

## REPORT ON MACHINERY.

No. 22970

WED. 14 SEP 1910

Received at London Office

Date of writing Report

10

When handed in at Local Office

10<sup>th</sup> Sept 1910 Port of HullNo. in Survey held at  
Reg. Book.

Hull

Date, First Survey

Nov 20/08

Last Survey

9<sup>th</sup> Sept

1910

(Number of Visits 84)

on the

Steel S. K. Southampton

Master

Built at

Dartmouth

By whom built

Messrs Philip Son &amp; Co

When built

1910

Engines made at

By whom made

when made

1910

Boilers made at

Hull

By whom made

Messrs Charles &amp; Co

when made

1910

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

97

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

## ENGINES, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

15" - 24" - 40"

Length of Stroke

27"

Revs. per minute

120

Dia. of Screw shaft

as per rule 2.66

Material of

Steel

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

No

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

50"

Dia. of Tunnel shaft

as per rule 7.4

Dia. of Crank shaft journals

as per rule 7.77

Dia. of Crank pin

7 1/2"

Size of Crank webs

15" x 5 1/2"

Dia. of thrust shaft under

collars

7 1/2"

Dia. of screw

10" - 0"

Pitch of Screw

11" - 6"

No. of Blades

3

State whether moveable

No

Total surface

36 sq ft

No. of Feed pumps

2

Diameter of ditto

2 1/4"

Stroke

18"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

2 1/4"

Stroke

18"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

One

Sizes of Pumps

6" x 4" x 6"

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

In Engine Room

Two 2"

One 2" in Ble Room

In Holds, &amp;c.

One 2" to fore peak tank,

one 2"

to fore hold,

One 2" to aft hold,

No. of Bilge Injections

1

sizes 3 1/2"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room &amp; 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

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

23.8.10

of Stern Tube

23.8.10

Screw shaft and Propeller

23.8.10

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

—

worked from

—

## BOILERS, &amp;c.—(Letter for record 3)

Manufacturers of Steel

Phoenix Act. Westfalen. Germany

Total Heating Surface of Boilers

1590 sq ft

Is Forced Draft fitted

No

No. and Description of Boilers

One cyl. Hull S. Ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

10.5.10

No. of Certificate

1741

Can each boiler be worked separately

50 sq ft

Area of fire grate in each boiler

50 sq ft

No. and Description of Safety Valves to

each boiler

Two Spring

Area of each valve

4.9 sq ft

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

6 1/2"

Mean dia. of boilers

13" - 6"

Length

11' - 0"

Material of shell plates

S

Thickness

1 3/32"

Range of tensile strength

28-32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

2.0

long. seams

D.B.S.I.R.

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

8 1/6"

Lap of plates or width of butt straps

17 1/2"

Per centages of strength of longitudinal joint

rivets 92.2

plate 85.2

Working pressure of shell by rules

181 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

7" x 1 3/32"

No. and Description of Furnaces in each boiler

Two

Material

S

Outside diameter

4' - 2 1/4"

Length of plain part

top 7"

bottom 1 3/32"

Thickness of plates

crown 1 1/8"

bottom 3/32"

Description of longitudinal joint

Welded

No. of strengthening rings

✓

Working pressure of furnace by the rules

187 lbs

Combustion chamber plates: Material

S

Thickness: Sides

3 3/32"

Back

2 1/8"

Top

1 1/8"

Bottom

2 3/32"

Pitch of stays to ditto: Sides

9 1/2" x 9 1/2"

Back

9 1/2" x 8"

Top

9 1/2" x 9 1/2"

If stays are fitted with nuts or riveted heads

Nuts in Chamber only

Working pressure by rules

193 lbs

Material of stays

S

Diameter at smallest part

1 1/2"

Area supported by each stay

76 sq ft

Working pressure by rules

185 lbs

End plates in steam space:

Material

S

Material

S

Thickness

1 1/8"

Pitch of stays

18" x 17"

How are stays secured

dn

Working pressure by rules

185 lbs

Material of stays

S

Diameter at smallest part

2 3/16"

Area supported by each stay

306 sq ft

Working pressure by rules

211 lbs

Material of Front plates at bottom

S

Thickness

3 1/32"

Material of Lower back plate

S

Thickness

7/8"

Greatest pitch of stays

14 3/4" x 8"

Working pressure of plate by rules

187 lbs

Diameter of tubes

3 3/4"

Pitch of tubes

5 1/2" x 5 1/2"

Material of tube plates

S

Thickness: Front

3 1/2"

Back

7/6"

Mean pitch of stays

10 1/2"

Pitch across wide water spaces

14 1/4"

Working pressures by rules

187 lbs

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

8" x 12 1/4"

Length as per rule

2' - 6 1/2"

Distance apart

9 1/2"

Number and pitch of stays in each

2' - 9 1/8"

Working pressure by rules

192 lbs

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



# VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description				
Made at	By whom made		When made	Where fixed	
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 Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
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:—Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each air circulating feed and bilge pump valves, and a quantity of assorted bolt nuts etc.

The foregoing is a correct description,

J. L. M. C. 9.10  
MANAGER.

Dates of Survey while building	During progress of work in shops	1908. - Nov. 20. 25. Dec. 7. 9. 17. 23. 1909. - Jan. 8. 11. 22. 30. Feb. 9. 15. 24. Mar. 12. 19. Apr. 5. 14. 21. 27. May. 1. 5. 11. 20. 27. Jun. 4. 16. 21. Jul. 7. 15. 20. 30. Aug. 21. 25. Sept. 1. 15. Dec. 7. 11. 16. 22. 24. 30.
	During erection on board vessel	1910. - Jan. 8. 14. 18. 20. 27. Feb. 3. 10. 17. 22. 23. 28. Mar. 7. 9. 16. 23. Apr. 4. 8. 21. 27. May. 2. 4. 10. 25. Jun. 13. 16. 19. 20. 21. 25. Aug. 17. 26. 22. 23. 25. 26. 29. Sep. 1. 3. 6. 7. 8. 9.
	Total No. of visits	84
	Is the approved plan of main boiler forwarded herewith. <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	

Dates of Examination of principal parts—Cylinders 1.5.09 Slides 20.4.09 Covers 5.4.09 Pistons 14.4.09 Rods 20.4.09	
Connecting rods 5.5.09 Crank shaft 1.9.09 Thrust shaft 22.8.10 Tunnel shafts 22.8.10 Screw shaft 22.8.10 Propeller 22.8.10	
Stern tube 22.8.10 Steam pipes tested 29.8.10 Engine and boiler seatings 20.8.10 Engines holding down bolts 3.9.10	
Completion of pumping arrangements 9.9.10 Boilers fixed 3.9.10 Engines tried under steam 9.9.10	
Main boiler safety valves adjusted 9.9.10 Thickness of adjusting washers 7/8 3/8	
Material of Crank shaft S	Identification Mark on Do. 2187AT
Material of Tunnel shafts S	Identification Marks on Do. 2483YDH
Material of Steam Pipes Solid drawn copper	Test pressure 400 lbs per sq. inch

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials & workmanship are good. The boiler tested by hydraulic pressure, found satisfactory, and with the engines secured on board, tested under steam and found good. They are now in good order and safe working condition, and respectfully submitted as being eligible in my opinion to be classed with the notation of L M C 9.10 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + L M C 9.10.

The amount of Entry Fee	£ 1 : -	When applied for, 13.9-1910
Special	£ 14.11	
Donkey Boiler Fee	£ :	When received, 26.9.1910
Travelling Expenses (if any)	£ :	

Committee's Minute  
Assigned

J. L. M. C. 9.10  
James Barclay  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.