

## REPORT ON MACHINERY.

Port of *Greenock*

THUR. 3 MAR 1898

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No. in Survey held at *Greenock*  
Reg. Book. *Sup<sup>5</sup>*Date, first Survey *25<sup>th</sup> Nov. 1896* Last Survey *25<sup>th</sup> Feb. 1898*(Number of Visits *157*)37 on the *Screw Steamer Boverie*.Tons { Gross *3987*  
Net *2578*When built *1898*Master *A. Shotton* Built at *Port Glasgow* By whom built *Russell & Co.*Engines made at *Greenock* By whom made *Rankin & Blackmore* when made *1897 & 8*Boilers made at *do* By whom made *do do* when made *1897 & 8*Registered Horse Power *346* Owners *Steam Ship Boverie Co. (Lim<sup>d</sup>)* Port belonging to *Glasgow*Nom. Horse Power as per Section 28 *346*Is Electric Light fitted *yes*

## ENGINES, &amp;c.—Description of Engines

No. of Cylinders

No. of Cranks

Diameter of Cylinders Length of Stroke Revolutions per minute Diameter of Screw shaft as per rule as fitted

Diameter of Tunnel shaft as per rule as fitted Diameter of Crank shaft journals Diameter of Crank pin Size of Crank webs

Diameter of screw Pitch of screw No. of blades State whether moveable Total surface

No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Donkey Engines Sizes of Pumps No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room In Holds, &c.

No. of bilge injections sizes Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room &amp; size

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible Are the sluices on Engine room bulkheads always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the discharge pipes above or below the deep water line

Are they each fitted with a discharge valve always accessible on the plating of the vessel Are the blow off cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges

When were stern tube, propeller, screw shaft, and all connections examined in dry dock Is the screw shaft tunnel watertight

Is it fitted with a watertight door worked from *Donkey Boiler*

## BOILERS, &amp;c.—

(Letter for record)

Total Heating Surface of Boilers

Is forced draft fitted

No. and Description of Boilers *One Cylindrical Multitubular* Working Pressure *80 lbs* Tested by hydraulic pressure to *160 lbs*Date of test *22.12.97* Can each boiler be worked separately ☒ Area of fire grate in each boiler *30.6 sq* No. and Description of safety valves toeach boiler *Two direct spring* Area of each valve *7 sq* Pressure to which they are adjusted *80 lbs* Are they fittedwith easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *Boiler on deck* Mean diameter of boilers *10' 0"*Length *9' 0"* Material of shell plates *Steel* Thickness *5/8"* Description of riveting: circum. seams *Lap single* long. seams *Lap triple*Diameter of rivet holes in long. seams *13/16"* Pitch of rivets *3 1/4"* Lap of plates or width of butt straps *5 3/4"*Per centages of strength of longitudinal joint rivets *66* plate *75* Working pressure of shell by rules *99 lbs* Size of manhole in shell *16 x 12*Size of compensating ring *28 x 24 x 1 1/2* No. and Description of Furnaces in each boiler *Two plain* Material *Steel* Outside diameter *36"*Length of plain part top *5' 8"* bottom *5' 8"* Thickness of plates crown *3 7/16"* bottom *3 7/16"* Description of longitudinal joint *DB strap* No. of strengthening rings *—*Working pressure of furnace by the rules *81 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *1/2"* Back *15/32"* Top *9/16"* Bottom *1/2"*Pitch of stays to ditto: Sides *10 x 9* Back *9 x 9* Top *12 x 9* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *83 lbs*Material of stays *Steel* Diameter at smallest part *1 1/8 x 1 1/4* Area supported by each stay *81 to 108 sq* Working pressure by rules *87 to 97 lbs* End plates in steam space:Material *Steel* Thickness *5/8"* Pitch of stays *14 3/4 x 14 3/8* How are stays secured *double nuts* Working pressure by rules *80 lbs* Material of stays *Steel*Diameter at smallest part *1 1/2"* Area supported by each stay *217 sq* Working pressure by rules *91 lbs* Material of Front plates at bottom *Steel*Thickness *1 1/16"* Material of Lower back plate *Steel* Thickness *9/16"* Greatest pitch of stays *9"* Working pressure of plate by rules *134 lbs*Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4 x 4 5/8* Material of tube plates *Steel* Thickness: Front *1 1/16"* Back *1 1/16"* Mean pitch of stays *14"*Pitch across wide water spaces *14"* Working pressures by rules *85 lbs* Girders to Chamber tops: Material *Steel* Depth andthickness of girder at centre *6 1/2 x 7 3/8 double* Length as per rule *26"* Distance apart *12"* Number and pitch of Stays in each *Two 9"*Working pressure by rules *136 lbs* Superheater or Steam chest; how connected to boiler ☒ 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 ☒ 2019If 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 ☒Lloyd's Register  
Foundation



# DONKEY BOILER—

Description

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_  
 No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ If fitted with easing gear \_\_\_\_\_ If steam from main boilers can  
 enter the donkey boiler \_\_\_\_\_ Diameter of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_  
 Description of riveting long. seams \_\_\_\_\_ Diameter of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
 Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of Stays to do. \_\_\_\_\_  
 Dia. of stays \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of  
 joint \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

*Randall & Macdonald* Manufacturer.

Dates { During progress of  
 of Survey { work in shops - -  
 while { During erection on  
 building { board vessel - -  
 Total No. of visits

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

Certificate (if required) to be sent to

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

The amount of Entry Fee.. £ : : When applied for,  
 Special .. .. £ : : .....1s.....  
 Donkey Boiler Fee .. .. £ : : .....  
 Travelling Expenses (if any) £ : : .....  
 When received, .....1s.....

Committee's Minute

FRI, 4 MAR 1898

Assigned

*A. L. Green*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

*Greenock District*



Lloyd's Register  
 Foundation