

# REPORT ON MACHINERY.

No. 14254

Port of Glasgow

Received at London Office **FRL MAR 6 1896**

No. in Survey held at Exisle  
Reg. Book.

Date, first Survey 6<sup>th</sup> Novem<sup>r</sup> 1895 Last Survey 16<sup>th</sup> Jan<sup>y</sup> 1896

770 on the S.S. Clan Macintosh

Gross 3994  
Tons Net 2619

Master J. Rule Built at Glasgow By whom built Scott & Co

When built 1883-6

Engines made at Barron By whom made Naval Construction & Arm<sup>t</sup>. Co

when made 1892

Boilers made at Barron By whom made Naval Construction & Arm<sup>t</sup>. Co

when made 1892

Registered Horse Power 528 Owners Baynes Irvine & Co

Port belonging to Glasgow

Nom. Horse Power as per Section 28

**ENGINES, &c.—**

Description of Engines				No. of Cylinders
Diameter of Cylinders	Length of Stroke	Revolutions per minute	Diameter of Screw shaft	as per rule as fitted
Diameter of Tunnel shaft	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 & 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

**BOILERS, &c.—**

(Letter for record S) Total Heating Surface of Boilers

No. and Description of Boilers	Working Pressure	Tested by hydraulic pressure to
Date of test <u>16/1/96</u> Can each boiler be worked separately <u>W</u>	Area of fire grate in each boiler <u>354</u>	No. and Description of safety valves to each boiler <u>100 lb</u>
with easing gear <u>Yes</u> Smallest distance between boilers or uptakes and bunkers or woodwork <u>13"</u>	Area of each valve <u>7.070</u> Pressure to which they are adjusted <u>100 lb</u>	Are they fitted with easing gear <u>Yes</u>
Length <u>9.7 1/2</u> Material of shell plates <u>Steel</u> Thickness <u>2 1/32</u>	Description of riveting: circum. seams <u>Lap &amp; rivet</u> long. seams <u>Butt &amp; rivet</u>	Mean diameter of boilers <u>11-9"</u>
Diameter of rivet holes in long. seams <u>25/32</u> Pitch of rivets <u>5 1/16</u>	Lap of plates or width of butt straps <u>12 1/2</u>	
Per centages of strength of longitudinal joint rivets <u>96</u> plate <u>96</u>	Working pressure of shell by rules <u>105</u> Size of manhole in shell <u>16 x 12"</u>	
Size of compensating ring <u>5 3/4 x 7/8</u>	No. and Description of Furnaces in each boiler <u>two Plain</u> Material <u>Steel</u>	Outside diameter <u>39 1/16</u>
Length of plain part top <u>5-8</u> bottom <u>8-3</u> Thickness of plates crown <u>1 1/32</u> bottom <u>1 1/32</u>	Description of longitudinal joint <u>welded</u>	No. of strengthening rings <u>Two Bottom</u>
Working pressure of furnace by the rules <u>112</u> Combustion chamber plates: Material <u>Steel</u> Thickness: Sides <u>7/32</u> Back <u>1/2</u> Top <u>7/32</u> Bottom <u>7/32</u>	Pitch of stays to ditto: Sides <u>9 x 8 3/4</u> Back <u>8 1/2 x 8 1/2</u> Top <u>9 x 8 1/2</u>	If stays are fitted with nuts or riveted heads <u>but inside</u> Working pressure by rules <u>100</u>
Material of stays <u>Steel</u> Diameter at smallest part <u>1 1/8</u>	Area supported by each stay <u>78 1/2</u> Working pressure by rules <u>100</u>	End plates in steam space: Material <u>Steel</u> Thickness <u>3/4</u>
Pitch of stays <u>14 x 13 1/4</u> How are stays secured <u>double nuts</u>	Working pressure by rules <u>129</u>	Material of stays <u>Steel</u> Diameter at smallest part <u>1 1/16</u>
Area supported by each stay <u>192 0</u> Working pressure by rules <u>105</u>	Material of Front plates at bottom <u>Steel</u> Thickness <u>5/8</u>	Material of Lower back plate <u>Steel</u> Thickness <u>5/8</u>
Greatest pitch of stays <u>13"</u> Working pressure of plate by rules <u>153</u>	Diameter of tubes <u>3 1/2</u> Pitch of tubes <u>4 1/2 x 4 1/2</u>	Material of tube plates <u>Steel</u> Thickness: Front <u>2 1/32</u> Back <u>2 1/32</u>
Mean pitch of stays <u>9 1/2 x 9 5/8</u> Pitch across wide water spaces <u>14"</u>	Working pressures by rules <u>140 lb</u>	Girders to Chamber tops: Material <u>Steel</u> Depth and thickness of girder at centre <u>6 1/4 x 29 1/4</u>
Length as per rule <u>29"</u> Distance apart <u>8 1/2 x 9"</u>	Number and pitch of Stays in each <u>two 9"</u>	Working pressure by rules <u>104</u>
Superheater or Steam chest; how connected to boiler <u>none</u>	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	

If not, state whether.

Is a Report also sent on the Hull of the Ship?

[142—L.R.P.H.—2,000—Form No. 8.—6/9/94.—Copyright 1894.]



1425796

**DONKEY BOILER**— Description *See other side.*

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,

\_\_\_\_\_ Manufacturer.

**General Remarks** (State quality of workmanship, opinions as to class, &c. *This donkey boiler has been built under the usual conditions of survey. The material and workmanship being of good quality, and has now been fitted on board in a satisfactory manner. The safety valves being adjusted to one hundred pounds per square inch. For recommendations as to class, see separate report.*

Certificate (if required) to be sent to \_\_\_\_\_

The amount of Entry Fee..	£	:	:	When applied for,
Special .. .. .	£	:	:	14/2/96
Donkey Boiler Fee .. ..	£ 2	:	2	When received,
Travelling Expenses (if any)	£	:	:	25/2/96

Committee's Minute \_\_\_\_\_ **FRI. JUN 19 1896**

Assigned \_\_\_\_\_

*Geo. Murdoch*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

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