

REPORT ON MACHINERY.

Port of *Glasgow*

MON 12 JUL 1897

Received at London Office

18

No. in Survey held at
Reg. Book.*Glasgow*

Date, first Survey

5 Dec 1896

Last Survey

2 July 1897

1897

(Number of Visits)

114

on the

Screw Steamer "Cape Breton"

Tons

Gross

Net

Master

Built at *Port Glasgow*

By whom built

A. Roager & 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

Diameter of Screw shaft

as per rule

7.3"

Diameter of Tunnel shaft

as fitted

4"

Diameter of Crank shaft journals

7.3"

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

35.5 sq. ft.

No. of Feed pumps

1

Diameter of ditto

2.5"

Stroke

15.5"

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

15.5"

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

No.

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

See vessel

Is the screw shaft tunnel watertight

None.

Is it fitted with a watertight door

No.

worked from

No.

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, single ended

Working Pressure

140 lbs.

Tested by hydraulic pressure to

340 lbs.

Date of test

29/4/97

Can each boiler be worked separately

Yes

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 1/8"

Length

16' 0"

Material of shell plates

Steel

Thickness

1 1/8"

Description of riveting: circum. seams

Lap Double long. seams

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

3 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

16 x 12"

Size of compensating ring

Plate flanged

No. and Description of Furnaces in each boiler

3: plain

Material

Steel

Outside diameter

5' 3"

Length of plain part

top

5' 9"

Thickness of plates

crown

3/4"

bottom

3/4"

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

Pitch of stays to ditto: Sides

8 x 8"

Back

8 x 8"

Top

8 x 4 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

16 x 15"

How are stays secured

With nuts

Working pressure by rules

145 lbs.

Material of stays

Steel

Diameter at smallest part

5 1/8"

Area supported by each stay

240 sq. in.

Working pressure by rules

190 lbs.

Material of Front plates at bottom

Steel

Thickness

1 1/2"

Material of Lower back plate

Steel

Thickness

3/4"

Greatest pitch of stays

12 1/2"

Working pressure of plate by rules

141 lbs.

Diameter of tubes

3 1/2"

Pitch of tubes

14 1/4"

Material of tube plates

Steel

Thickness: Front

1 1/8"

Back

1 1/8"

Mean pitch of stays

9 1/2"

Pitch across wide water spaces

14 1/8"

Working pressures by rules

146 lbs.

Girders to Chamber tops: Material

Steel

thickness of girder at centre

8 1/2 x 13"

Length as per rule

22"

Distance apart

4 1/2"

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 Lokenold*
 Working pressure *70 lbs* Tested by hydraulic pressure to *140 lbs* No. of Certificate *4584* Fire grate area *12* Description of safety valves *Once 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 1/4"* Per centage of strength of joint Rivets *84* Thickness of shell crown plates *7/16"* Radius of do. *3 ft* No. of Stays to do. *8*
 Dia. of stays. *1 1/2"* Diameter of furnace Top *44"* Bottom *48"* Length of furnace *4 ft.* 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 Bolts & nuts*
2 Main Bearing Bolts & nuts 1 Set Coupling Bolts & nuts 1 Set piston Springs
1 Set Feed & Siph pump valves and Bolts & 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, 17.*
 During erection on board vessel— *24, 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* : *"* :
 Special £ *14* : *5* :
 Donkey Boiler Fee £ *1* : *"* :
 Travelling Expenses (if any) £ *MACHINERY CERTIFICATE*
 When applied for. *6/4/94*
 When received. *13/7/97*
James Morrison *Wm R. 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