

REPORT ON MACHINERY.

8090

No. 8090

No. in Survey held at Reg. Book.

Greenock

Date, first Survey

Boiler trial submitted

(Received in London Office)

21/11/81

Last Survey

1881

on the

S. S. "Cape Spear"

Tons 2,349.85
1500.71

Master

Henderson

Built at

Greenock

When built

1881

Engines made at

Greenock

By whom made

R. Mac & Co.

when made

1881

Boilers made at

By whom made

when made

1881

Registered Horse Power

225

Owners

A. Lyle & Co.

Port belonging to

Greenock

ENGINES, &c.—

Description of Engines

Compound Inverted Direct Acting

Diameter of Cylinders

33 & 40

Length of Stroke

48

No. of Rev. per minute

60

Point of Cut off, High Pressure

27

Low Pressure

30

Diameter of Screw shaft

13

Diameter of Tunnel shaft

12 1/2

Diameter of Crank shaft journals

13

Diameter of Crank pin

13

size of Crank webs 14 1/2 x 9

Diameter of screw

17 1/2

Pitch of screw 18 to 20 feet

No. of blades

Four

state whether moveable

yes

total surface

72 sq feet

No. of Feed pumps

Two

diameter of ditto

3 1/2

Stroke

48

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

Two

diameter of ditto

3 1/2

Stroke

48

Can one be overhauled while the other is at work

yes

Where do they pump from

Engine Room & Cargo Holds

No. of Donkey Engines

One

Size of Pumps

4 x 9 & 6 "Gwynne"

Where do they pump from

Donkey pumps from Sea

Hot well

Engine Room & Holds

Gwynne from Engine Room & Ballast Tanks

on hold side of Bulkhead

Are all the bilge suction pipes fitted with roses

yes

Are the roses always accessible

yes

Are the sluices on Engine room bulkheads always accessible

yes

No. of bilge injections

one

and sizes

4 1/2

Are they connected to condenser, or to circulating pump

to circulating pump

How are the pumps worked

by crosshead

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

below

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

Ballast Tank & Bilge pipes

How are they protected

by wood Casement

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

yes

Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges

yes

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

on Slip before ship was launched

Is the screw shaft tunnel watertight

yes

and fitted with a sluice door

yes

worked from

top platform

OILERS, &c.—

Number of Boilers

Two

Description

Round Horizontal Multitubular

Working Pressure

90 lbs

Tested by hydraulic pressure to

180 lbs

Date of test

19th September 1881

Description of superheating apparatus or steam chest

none fitted

Can each boiler be worked separately

yes

Can the superheater be shut off and the boiler worked separately

—

No. of square feet of fire grate surface in each boiler

75

Description of safety valves

Direct Spring

No. to each boiler

Two

area of each valve

2.376 sq in

Are they fitted with easing gear

yes

No. of safety valves to superheater

—

area of each valve

—

are they fitted with easing gear

—

Smallest distance between boilers and bunkers or woodwork

5"

Diameter of boilers

12.0

Length of boilers

15.0

description of riveting of shell long. seams

double butt Straps

circum. seams

Double

Thickness of shell plates

1"

diameter of rivet holes

1 3/16

whether punched or drilled

punched

pitch of rivets

5"

Gap of plating

17 Straps

per centage of strength of longitudinal joint

76

working pressure of shell by rules

100 lbs

Size of manholes in shell

16 1/2 x 13

size of compensating rings

6 x 7 1/2

No. of Furnaces in each boiler

Four

outside diameter

4 3/8

length, top

5 1/8

bottom

Through

Thickness of plates

5/8 Steel

description of joint

double butt Strap if rings are fitted

yes

greatest length between rings

3.3

Working pressure of furnace by the rules

161 lbs

Combustion chamber plating, thickness, sides

5/8 Steel

back

top

5/8 Steel

Pitch of stays to ditto

sides

8 x 8

back

top

8 x 8 1/2

Stays are fitted with nuts or riveted heads

Nuts inside & out

working pressure of plating by rules

106 lbs for top & 120 lbs for sides

Diameter of stays at smallest part

1 1/4

working pressure of ditto by rules

108 & 115 lbs

Plating in steam space, thickness

7/8

pitch of stays to ditto

17 x 17

how stays are secured

Double nuts & washers

Working pressure by rules

95 lbs

diameter of stays at smallest part

2 3/8

working pressure by rules

92 lbs

Bottom plates at bottom, thickness

3/4

Back plates, thickness

—

greatest pitch of stays

—

working pressure by rules

—

GRK297-0075

Diameter of tubes $3\frac{1}{2}$ pitch of tubes $4\frac{1}{2}$ thickness of tube plates, front $\frac{3}{4}$ back $\frac{1}{16}$ steel
How stayed *Stay Tubes* pitch of stays 9×9 width of water spaces 6
Diameter of Superheater or Steam chest _____ length _____
Thickness of plates _____ description of longitudinal joint _____ diameter of rivet holes _____ pitch of rivets _____
Working pressure of shell by rules _____ Diameter of flue _____ thickness of plates _____
If stiffened with rings _____ distance between rings _____ Working pressure by rules _____
End plates of superheater, or steam chest; thickness _____ How stayed _____
Superheater or steam chest; how connected to boiler _____

DONKEY BOILER—

Description *Round Upright vertical Steel*
Made at *Glasgow* By whom made *R. H. & Co.* when made *1881*
Where fixed *above Hatchway* working pressure *50 lbs* Tested by hydraulic pressure to *100 lbs per sq. in.* No. of Certificate *48*
Fire grate area *16 sq. feet* Description of safety valves *Direct Spring* No. of safety valves *one* area of each *8.3 sq. in.*
If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *yes if stop valve is open (at 50 lbs)*
Diameter of donkey boiler *5.6* length *12.6* description of riveting *double & single*
thickness of shell plates $\frac{1}{16}$ diameter of rivet holes $\frac{13}{16}$ whether punched or drilled *punched*
pitch of rivets $2\frac{3}{4}$ lap of plating *5* per centage of strength of joint *70*
thickness of crown plates $\frac{1}{16}$ stayed by *Four 178 bar Stays & Uptake*
Diameter of furnace, top *4.2* bottom *4.10* length of furnace *4.10*
thickness of plates $\frac{1}{16}$ description of joint *lap single*
thickness of furnace crown plates $\frac{1}{16}$ stayed by *bar Stays & Uptake*
Working pressure of shell by rules *40 lbs* working pressure of furnace by rules *60 lbs* *vertical Stays in Furnace 13.2 x 13.2*
diameter of uptake *18* thickness of plates $\frac{1}{16}$ thickness of water tubes $\frac{3}{8}$ *Four Tubes 10 diam.*

The foregoing is a correct description,

Robert H. & Co. Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines and Boilers*)
were inspected by Mr. Alchin during construction, and partly fitted on board, they have been completed under my survey and tested under steam. The Machinery and Boilers are now in good order and safe working condition and are in my opinion of good workmanship and eligible to be noted in the Register Book. **LLOYD'S M.C. 11.81**

This is submitted that the vessel is eligible to be noted in the Register Book.
Recorded M 21/11/81

The amount of Entry Fee .. £ *3* : : , received by me,

Special .. £ *31* : *5* : ,

Certificate (if required) .. £ *gratis* *15/11/1881*

To be sent as per margin.

(Travelling Expenses, if any, £ _____)

Committee's Minute

Tuesday, November, 22nd. 1881.

Andrew C. Hume
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Glasgow District