

REPORT ON MACHINERY

No. 15755

WHL 20 APR 1910

Date of writing Report

19

When handed in at Local Office

5/4/10

Port of

Received at London Office

Greenock

No. in Survey held at
Reg. Book.

Date, First Survey

1st April 1909

Last Survey

4th April 1910

on the SCREW STEAMER

"HIGHLAND PRIDE"

(Number of Visits 90)

Tons

Gross 7238

Net 4548

When built 1910

Master

Built at Port Glasgow

By whom built

Russell & Co

Engines made at

Greenock

By whom made

Rankin & Blackmore

when made

1910

Boilers made at

Greenock

By whom made

Rankin & Blackmore

when made

1910

Registered Horse Power

Owners The Kelvin Line, London, Ltd.

Port belonging to

London

Nom. Horse Power as per Section 28

830

Is Refrigerating Machinery fitted for cargo purposes

Yes

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Simple Expansion

No. of Cylinders

Three

No. of Cranks

Three

Dia. of Cylinders

51 - 51 - 86

Length of Stroke

54

Revs. per minute

44

Dia. of Screw shaft

17 1/2

Material of

Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Yes

Is the after end of the liner made water tight

in the propeller boss

Yes

If the liner is in more than one length are the joints burned

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush

6ft

Dia. of Tunnel shaft

as per rule 16.02

as fitted 16 1/2

Dia. of Crank shaft journals

as per rule 16.83

as fitted 17 1/2

Dia. of Crank pin

17 1/2

Size of Crank webs

11 x 28

Dia. of thrust shaft under

collars

17 1/2

Dia. of screw

19.0

Pitch of Screw

19.6

No. of Blades

4

State whether moveable

Yes

Total surface

130 sq. ft.

No. of Feed pumps

2

Diameter of ditto

9

Stroke

26

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4 1/2

Stroke

32

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

4

SIZES OF PUMPS

6 x 4 x 6 (1) 7 x 4 x 8 (2) 6 x 4 x 6 (3) 7 x 4 x 8 (4)

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

In Engine Room Three 3/2

In Holds, &c. No. 1 Hold Two 3/2 dia. No. 2 Hold Two 3/2 dia.

No. of Bilge Injections 1 sizes 9 1/2 Connected to condenser, or to circulating pump C.P.

Is a separate Donkey Suction fitted in Engine room & size

Yes, 3 1/2

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

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

Dates of examination of completion of fitting of Sea Connections

24/12/09

of Stern Tube

1/12/09

Screw shaft and Propeller

24/12/09

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from upper platform

BOILERS, &c.—(Letter for record)

Manufacturers of Steel D. Colville & Sons

Total Heating Surface of Boilers

12738 sq. ft.

Is Forced Draft fitted

Yes

No. and Description of Boilers

4: Gylis' built S. End. 3: F.D. 3: I.N.D.

Working Pressure

210 lb

Tested by hydraulic pressure to

420 lb

Date of test

29/30/12/09

No. of Certificate

985-6

Particulars of Forced Draught Boilers

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

45 sq. ft.

No. and Description of Safety Valves to

each boiler

2: Direct Spring

Area of each valve

12.56

Pressure to which they are adjusted

215 lb

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

16"

Mean dia. of boilers

16.6"

Length

12.0"

Material of shell plates

Steel

Thickness

1 1/2"

Range of tensile strength

30 1/2 to 33 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Double and

long. seams

Or Butt Straps

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

10"

Lap of plates or width of butt straps

1.11 1/2"

Per centages of strength of longitudinal joint

rivets 96.4

plate 83.4

Working pressure of shell by rules

228 lb

Size of manhole in shell

16" x 12"

Size of compensating ring

3/4 x 2 3/4 x 1 3/2

No. and Description of Furnaces in each boiler

4: Monson's

Material Steel

Outside diameter

44 1/4"

Length of plain part

top 10 1/2

bottom 10 1/2

Thickness of plates

crown 5/8

bottom 5/8

Description of longitudinal joint

Weld

No. of strengthening rings

None

Working pressure of furnace by the rules

228 lb

Combustion chamber plates: Material

Steel

Thickness: Sides

5/8

Back

5/8

Top

1 1/2"

Bottom

1 1/2"

Pitch of stays to ditto: Sides

7/2 x 8

Back

8 x 7/2

Top

10 1/2 x 6

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

218 lb

Material of stays

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

63 sq. in.

Working pressure by rules

224 lb

End plates in steam space:

Material

Steel

Thickness

1 1/2"

Pitch of stays

17 x 18

How are stays secured

Old nut & washer

Working pressure by rules

208 lb

Diameter at smallest part

3/4"

Area supported by each stay

306 sq. in.

Working pressure by rules

244 lb

Material of Front plates at bottom

Steel

Thickness

2 1/2"

Material of Lower back plate

Steel

Thickness

2 1/2"

Greatest pitch of stays

12 1/2"

Working pressure of plate by rules

208 lb

Diameter of tubes

2 1/2"

Pitch of tubes

3 1/2 x 3 1/2"

Material of tube plates

Steel

Thickness: Front

13/16"

Back

13/16"

Mean pitch of stays

8"

Pitch across wide water spaces

13 1/4"

Working pressures by rules

282 lb

Front

Back

370 lb

Girders to Chamber tops: Material

Steel

thickness of girder at centre

1 1/2" x 1 5/8"

Length as per rule

28 3/4"

Distance apart

10 1/2"

Number and pitch of stays in each

4: 6"

Working pressure by rules

376 lb

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

