of Feed pumps *2* Diameter of ditto *3½* Stroke *20* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* Diameter of ditto *3½* Stroke *20* Can one be overhauled while the other is at work *yes*

No. of Donkey Engines *Two* Sizes of Pumps *5" x 6"* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *3 of 3" dia* In Holds, &c. *No 1 hold 1 of 3" No 2 hold 3 of 3"*
No 3 hold 1 of 3" dia

No. of bilge injections *1* sizes *9"* Connected to condenser, or to circulating pump *yes* Is a separate donkey suction fitted in Engine room & size *yes 3"*

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 *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 *bilge and ballast* How are they protected *iron casings*

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 *new vessel* Is the screw shaft tunnel watertight *yes*

Is it fitted with a watertight door *yes* worked from *main deck*

BOILERS, &c.— (Letter for record *a*) Total Heating Surface of Boilers *2988 ft*

No. and Description of Boilers *Two, single ended* Working Pressure *160* Tested by hydraulic pressure to *320*

Date of test *27/1/94* Can each boiler be worked separately *yes* Area of fire grate in each boiler *52½ ft* No. and Description of safety valves to each boiler *Two, spring loaded* Area of each valve *5.93 sq"* Pressure to which they are adjusted *160 lbs* Are they fitted with easing gear *yes* Smallest distance between boilers' or uptakes and bunkers or ~~woodwork~~ *9 ft* Mean diameter of boilers *13' 6"*

Length *11' 6"* Material of shell plates *steel* Thickness *1½* Description of riveting: circum. seams *double lap* long. seams *double butt 2½ rows*

Diameter of rivet holes in long. seams *1⅞* Pitch of rivets *8½* Lap of plates or width of butt straps *14½*

Per centages of strength of longitudinal joint ^{ribs} *87* Working pressure of shell by rules *174* Size of manhole in shell *18 x 13*
_{plate} *85.5*

Size of compensating ring *McNeill's* No. and Description of Furnaces in each boiler *3. Purves* Material *Steel* Outside diameter *3' 5"*

Length of plain part ^{top} *1* Thickness of plates ^{crown} *½* Description of longitudinal joint *welded* No. of strengthening rings *Purves*
_{bottom} *1* _{bottom} *½*

Working pressure of furnace by the rules *162* Combustion chamber plates: Material *steel* Thickness: Sides *7/8* Back *7/8* Top *7/8* Bottom *¾*

Pitch of stays to ditto: Sides *8½ x 8½* Back *8½ x 8½* Top *7½ x 7½* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *160*

Material of stays *Iron* Diameter at smallest part *163* Area supported by each stay *68 sq"* Working pressure by rules *231* End plates in steam space:

Material *steel* Thickness *1½* Pitch of stays *14 x 15½* How are stays secured *2 nuts* Working pressure by rules *198* Material of stays *Iron*

Diameter at smallest part *2.53* Area supported by each stay *214 sq"* Working pressure by rules *174* Material of Front plates at bottom *steel*

Thickness *1½* Material of Lower back plate *steel* Thickness *1½* Greatest pitch of stays *plate double* Working pressure of plate by rules *-*

Diameter of tubes *3½* Pitch of tubes *4½ x 4½* Material of tube plates *steel* Thickness: Front *7/8* Back *¾* Mean pitch of stays *12"*

Pitch across wide water spaces *14½ doubled* Working pressures by rules *160* Girders to Chamber tops: Material *Iron* Depth and thickness of girder at centre *24 10½ x ¾* Length as per rule *36"* Distance apart *4½"* Number and pitch of Stays in each *3 of 7½"*

Working pressure by rules *191* 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

DUN 122-0265

DONKEY BOILER— Description *Vertical 5 cross tubes*
 Made at *Dundee* By whom made *W & A Thompson & Co Ltd* When made *1894* Where fixed *Stokehold*
 Working pressure *80 lbs* tested by hydraulic pressure to *160* No. of Certificate *668* Fire grate area *19 sq* Description of safety valves *spring loaded*
 No. of safety valves *2* Area of each *3.97* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boiler *6' 2"* Length *18' 4 3/8* Material of shell plates *steel* Thickness *1/2" and 3/8"*
 Description of riveting long. seams *double lap* Diameter of rivet holes *7/8"* Whether punched or drilled *drilled* Pitch of rivets *2 1/2"*
 Lap of plating *4"* Per centage of strength of joint Rivets *41.1* Thickness of shell crown plates *1 1/2"* Radius of do. *flat* No. of Stays to do. *7*
 Dia. of stays *2 3/8" iron* Diameter of furnace Top *4' 5 1/2"* Bottom *4' 11 1/2"* Length of furnace *11' 0"* Thickness of furnace plates *5/8"* Description of joint *single strap* Thickness of furnace crown plates *5/8"* Stayed by *7 solid stays* Working pressure of shell by rules *103*
 Working pressure of furnace by rules *80* Diameter of uptake *rust 15"* Thickness of uptake plates *7/8" iron* Thickness of water tubes *7/8" iron*

SPARE GEAR. State the articles supplied:— *2 connecting rod top end bolts and nuts; 2 bottom end ditto*
2 main bearing bolts; 2 sets coupling bolts; 1 set feed pump valves; 1 set bilge pump valves
1 set metallic valves for air pump.

The foregoing is a correct description,
W & A Thompson & Co. Limited Manufacturer.

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 rules, the approved plans enclosed (2) and the Secretary's letters of September 9th 23rd and Nov^r 20th 1893. The main and donkey boilers are constructed of steel; the material having been tested at the steel works by the Society's survey and signed advice notes are enclosed. The safety valves have been adjusted to working pressures and engines seen running under steam. Materials and workmanship are good. It is recommended that the machinery be classed **LMC-3-94***

Note Amended tracing of donkey boiler, as made, is enclosed.

It is submitted that this vessel is eligible for THE RECORD + LMC-3-94

N.A. 24-3-94

Certificate (if required) to be sent to

The amount of Entry Fee.. £ 2 : 0 :
 Special £ 30 : 1 :
 Donkey Boiler Fee £ ✓ :
 Travelling Expenses (if any) £ ✓ :
 When applied for, 20th March 1894
 When received, 22nd March 1894

Committee's Minute **TUES. 27 MAR 1894**

Assigned

+ LMC 3, 94

Harry Clarke
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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Lloyd's Register Foundation

Signal

Off

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No., D

Whether Foreign

Pr

Number

Number

Rigged

Stern

Build

Gallerie

Head

Framework

vessel

Number

Number

and t

Total ton at sid

No. of Engines

Set of Three

Under T

Closed-in

Space

Poop

Forees

Chart Room

Other

Spaces

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Name, R

Dated

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