

REPORT ON MACHINERY.

No. 39167

Received at London Office

Date of writing Report

19

When handed in at Local Office

Port of Glasgow

No. in Survey held at
Reg. Book.

on the

Date, First Survey 14/11/1917

Last Survey 23/9/1919

(Number of Visits 100)

Gross 7951

Net 4968

When built 1919

Master

Engines made at

Boilers made at

Registered Horse Power

Nom. Horse Power as per Section 28

Built at Glasgow

By whom built Barclay Currie & Co. (No 565)

when made 1919

By whom made

Do.

(No 565)

when made 1919

By whom made

Do.

(No 563)

when made 1919

Owners British India Steam Navigation Co.

Port belonging to Glasgow

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders 6

No. of Cranks 6

Dia. of Cylinders 26 1/2 - 44 - 73

Length of Stroke 48

Revs. per minute 87

Dia. of Screw shaft

as per rule 15 1/2

Material of screw shaft

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

Is the after end of the liner made water tight

the propeller boss

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

If the liner does not fit tightly at the part

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

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

Length of stern bush 5-3

Dia. of Tunnel shaft

as per rule 13 6/8

Dia. of Crank shaft journals

as per rule 14 3/4

Dia. of Crank pin 4 3/4

Size of Crank webs 9x28

Dia. of thrust shaft under

Meters 15

Dia. of screw

17-3

Pitch of Screw

19-0

No. of Blades 4

State whether moveable

Yes

Total surface

904

No. of Feed pumps 4

Diameter of ditto 4 1/2

Stroke 24

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps 4

Diameter of ditto 4 1/2

Stroke 24

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines 3

Sizes of Pumps

(1) 10 1/2 x 14 x 24

(2) 9 1/2 x 7 x 18

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

In Holds, &c. No 1 (2) 3 1/2, No 2 (2) 3 1/2, No 3 (2) 3 1/2

No. 4 (2) 3 1/2, No 5 (2) 3 1/2, No 6 (1) 3 1/2

Tunnel well (1) 3 1/2

Is a separate Donkey Suction fitted in Engine room & size

Yes 3 1/2

No. of Bilge Injections 2

sizes 13

Connected to condenser, or to circulating pump

Pump

Are the sluices on Engine room bulkheads always accessible

Yes

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room always accessible

Yes

Are they Valves or Cocks

Both

Are all connections with the sea direct on the skin of the ship

Yes

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

How are they protected

Iron casings

What pipes are carried through the bunkers

4 suction

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

10.7.19

of Stern Tube

10.7.19

Screw shaft and Propeller

10.7.19

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from Engine room to Platform

Manufacturers of Steel

Robertson & Co. Stewart & Lloyd & Co.

ENGINES, &c.—(Letter for record)

Total Heating Surface of Boilers

17352

Is Forced Draft fitted

Yes

Working Pressure

200 lb

Tested by hydraulic pressure to

400 lb

Date of test

7.3.19

No. of Certificate

14630

No. and Description of Safety Valves to

14645

14715

Can each boiler be worked separately

Yes

Each boiler

3 Spring loaded

Area of each valve

14.18

Pressure to which they are adjusted

205 lb

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

1-6

Mean dia. of boilers

16-3

Length

20-6

Thickness

1 1/2

Range of tensile strength

28432 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Lap joints

Pitch of rivets

10 1/2

Top of plates or width of butt straps

22 1/2

Diameter of rivet holes in long. seams

1 1/2

Percentage of strength of longitudinal joint

85.2

Working pressure of shell by rules

207

Size of manhole in shell

16x12

No. of strengthening rings

11

Top

11

Bottom

11

Length of plain part

4

Working pressure of furnace by the rules

213

Combustion chamber plates: Material

Steel

Thickness: Sides

1/16

Back

1/16

Working pressure by rules

211

End plates in steam space:

Material of stays

Steel

Pitch of stays to ditto: Sides

9x8 1/2

Back

1x6 3/4

If stays are fitted with nuts or riveted heads

No

Working pressure by rules

201

Material of Front plates at bottom

Steel

Thickness at smallest part

7/16

Area supported by each stay

3360

Thickness

1

Material of Lower back plate

Steel

Thickness

Greatest pitch of stays

1/4

Back

3/4

Mean pitch of stays

1 1/4 x 7 1/4

Pitch of tubes

2 1/2

Material of tube plates

Steel

Pitch across wide water spaces

13 1/2

Working pressures by rules

203

Girders to Chamber tops: Material

Steel

Depth and

Thickness of girder at centre

8x3/4 (2)

Length as per rule

52 1/2

Distance apart

8 1/2 - 7

Number and pitch of stays in each

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

Working pressure by rules

235

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

Yes

Description of longitudinal joint

Diam. of rivet

Material

Description of flue plates

Thickness

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Lloyd's Register Foundation

VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description	When made	Where fixed
Made at	By whom made	No. of Certificate	Fire grate area
Working pressure	tested by hydraulic pressure to	Date of test	Date of adjustment
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	Dia. of donkey boiler	Length
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey

SPARE GEAR. State the articles supplied:— Two top end bolts and nuts, two bottom end bolts & nuts & main bearing bolts & nuts, 1 set coupling bolts & nuts feed and bilge pump valves. Iron bolts and nuts assorted and other articles.

The foregoing is a correct description,

Manufacturer.

For BARCLAY, CURLE & CO., LTD.

A. Benjamin Irvine
Assistant Manager

Dates of Survey while building
During progress of work in shops -- 1917. Nov 14-1918 Jan 20-28. Mar 6-13. 12-27. Apr 2-5. 4-8. 24-26. May 20-28. June 25. July 24-31. Aug 4-5. 10-11. 16-17. 20-21. 24-25. 28-29. Oct 1-7. 9-10. 11-14. 15-17. 29-30. 31. Nov. 2-8. 29. Dec 5-11. 12-19. 27. 1919. Jan 8-10. 14-15. 22-24. 27-28. Feb 11-12. 13-24. 27. Mar 11-14. 20-21. 31. Apr 1-3. 9-30. May 5-19. 20-22. 26-27. 29-31. June 2-4. 6-12. 19-20. 23-24. 27-28. July 1-7. 10-11. 14-15. Aug 5-8. 20-26. 28. Sept 1-4. 5-9. 16-23.

Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts—Cylinders 5.12.18 Slides 5.12.18 Covers 31.10.19 Pistons 31.10.18 Rods 5.12.18
Connecting rods 5.12.18 Crank shaft 14.1.19 Thrust shaft 9.4.19 Tunnel shafts 31.3.19 Screw shaft 20.5.19 Propeller 10.7.19
Stern tube 1.7.19 Steam pipes tested 11.12.18. 5.9.19 Engine and boiler seatings 19.5.19 Engines holding down bolts 26.8.19
Completion of pumping arrangements 16.9.19 Boilers fixed 26.8.19 Engines tried under steam 16.9.19. 23.9.19
Main boiler safety valves adjusted 16.9.19 Thickness of adjusting washers 8.2.19 Centre 3.5.19 Port 3.8.19 46750
Material of Crank shafts steel Identification Mark on Do. 4675 CM Material of Thrust shaft steel Identification Mark on Do. 46755 GAH94
Material of Tunnel shafts steel Identification Marks on Do. 4675 CM Material of Screw shafts steel Identification Marks on Do. 46755 J0
Material of Steam Pipes steel Test pressure 600 lb ✓ Spare 3360 J0670 14.7.19 T.M.

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

The Machinery of this Vessel has been constructed under Special Survey in accordance with the Rules and approved Plans and has been seen satisfactorily working under Steam. Materials and workmanship are good

The Machinery is eligible in our opinion to be classed + LMC 9.19.

It is submitted that this vessel is eligible for THE RECORD. + LMC. 9.19 FD.

Roll 10/10/19 JPR

The amount of Entry Fee .. £ 3 : -
Special Donkey Boiler Fee .. £ 73 : 15
Travelling Expenses (if any) £ : :
When applied for, 7.10.19
When received, 26/11/19

Committee's Minute GLASGOW 7-OCT-1919
Assigned + LMC. 9.19.

as Easthope J.P. Murray
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

Lloyd's Register Foundation

GLASGOW

Certificate (if required) to be sent to

2.10.19

FD

8/10/19