

REPORT ON MACHINERY.

No. 5462

SAT. FEB. -1. 1913

Date of writing Report 31 Jan^y 1913 When handed in at Local Office

19

Port of

PLYMOUTH

No. in Survey held at Dartmouth
Reg. Book.Date, First Survey 5th June

Last Survey 20 December 1912

(Number of Visits 15)

71. on the Steel Sewing "Arany"

Tons { Gross 88.15

Net 7.75

When built 1912

Master Not yet appointed Built at Dartmouth By whom built Philip Don Ltd

Engines made at Dartmouth By whom made Philip Don Ltd

when made 1912

Boilers made at Stockton-on-Tees By whom made Riley Bros

when made 1912

Registered Horse Power

Owners The Amazon River Steam Nav. Co (1911) Ltd

Port belonging to Para

Nom. Horse Power as per Section 28 52

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

7.8 x Vert Ins² S.B. ✓

No. of Cylinders 3 ✓

No. of Cranks 3 ✓

Dia. of Cylinders 10 1/4 x 16 x 26 ✓

Length of Stroke 20

Revs. per minute 146

Dia. of Screw shaft

as per rule 5.73

as fitted 6

Material of screw shaft Iron

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

If two

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

Length of stern bush 2 ft ✓

Dia. of Tunnel shaft as per rule 5.213

Dia. of Crank shaft journals as per rule 5.47

as fitted 5.2

Dia. of Crank pin 5 1/2 ✓

Size of Crank webs 3 1/2 x 6 1/2 x 16 1/2

Dia. of thrust shaft under

collars 5 1/2 ✓

Dia. of screw 6-9 ✓

Pitch of Screw 8-9 ✓

No. of Blades 4 ✓

State whether moveable No

Total surface 22 ft ✓

No. of Feed pumps one ✓

Diameter of ditto 2 ✓

Stroke 9 ✓

Can one be overhauled while the other is at work

No. of Bilge pumps one ✓

Diameter of ditto 2 ✓

Stroke 9 ✓

Can one be overhauled while the other is at work

No. of Donkey Engines one ✓

Sizes of Pumps 4 1/2 x 2 1/4 - 4 stroke

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

In Engine Room 1 in no. Bilge 1 Donkey - 2 suction

In Holds, &c.

Bilge 2 & 3 - 2 ✓

No. of Bilge Injections one sizes 3 ✓

Connected to condenser, or to circulating pump Circulating separate Donkey Suction fitted in Engine room & size Yes 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

Boch ✓

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

Yes ✓

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 Oct 12 of Stern Tube

22 Oct 12

Screw shaft and Propeller

22 Oct 12

Is the Screw Shaft Tunnel watertight

Yes ✓

Is it fitted with a watertight door

Yes ✓

worked from

Yes ✓

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Total Heating Surface of Boilers

Is Forced Draft fitted

No. and Description of Boilers

Working Pressure

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

No. and Description of Safety Valves to

each boiler

Area of each valve

Pressure to which they are adjusted

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

Mean dia. of boilers

Length

Material of shell plates

Thickness

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams

long. seams

Diameter of rivet holes in long. seams

Pitch of rivets

Lap of plates or width of butt straps

Per centages of strength of longitudinal joint

rivets..... plate.....

Working pressure of shell by rules

Size of manhole in shell

Size of compensating ring

No. and Description of Furnaces in each boiler

Material

Outside diameter

Length of plain part

top..... bottom.....

Thickness of plates

crown..... bottom.....

Description of longitudinal joint

No. of strengthening rings

Working pressure of furnace by the rules

Combustion chamber plates: Material

Thickness: Sides

Back

Top Bottom

Pitch of stays to ditto: Sides

Back

Top

If stays are fitted with nuts or ribbed heads

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

Superheater or Steam chest; how connected to boiler

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

Lloyd's Register
Foundation

VERTICAL DONKEY BOILER—

Manufacturers of Steel

No.	Description		When made		Where fired
Made at	By whom made				
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
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	Per centage of strength of joint	Rivets
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	Plates
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
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:— Cong. Rod bolts 2 Top 2 Bot— main Bearing studs 2 in no. 1, Coupling Bolts 1 set. Feed Bilge pump valves 1 set. Air Blowing pump valves 1 set, main & Donkey Feed Valves 1 of each. Springs for Safety Valves 1 pair, Escape valve spring 1 in no. 1. Tubes for Condenser Tubes 2 doz and full set of stones & tools for do. Bolts & nuts assorted. The foregoing is a correct description, and Iron of various sizes.

G. Nowell Philip Manufacturer.

Dates of Survey while building: During progress of work in shops — 1912. July 1. 18. Aug 15. 22. Sept 4. 17. Oct 11. 18. 22. During erection on board vessel — Nov 5. 12. 19. Dec 4. 13. 20. Total No. of visits 15

Is the approved plan of main boiler forwarded herewith ☒ Yes

Dates of Examination of principal parts—Cylinders 4 Sept Slides 11 Oct Covers 11 Oct Pistons 11 Oct Rods 11 Oct Connecting rods 11 Oct Crank shaft 4 Sept Thrust shaft 22 Oct Tunnel shafts 22 Oct Screw shaft 22 Oct Propeller 22 Oct Stern tube 22 Oct Steam pipes tested 12 Nov Engine and boiler seatings 22 Oct Engines holding down bolts 13 Dec Completion of pumping arrangements 13 Dec Boilers fixed 19 Nov Engines tried under steam 20 Dec Main boiler safety valves adjusted 20 Dec Thickness of adjusting washers Port 3/8 Star 5/16 Material of Crank shaft Steel Identification Mark on Do. No 50 f 6 B Material of Thrust shaft Iron Identification Mark on Do. Material of Tunnel shafts none Identification Marks on Do. Material of Screw shafts Iron Identification Marks on Do. Material of Steam Pipes Copper Test pressure 370 lbs per sq in

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 drawings approved and in conformity with the Rules.

The Boiler was made at Stockton-on-Tees by Riley Bros vide Middlesbrough-on-Tees Rpt No 7561-

Test certificates for shafting &c accompany this report

The materials used and workmanship are of very good quality and to my satisfaction.

The main & auxiliary machinery and Boiler were worked under way at full working pressure of 185 lbs with very satisfactory results.

The machinery & Boiler of this vessel are in my opinion good, and efficient and eligible, subject to the favorable consideration of the Committee, to be classed with this Society and to receive the Notation of **LMC-12.12** in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + LMC 12.12.

The amount of Entry Fee .. £ 1 : When applied for, Special .. £ 8 : 27 Jan 1913 Donkey Boiler Fee .. £ 5 : When received, Travelling Expenses (if any) £ 3 : 10 : 29 Jan 1913

Committee's Minute

FRI. FEB. - 7 1913

Assigned

+ hmc 12.12

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



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Messrs Philip & Son, Limited, Hartmouth.

Certificate (if required) to be sent to

(The Surveyors are requested not to write on or below the space for Committee's Minute.)