

REPORT ON MACHINERY.

No. 29191

Received at London Office

WED. 1 MAR 1911

Date of writing Report

19

When handed in at Local Office

28/2/10 11. Port of Glasgow

No. in Survey held at

Dumbarton

Date, First Survey

28th Feby 10

Last Survey

17th Feby 1911

Reg. Book.

on the Steel S/s Angora

(Number of Visits)

19

Tons

Gross 4798.48

Net 925.59

When built

1911

Master John A. Robertson

Built at

Dumbarton

By whom built

Wm Denny Bros

Engines made at

Dumbarton

By whom made

Denny & Co

when made

1911

Boilers made at

do

By whom made

do

when made

1911

Registered Horse Power

Owners

British India Steam Nav Co

Port belonging to

Glasgow

Nom. Horse Power as per Section 28

1105

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines Three Turbines

No. of Cylinders

3

No. of Cranks

✓

Dia. of Cylinders

HP 51" 2LP 1/2"

Length of Stroke

✓

Revs. per minute

400

Dia. of Screw shaft

as approved 8 1/2"

as fitted 8 1/2"

Material of screw shaft

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

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

yes

If two

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

Length of stern bush 48"

Dia. of Tunnel shaft

as approved 7 3/4"

as fitted 7 3/4"

Dia. of Rotor crank shaft journals

as per rule 8 1/2"

as fitted 8 1/2"

Dia. of Crank pin

✓

Size of Crank webs

✓

Dia. of thrust shaft under

collars

Dia. of screw

6-9"

Pitch of Screw

6-0"

No. of Blades

3

State whether moveable

no

Total surface

23.5 sq ft

No. of Feed pumps

2 Weirs

Diameter of ditto

14-10 1/2"

Stroke

24"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2 duplex

Diameter of ditto

7-9"

Stroke

8"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

1/2 Weir

Diameter of ditto

14-10 1/2"

Stroke

24"

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

In Engine Room

4 of 3" - 2 of 3 1/2"

In Holds, &c. Fore hold 1 of 3" No 2 hold 2 of 3" Tunnel

No. of Bilge Injections

2 sizes

12"

Connected to condenser, or to circulating pump

✓

Is a separate Donkey Suction fitted in Engine room & size

2 of 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

none

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

Bilge & ballast

How are they protected

wood casings

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

22. 11. 10

of Stern Tube

27. 9. 10

Screw shaft and Propeller

21. 10. 10

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from main deck

BOILERS, &c.—(Letter for record

✓)

Manufacturers of Steel W Reardon & Co. Lanarkshire Steel Co

Total Heating Surface of Boilers

18080

Is Forced Draft fitted

yes

No. and Description of Boilers

2 Double ended

(for SE see spec)

Working Pressure

150 lbs

Tested by hydraulic pressure to

300 lbs

Date of test

12. 9. 10

No. of Certificate

10583

Can each boiler be worked separately

yes

Area of fire grate in each boiler

128 sq ft

No. and Description of Safety Valves to

each boiler

2 spring loaded

Area of each valve

15.3 sq in

Pressure to which they are adjusted

150 lbs

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

15"

Mean dia. of boilers

15-0"

Length

22-0"

Material of shell plates

steel

Thickness

1 1/2"

Range of tensile strength

28/32 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR+TR lap

long. seams

DRS, TR

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

8"

Lap of plates or width of butt straps

17 5/8"

Per centages of strength of longitudinal joint

rivets 89.2

Working pressure of shell by rules

plate 85.1

Size of manhole in shell

17 x 13

Material

steel

Outside diameter

49 1/4"

Size of compensating ring

36" x 36" x 1 1/2"

No. and Description of Furnaces in each boiler

6 Morrison

Material

steel

No. of strengthening rings

✓

Length of plain part

top

Thickness of plates

crown 1 1/2"

Description of longitudinal joint

welded

No. of strengthening rings

✓

Working pressure of furnace by the rules

153

Combustion chamber plates: Material

steel

Thickness: Sides

7/16"

Back

7/16"

Top

7/16"

Bottom

7/16"

Pitch of stays to ditto: Sides

8 1/2" x 8 1/2"

Back

8 1/2" x 8 1/2"

Top

7 1/2" x 7 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

151

Material of stays

iron

Diameter at smallest part

1.41"

Area supported by each stay

72 sq in

Working pressure by rules

156

End plates in steam space:

✓

Material

steel

Thickness

7/8"

Pitch of stays

16 x 14 7/8"

How are stays secured

DN+W

Working pressure by rules

152

Material of stays

steel

Diameter at smallest part

3.78"

Area supported by each stay

238 sq in

Working pressure by rules

143

Material of Front plates at bottom

steel

Thickness

13/16"

Material of Lower back plate

✓

Thickness

13/16"

Material of Lower back plate

✓

Thickness

15"

Greatest pitch of stays

15"

Working pressure of plate by rules

150

Diameter of tubes

2 1/2"

Pitch of tubes

3 3/4" x 3 3/4"

Material of tube plates

steel

Thickness: Front

27/32"

Back

3/4"

Mean pitch of stays

8 3/4"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

150

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

2 plates 7 x 3/4"

Length as per rule

2-6"

Distance apart

7 1/2"

Number and pitch of stays in each

3 of 7 1/2"

Working pressure by rules

154

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

✓

VERTICAL DONKEY BOILER—

Manufacturers of Steel

Rpt. 5a.

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	Description of Safety
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:— 3 sets coupling bolts. Set of feed and bilge pump valves. 2 main check valves. Propeller shaft. 2 propellers. Crank shaft and spindle for centrifugal circulating pump. Air pump head valve seat, valves, bucket & pump rod. 2 pairs rotor main bearing bushes. Assorted iron bolts.

The foregoing is a correct description,

W. J. Clark Manufacturers

Dates of Survey while building	During progress of work in shops	During erection on board vessel	Total No. of visits
1910. Feb. 28. March 7. 17. Apr. 13. 26. May 4. 12. 21. June 7. 13. 16. 29. July 4. 7. 12. 14.	Aug. 5. 11. 19. 24. Sep. 10. 20. 27. Oct. 13. 21. 31. Nov. 9. 22. Dec. 5. 12. 20. 29. 1911. Jan. 4.	10. 19. 26. 31. Feb. 7. 17.	39

Is the approved plan of main boiler forwarded herewith *yes* ✓
" " " donkey " " " *yes* ✓

Dates of Examination of principal parts	Cylinders	Slides	Covers	Pistons	Rods
Connecting rods	Rotor	29. 6. 10	Thrust shaft	Tunnel shafts	11. 8. 10
Stern tube	20. 9. 10	Steam pipes tested	10. 1. 11	Engine and boiler seatings	5. 12. 10
Completion of pumping arrangements	26. 1. 11	Boilers fixed	9. 1. 11	Engines holding down bolts	9. 1. 11
Main boiler safety valves adjusted	31. 1. 11	Thickness of adjusting washers	FPB. AV 1/8 FV 3/8. FSB. FV 1/8 AV 1/8. CPB. FV 1/8 AV 1/8. CSB. FV 1/8 AV 1/8. APB. FV 1/8 AV 1/8. ASB. FV 1/8 AV 1/8.	Identification Mark on Do.	725 HC
Material of Rotor	steel	Identification Mark on Do.	725 HC	Material of Thrust shaft	steel
Material of Crank shaft	steel	Identification Marks on Do.	725 HC	Material of Screw shafts	steel
Material of Tunnel shafts	steel	Identification Marks on Do.	725 HC	Material of Steam pipes	steel & copper
Material of Steam Pipes	steel & copper	Test pressure	300 lbs.		

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 enclosed and has been seen working satisfactorily under steam - speed on trial being 18 1/2 knots. Materials and workmanship are good.

This machinery is eligible in my opinion to be classed + LMC. 2. 11

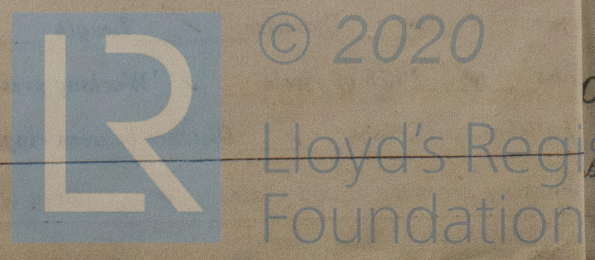
It is submitted that this vessel is eligible for THE RECORD. + LMC 2. 11.

2 DB & 4 SB. F.D.

The amount of Entry Fee	£ 3 : 0 :	When applied for,	24/2/11
Special	£ 42 : 12 : 6	When received,	3. 3. 11
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

Committee's Minute Glasgow 28 FEB 1911
Assigned + LMC 2. 11

Harry Clarke
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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