

REPORT ON MACHINERY.

Port of Glasgow

MON 12 JUL 1897

Received at London Office 18

No. in Survey held at Glasgow

Date, first Survey 12 Dec 1896 Last Survey 27 July 1897

Reg. Book. on the Screw Steamer "Cape Breton"

(Number of Visits) 44

Tons { Gross Net

Master Built at Port Glasgow By whom built A. Roeger & Co.

When built 1894

Engines made at Glasgow By whom made McKie & Baxter

when made 1894

Boilers made at Glasgow By whom made Barclay, Curle & Co.

when made 1894

Registered Horse Power Owners Dawson Bros.

Port belonging to Glasgow

Nom. Horse Power as per Section 28 98.90

Is Electric Light fitted No.

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

Diameter of Cylinders 15"-25"-40" Length of Stroke 24" Revolutions per minute as per rule 7.3 Diameter of Screw shaft as fitted 4.8"

Diameter of Tunnel shaft as fitted 4" Diameter of Crank shaft journals 4.8" Diameter of Crank pin 4.8" Size of Crank webs 13x5"

Diameter of screw 9.6" Pitch of screw 14.5" No. of blades 4 State whether moveable No Total surface 35.59 sq. ft.

No. of Feed pumps 1 Diameter of ditto 2.5" Stroke 13.5" Can one be overhauled while the other is at work See Gls letter 27/2/97

No. of Bilge pumps 1 Diameter of ditto 2.5" Stroke 13.5" Can one be overhauled while the other is at work No

No. of Donkey Engines one Sizes of Pumps 6"x4"x6" duplex No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room one: 2" dia. In Holds, &c. one: 2" dia.

No. of bilge injections 1 sizes 3.5" Connected to condenser, or to circulating pump cp. Is a separate donkey suction fitted in Engine room & size Yes: 2.5"

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 No

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 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 New vessel Is the screw shaft tunnel watertight None

Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 1419 sq. ft. Is forced draft fitted No

No. and Description of Boilers one: cylindrical - knell - Single End Working Pressure 140 lbs. Tested by hydraulic pressure to 340 lbs.

Date of test 29/4/97 Can each boiler be worked separately ✓ Area of fire grate in each boiler 4.5 sq. ft. No. and Description of safety valves to each boiler Two: Direct Spring

Area of each valve 4.9 sq. in. Pressure to which they are adjusted 175 lbs. Are they fitted with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 6'6" Mean diameter of boilers 13' 7/8"

Length 16'0" Material of shell plates Steel Thickness 1/8" Description of riveting: circum. seams Lap Double long. seams DB Straps

Diameter of rivet holes in long. seams 1/16" Pitch of rivets 3/16" Lap of plates or width of butt straps 16 1/2"

Per centages of strength of longitudinal joint rivets 87 plate 85 Working pressure of shell by rules 169 lbs. Size of manhole in shell 16x12"

Size of compensating ring Plate flanged No. and Description of Furnaces in each boiler 3: plain Material Steel Outside diameter 3'3"

Length of plain part top 5'9" crown 4'9" bottom 3'6" Thickness of plates 3/16" Description of longitudinal joint welded No. of strengthening rings 2 Ring on bottom

Working pressure of furnace by the rules 140 lbs. Combustion chamber plates: Material Steel Thickness: Sides 3/16" Back 3/16" Top 3/16" Bottom 3/16"

Pitch of stays to ditto: Sides 8x8" Back 8x8" Top 8x4 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 141 lbs.

Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 64 sq. in. Working pressure by rules 145 lbs. End plates in steam space:

Material Steel Thickness 1" Pitch of stays 16x15" How are stays secured With nuts Working pressure by rules 145 lbs. Material of stays Steel

Diameter at smallest part 5.15" Area supported by each stay 240 sq. in. Working pressure by rules 190 lbs. Material of Front plates at bottom Steel

Thickness 13/16" Material of Lower back plate Steel Thickness 29/32" Greatest pitch of stays 12 7/8" Working pressure of plate by rules 141 lbs.

Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" Material of tube plates Steel Thickness: Front 11/16" Back 13/16" Mean pitch of stays 9 1/2"

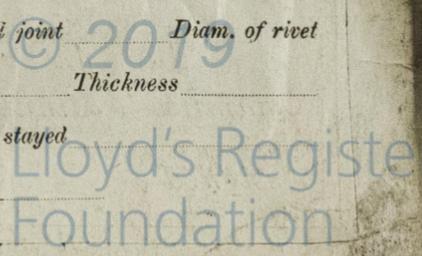
Pitch across wide water spaces 14 7/8" Working pressures by rules 146 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 8 1/2 x 12" Length as per rule 22' Distance apart 4 1/4" Number and pitch of Stays in each 2: 8"

Working pressure by rules 181 lbs. 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— Description *Vertical*
 Made at *Shekton* By whom made *Kiley Bros.* When made *1894* Where fixed *In Stockenold*
 Working pressure *70 lbs* Tested by hydraulic pressure to *140 lbs* No. of Certificate *457* Fire grate area *12* Description of safety valves *Direct opening*
 No. of safety valves *1* Area of each *5.94* Pressure to which they are adjusted *75 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler *4' 4 1/2"* Length *9' 6"* Material of shell plates *Steel* Thickness *3/8"*
 Description of riveting long. seams *Lap double rivet* Diameter of rivet holes *13/16"* Whether punched or drilled *punched* Pitch of rivets *2 1/2"*
 Lap of plating *4/4* Per centage of strength of joint Rivets *84* Thickness of shell crown plates *7/16"* Radius of do. *3ft* No. of Stays to do. *5*
 Dia. of stays. *1 1/2"* Diameter of furnace Top *44"* Bottom *48"* Length of furnace *4ft.* Thickness of furnace plates *7/16"* Description of joint *Welded* Thickness of furnace crown plates *7/16"* Stayed by *As above* Working pressure of shell by rules *96 lbs*
 Working pressure of furnace by rules *72 lbs* Diameter of uptake *11"* Thickness of uptake plates *7/16"* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *2 Top End Bolts & nuts 2 Bottom End Bolt nuts 2 Main Bearing Bolt nuts 1 set Coupling Bolt nuts 1 set piston Springs 1 set Feed & Relief pump valves and Bolt nuts & Iron of assorted sizes.*

The foregoing is a correct description,

W. Kiley & Sons Manufacturer.

Dates of Survey while building
 During progress of work in shops— *1896 Dec 5, 8, 11, 16, 19. 1894 Jan 15, 18, 18, 21, 28, Feb 3, 11, 12, 14, 19, 22, 26, March 5, 9, 15, 14.*
 During erection on board vessel— *21, 24, 24. April 1, 15, 20, 20, 29. May 6, 14, 21, 24, June 1, 4, 8, 11, 14, 25, 28, 30 July 1, 2, —*
 Total No. of visits *44*

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

*The engines and Boilers of this vessel have been built under special survey and the materials are good. They are now in good and efficient condition and eligible in our opinion to have the record of **L.M.C. 7, 97** marked in the Society's Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 7, 97

*W.S.
13/7/97*

The amount of Entry Fee. £ 1 : " : When applied for.
 Special £ 14 : 5 : 6/4 18 94
 Donkey Boiler Fee £ " : " : When received *James Hollison*
 Travelling Expenses (if any) £ " : " : *Wm. Austin*
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

10ES 13 JUL 1897

Assigned

+ L.M.C. 7, 97



Lloyd's Register Foundation