

## REPORT ON MACHINERY.

Received at London Office

NEWCASTLE ON TYNE

Date of writing Report

19

When handed in at Local Office

FEB 10 1911

Port of

No. in Survey held at

Newcastle Under-ly

Date, First Survey

8th Aug 1910

Last Survey

4th March 1911

Reg. Book

59 Super the

Machinery of the twin S.S. "Barros de Camela"

Number of Visits

2

Gross

162.89

Net

221.26

Master

J. B. Holloway

Built at

Middlesbrough

By whom built

Smith's Dock &amp; Co. Ltd

When built

1911

Engines made at

A. Shields

By whom made

Shields Engineering

when made

Boilers made at

Newcastle

By whom made

Robert Stephenson &amp; Co.

when made

Registered Horse Power

Owners

J. B. Holloway

Port belonging to

Para

Nom. Horse Power as per Section 28

68

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

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

Compound (twin)

No. of Cylinders

No. of Cranks

Dia. of Cylinders

12" x 27"

Length of Stroke

16"

Revs. per minute

Dia. of Screw shaft

as per rule

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

Yes

Length of stern bush

23 5/8"

Dia. of Tunnel shaft

as per rule

4.26

Dia. of Crank shaft journals

as per rule

5.38

Dia. of Crank pin

5.38

Size of Crank webs

8 3/4" x 3 1/2"

Dia. of thrust shaft under

collars

5 3/8"

Dia. of screw

6-3"

Pitch of Screw

8-0"

No. of Blades

3

State whether moveable

solid

Total surface

17 sq ft

No. of Feed pumps

1

Diameter of ditto

2"

Stroke

8 1/2"

Can one be overhauled while the other is at work

No. of Bilge pumps

1

Diameter of ditto

2"

Stroke

8 1/2"

Can one be overhauled while the other is at work

No. of Donkey Engines

2

Sizes of Pumps

5" x 3" x 5"

3" x 2" x 3"

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

In Engine Room

Two 2" dia.

One 2" ejector

In Holds, &amp;c. Two 2" dia. in each hold. One

2" dia. in Tunnel well.

No. of Bilge Injections

2

sizes

3"

Connected to condenser, or to circulating pump

pumps

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

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

13.1.11

of Stern Tubes

16.1.11

Screw shafts and Propellers

16.1.11

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

Yes

Is it worked from

Main deck

BOILERS, &amp;c.—(Letter for record)

Manufacturers of Steel

See report on boiler attached.

Total Heating Surface of Boilers

1300

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

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

Thickness of plates

crown

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 riveted heads

Working pressure by rules

End plates in steam space:

Material of stays

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of stays

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of Front plates at bottom

Diameter at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Working pressure of plate by rules

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Back

Mean pitch of stays

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Depth and

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Distance apart

Number and pitch of stays in each

thickness of girder at centre

Length as per rule

Can the superheater be shut off and the boiler worked

separately

Superheater or Steam chest; how connected to boiler

Diam. of rivet

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Thick-

ness

Material of flue plates

Thick-

ness

How stayed

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

Working pressure of end plates

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Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear



# 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 top & two bottom-end connecting rod bolts & nuts. Four main bearing bolts & nuts. Two sets of coupling bolts. One set of feed & bilge pump valves. Assorted bolts & nuts etc.*

The foregoing is a correct description,

*Jno. Blakey*

Manufacturer. **FOR THE SHIELDS ENGINEERING & DRY DOCK CO., LIMITED**

Dates of Survey <sup>1910</sup>  
 During progress of work in shops — *Aug. 8. 23. 24. 29. Sep. 1. 7. 22. Oct. 5. 10. Nov. 9. Dec. 6. 10. 15*  
 During erection on board vessel — *Feb. 1910. Dec. 22. 1911. Jan. 4. 12. 14. 16. 17. 19. 22. 25. 26. 30. 31. Feb. 1. 3. 7. 9. 15. 20. Mar. 4.*  
 Total No. of visits *13 + Feb. 19*

Is the approved plan of main boiler forwarded herewith \_\_\_\_\_

Dates of Examination of principal parts—Cylinders *22/9/10* Slides *22/9/10* Covers *22/9/10* Pistons *22/9/10* Rods *7/9/10*  
 Connecting rods *7/9/10* Crank shaft *24/8/10* Thrust shaft *24/8/10* Tunnel shafts *24/8/10* Screw shaft *24/8/10* Propeller *10/12/10*  
 Stern tube *10/12/10* Steam pipes tested *31. 1. 11* Engine and boiler seatings *14. 1. 11* Engines holding down bolts *26. 1. 11*  
 Completion of pumping arrangements *20. 2. 11* Boilers fixed *1. 2. 11* Engines tried under steam *20. 2. 11*  
 Main boiler safety valves adjusted *20. 2. 11* Thickness of adjusting washers *P 7/16 S 15/32*  
 Material of Crank shaft *Steel* Identification Mark on Do. *2570 W.D.H.* Material of Thrust shaft *Steel* Identification Mark on Do. *2570 W.D.H.*  
 Material of Tunnel shafts *Iron* Identification Marks on Do. *2570 W.D.H.* Material of Screw shafts *Iron* Identification Marks on Do. *2570 W.D.H.*  
 Material of Steam Pipes *Solid drawn copper* Test pressure *260 lbs*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The Machinery of this vessel has been constructed under Special Survey the workmanship and materials used are both of good quality. The Engines and Boiler of this vessel have been fitted and secured on board in accordance with the Rules. They are now in good working condition and in our opinion eligible to have the notation of +LMC 3. 11. in the Register Book.*

It is submitted that  
 this vessel is eligible for  
**THE RECORD + LMC 3. 11.**

*JWR 16/3/11*

*PSG*

*LK +*

*R.W. Coomber. Charles Cooper*  
 Engineer Surveyors to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee £ *1* : : : When applied for, **FEB 10 1911**  
 Special *3-8-0* £ *10* : : :  
 Donkey Boiler Fee £ : : :  
 Travelling Expenses (if any) £ : : :  
 When received, *20. 3. 1911*

Committee's Minute

**FRI 7 APR 1911**

Assigned

*+ LMC 3. 11*

MACHINERY CERTIFICATE  
 WRITTEN



Lloyd's Register  
 Foundation

NEWCASTLE ON TYNE.

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

Is a Report also sent on the Hull of the Ship?