

## REPORT ON MACHINERY.

No. 9057

Received at London Office

MON. MAR 3 1924

Date of writing Report

19

When handed in at Local Office

19

Port of

Belfast

No. in Survey held at  
Reg. Book.

Belfast

Date, First Survey 1922

seen 11<sup>th</sup> Last Survey21<sup>st</sup> 22<sup>nd</sup> 1924

on the

J. S. S. "Port Wellington"

(Number of Visits 106.

Gross 4868

Net 4484

When built 1924

Master

Built at

Belfast

By whom built

Workman Clark &amp; Co Ltd

Engines made at

Belfast

By whom made

Workman Clark &amp; Co Ltd

when made

1924

Boilers made at

Belfast

By whom made

Workman Clark &amp; Co Ltd

when made

1924

Registered Horse Power

Owners Commonwealth &amp; Dominion Line

Port belonging to London

Nom. Horse Power as per Section 28

860

Is Refrigerating Machinery fitted for cargo purposes

Yes

Is Electric Light fitted

Yes

## ENGINES, &amp;c.

Description of Engines

Twin Screw Triple Expansion

No. of Cylinders

6

No. of Cranks

6

Dia. of Cylinders

22<sup>3</sup>/<sub>4</sub> x 38 x 63<sup>1</sup>/<sub>2</sub>

Length of Stroke

48

Revs. per minute

90

Dia. of Screw shaft

as per rule 13<sup>1</sup>/<sub>4</sub>

Material of

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

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

Dia. of Tunnel shaft

as per rule 12<sup>3</sup>/<sub>4</sub>as fitted 12<sup>3</sup>/<sub>4</sub>

Dia. of Crank shaft journals

as per rule 13<sup>1</sup>/<sub>4</sub>as fitted 13<sup>1</sup>/<sub>4</sub>

Dia. of Crank pin

13<sup>3</sup>/<sub>4</sub>

Size of Crank webs

9 x 19<sup>1</sup>/<sub>2</sub>

Dia. of thrust shaft under

collars

13<sup>3</sup>/<sub>4</sub>

Dia. of screw

16<sup>1</sup>/<sub>2</sub>

Pitch of Screw

14<sup>1</sup>/<sub>2</sub>

No. of Blades

3

State whether moveable

Yes

Total surface

80<sup>1</sup>/<sub>2</sub>

(including propeller)

No. of Feed pumps

Two

Diameter of ditto

6<sup>1</sup>/<sub>2</sub>

Stroke

24<sup>1</sup>/<sub>2</sub>

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

Two

Diameter of ditto

6<sup>1</sup>/<sub>2</sub>

Stroke

24<sup>1</sup>/<sub>2</sub>

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

See List

Sizes of Pumps

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

In Engine Room

5 @ 3<sup>1</sup>/<sub>2</sub>" dia & 1 @ 4<sup>1</sup>/<sub>2</sub>" dia direct

In Holds, &amp;c.

No. 1, 2 @ 3<sup>1</sup>/<sub>2</sub>"No. 2 @ 3<sup>1</sup>/<sub>2</sub>"

No. 3

No. of Bilge Injections

2

sizes

9<sup>1</sup>/<sub>2</sub>

Connected to condenser, or to circulating pump

CR

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

Yes 4<sup>1</sup>/<sub>2</sub>"

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

Yes

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 &amp; Drine Pipes

How are they protected

Steel casings

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes (2)

worked from

Top Platform

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

S)

Manufacturers of Steel

W. Brandmore &amp; Co

Total Heating Surface of Boilers

12,900

Is Forced Draft fitted

Yes

No. and Description of Boilers

4 Single Ended

Working Pressure

200 lbs

Tested by hydraulic pressure to

350 lbs

Date of test

9-11-23

No. of Certificate

830

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

48<sup>3</sup>/<sub>4</sub>

No. and Description of Safety Valves to

each boiler

Two Spring loaded

Area of each valve

9.62

Pressure to which they are adjusted

205 lbs

Are they fitted with easing gear

Yes

Smallest distance between uptakes and bunkers or woodwork

20"

Mean dia. of boilers

16'-9"

Length

12'-3"

Material of shell plates

Steel

Thickness

1<sup>1</sup>/<sub>2</sub>"

Range of tensile strength

28<sup>1</sup>/<sub>2</sub> & 32<sup>1</sup>/<sub>2</sub> tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

D.R. Lap

Long. seams

I.R.D.D.

Diameter of rivet holes in long. seams

1<sup>1</sup>/<sub>2</sub>"

Pitch of rivets

10<sup>1</sup>/<sub>2</sub>"

Lap of plates or width of butt straps

1-10<sup>1</sup>/<sub>2</sub>

Per centages of strength of longitudinal joint

88.4%

Working pressure of shell by rules

202 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

3'-3" x 3'-0" x 1<sup>1</sup>/<sub>2</sub>"

No. and Description of Furnaces in each boiler

4 Morrison

Material

Steel

Outside diameter

3'-11<sup>3</sup>/<sub>8</sub>"

Length of plain part

top

bottom

Thickness of plates

crown

bottom

Description of longitudinal joint

weld

No. of strengthening rings

2

Working pressure of furnace by the rules

205 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

1<sup>1</sup>/<sub>2</sub>"

Back

2<sup>1</sup>/<sub>2</sub>"

Top

1<sup>1</sup>/<sub>2</sub>"

Bottom

2<sup>1</sup>/<sub>2</sub>"

Pitch of stays to ditto: Sides

9<sup>1</sup>/<sub>4</sub> x 1<sup>1</sup>/<sub>2</sub>

Back

9<sup>1</sup>/<sub>4</sub> x 1<sup>1</sup>/<sub>2</sub>

Top

9<sup>1</sup>/<sub>4</sub> x 8

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

214 lbs

Material of stays

Steel

Area at smallest part

13.2 sq. in.

Area supported by each stay

14 sq. in.

Working pressure by rules

202 lbs

End plates in steam space:

Material

Steel

Thickness

1<sup>1</sup>/<sub>2</sub>"

Pitch of stays

21 x 16<sup>1</sup>/<sub>4</sub>

How are stays secured

D.N. Wash

Working pressure by rules

206 lbs

Material of stays

Steel

Area at smallest part

5.55 sq. in.

Area supported by each stay

34.1 sq. in.

Working pressure by rules

214 lbs

Material of Front plates at bottom

Steel

Thickness

1<sup>1</sup>/<sub>2</sub>"

Material of Lower back plate

Steel

Thickness

1<sup>1</sup>/<sub>2</sub>"

Greatest pitch of stays

14<sup>1</sup>/<sub>2</sub> x 9

Working pressure of plate by rules

212 lbs

Diameter of tubes

2<sup>1</sup>/<sub>2</sub>"

Pitch of tubes

3<sup>1</sup>/<sub>4</sub> x 3<sup>3</sup>/<sub>8</sub>

Material of tube plates

Steel

Thickness: Front

1<sup>1</sup>/<sub>2</sub>"

Back

1<sup>1</sup>/<sub>2</sub>"

Mean pitch of stays

14<sup>1</sup>/<sub>2</sub> x 9<sup>1</sup>/<sub>4</sub>

Pitch across wide water spaces

13<sup>1</sup>/<sub>2</sub>"

Working pressures by rules

224 lbs

Girders to Chamber tops: Material

Steel

Depth and

Thickness of girder at centre

2 @ 10<sup>3</sup>/<sub>4</sub> x 24

Length as per rule

3'-4<sup>1</sup>/<sub>2</sub>"

Distance apart

8'-6<sup>3</sup>/<sub>4</sub>"

Number and pitch of stays in each

3 @ 9<sup>1</sup>/<sub>4</sub>"

Working pressure by rules

214 lbs

Steam dome: description of joint to shell

None

% of strength of joint

-

Diameter

Thickness of shell plates

Material



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

**SPARE GEAR.** State the articles supplied:—Two sets of bolts & nuts for top & bottom ends & main bearings. One set coupling bolts one set for solid gear pump valves. Quantity of assorted bolts & nuts & iron. One tail shaft, 2 Propeller blades, 2 Pairs crank & x head bushes, 2 Air, 2 P, 2 B Valve spindles, 2 air pump rods & nuts, 1 set escape valve springs, 2 safety valve springs, one air pump impeller & 2 spindles, 1 Blr feed check valves, 2 sets piston rings, 30 Cuda tubes & 100 ferrules, one Thompson patent coupling.

**Pumps:**—Two centrifugal circulating 9" x 8" str x 15" imp x 14" suets disch; 2 Weirs feed pumps 10" x 13" x 26" Ballast pp 8" x 10" x 10" Sanitary pp 6" x 4" x 4" aux air pp 15" x 10" x 10"; General service pp 9" x 6" x 10"; Fresh Water pp 5" x 5" x 4". Refrigerating circulating pp 8" x 10" x 10".

The foregoing is a correct description,  
FOR WORKMAN, CLARK & CO., LIMITED.

*J. Cunningham*

Manufacturer.

1922 Dec 11, 1923 Jan 26, Feb 6, 12, 19, Mar 19, 21, 22, 26, Apr 5, 6, 10, 11, 19, 26, May 9, 14, 18, 25, June 4,  
Dates of Survey while building { During progress of work in shops -- 5, 6, 8, 11, 13, 14, 21, 27, 28, July 2, 3, 18, 19, 24, 25, Aug 1, 2, 6, 8, 9, 10, 15, 17, 20, 27, 29, 30, 31, Sept 4, 7, 21,  
During erection on board vessel -- 25, 28, Oct 2, 4, 8, 10, 11, 15, 17, 18, 19, 22, 23, 24, 26, 29, 30, 31, Nov. 7, 9, 12, 13, 14, 15, 20, 21, 26, Dec 6, 7, 13, 14,  
Total No. of visits 106.

Is the approved plan of main boiler forwarded herewith *yes*.

are "BLR MNTNS, & 2 PLANS of "donkey" "PAGE 2 BALLAST" *yes*

Dates of Examination of principal parts—Cylinders 10-10-23 Slides 6-11-23 Covers 15-10-23 Pistons 15-10-23 Rods 6-11-23

Connecting rods 6-11-23 Crank shaft 2-10-23 Thrust shaft 11-10-23 Tunnel shafts 11-10-23 Screw shaft 9-11-23 Propeller 12-11-23

Stern tube Steam pipes tested 10-23 6-2-24 Engine and boiler seatings 11-1-24 Engines holding down bolts 7-2-24

Completion of pumping arrangements 29-1-24 Boilers fixed 11-1-24 Engines tried under steam 14-2-24 1924

Completion of fitting sea connections 11-1-24 Stern tube 6-12-23 Screw shaft and propeller 11-1-24

Main boiler safety valves adjusted 13-2-24 Thickness of adjusting washers Star Aft. Star Ford. Port Aft. Port Ford. *P 3/8 5 13/32 P 3/8 5 13/32 P 3/8 5 13/32 P 3/8 5 13/32*

Material of Crank shaft *Steel* Identification Mark on Do. H63 W.B. Material of Thrust shaft *Steel* Identification Mark on Do. H63 W.B.

Material of Tunnel shafts *Steel* Identification Marks on Do. W.B. Material of Screw shafts *Steel* Identification Marks on Do. W.B.

Material of Steam Pipes *Sapwelded wrought iron* Test pressure 600 lbs *116-11*

Is an installation fitted for burning oil fuel *No* Is the flash point of the oil to be used over 150°F. *✓*

Have the requirements of Section 49 of the Rules been complied with *✓*

Is this machinery duplicate of a previous case *yes* If so, state name of vessel *J.S.S. Port Brisbane*

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

The Machinery of this Vessel has been built under Special Survey. Materials and Workmanship good. Hydraulic Tests satisfactory. The whole of the machinery has been installed in the vessel in a satisfactory manner & tried under steam and is in good & safe working condition & eligible in my opinion to be Classed & have records **LMC 2-24**  
Tail shafts C.L., & Light, Refrig.

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 2. 24 FD. CL.

The amount of Entry Fee ... £ 6 : 0 : 0 : When applied for,  
Special ... £ 115 : 0 : 0 : 23-2-1924  
Electric St. Donkey Boiler Fee ... £ 27 : 14 : 0 :  
Travelling Expenses (if any) £ *✓* : : When received, *24*

Committee's Minute

Assigned

FRI MAR 17 1924

+ L.M.C. 2, 24

F.D. C.L. 19 FEB 1929

DEED  
5/3/24  
William Butler  
Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation