

REPORT ON MACHINERY.

No. 25519

Received at London Office

FRI DEC -6. 1912

Date of writing Report

19

When handed in at Local Office

2/12/1912 Port of Sunderland

No. in Survey held at
Reg. Book.

SUNDERLAND.

Date, First Survey

19 March

Last Survey

27 Nov 1912

on the *Hel S/S. "Cheriston"*

(Number of Visits)

35

Tons

Gross 4819

Net 3135

When built 1912

Master *Bloomfield* Built at *Sland.*By whom built *Bartram & Sons*Engines made at *Sland.*By whom made *J. Dickinson & Sons Ltd.*

when made 1912

Boilers made at *"*By whom made *"*

when made 1912

Registered Horse Power

401

Owners *Century Shipping Co. Ltd.*

Port belonging to

London

Nom. Horse Power as per Section 28

401

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

In CP 10

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders *26" 43" 48"*Length of Stroke *48"*

Revs. per minute

70

Dia. of Screw shaft

as per rule 14.51

Material of

W. I.

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

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

Length of stern bush *5 ft*

Dia. of Tunnel shaft

as per rule 13.63

Dia. of Crank shaft journals

*as per rule 13.68*Dia. of Crank pin *13 3/4"*Size of Crank webs *8 1/2 x 25"*

Dia. of thrust shaft under

collars *13 3/4"*

Dia. of screw

17 1/2"

Pitch of Screw

17 ft.

No. of Blades

4

State whether moveable

*no*Total surface *86 1/2 sq ft*

No. of Feed pumps

2

Diameter of ditto

4"

Stroke

25 1/2"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4 1/2"

Stroke

25 1/2"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

three

Sizes of Pumps

*1 1/2 x 10"**2 of 5 x 6"*

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

In Engine Room

3 of 3 1/2"

In Holds, &c.

two of 3 1/2" in each.

No. of Bilge Injections

1

sizes

4"

Connected to condenser, or to circulating pump

CP

Is a separate Donkey Suction fitted in Engine room & size

yes 4"

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

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

9. 10. 12.

of Stern Tube

9. 2. 12.

Screw shaft and Propeller

4. 11. 12

Is the Screw Shaft Tunnel watertight

yes.

Is it fitted with a watertight door

*yes.*worked from *top platform.*

BOILERS, &c.—(Letter for record)

S.

Manufacturers of Steel

J. Spencer & Sons Ltd.

Total Heating Surface of Boilers

6483 sq ft

Is Forced Draft fitted

no

No. and Description of Boilers

3. S. 6.

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

11. 11. 12

No. of Certificate

3061

Can each boiler be worked separately

yes.

Area of fire grate in each boiler

90 sq ft.

No. and Description of Safety Valves to

each boiler

2 Spring

Area of each valve

8.3"

Pressure to which they are adjusted

185.

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

2' 6"

Mean dia. of boilers

14' 10 3/4"

Thickness

1 1/2"

Range of tensile strength

28 1/2 32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

A. R. Lap

long. seams

0. B. U. V. R.

Diameter of rivet holes in long. seams

1 5/8"

Pitch of rivets

8 1/2"

Lap of plates or width of butt straps

1' 7 1/2"

Per centages of strength of longitudinal joint

92.1

rivets

85.3

plate

Working pressure of shell by rules

188 lbs

Size of manhole in shell

16 x 12"

Size of compensating ring

8 5/8 x 13 1/2"

No. and Description of Furnaces in each boiler

3. Morrison's

Material

B

Outside diameter

3' 10"

Length of plain part

top 35"

Thickness of plates

bottom 64"

Description of longitudinal joint

weld.

No. of strengthening rings

yes

Working pressure of furnace by the rules

185

Combustion chamber plates: Material

B

Thickness: Sides

5/8"

Pitch of stays to ditto: Sides

8 x 8"

Back

8 x 8"

Top

8 x 8"

If stays are fitted with nuts or riveted heads

nuts

Material of stays

S.

Diameter at smallest part

1 3/5"

Area supported by each stay

64 sq in

Working pressure by rules

212

Material

S.

Thickness

1 1/4"

Pitch of stays

17 x 20 1/2"

How are stays secured

8 nuts

Diameter at smallest part

3' 16"

Area supported by each stay

348 sq in

Working pressure by rules

235

Material of Front plates at bottom

S

Thickness

15/16"

Material of Lower back plate

S.

Thickness

7/8"

Greatest pitch of stays

13 1/2"

Diameter of tubes

3 1/2"

Pitch of tubes

4 1/2 x 4 1/2"

Material of tube plates

S

Thickness: Front

15/16"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

183

Girders to Chamber tops: Material

S

Depth and

yes

thickness of girder at centre

1 1/2 x 2"

Length as per rule

2' 7 1/2"

Distance apart

8"

Number and pitch of stays in each

30 8"

Working pressure by rules

198

Superheater or Steam chest; how connected to boiler

yes

Can the superheater be shut off and the boiler worked

yes

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Thickness

holes

Pitch of rivets

Working pressure of shell by rules

198

Diameter of flue

Material of flue plates

Thickness

yes

If stiffened with rings

Distance between rings

Working pressure by rules

198

End plates: Thickness

How stayed

yes

Working pressure of end plates

198

Area of safety valves to superheater

yes

Are they fitted with easing gear

*yes**yes**yes*

WS89-0190

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:—Propeller & Shaft. one set coupling bolts & nuts. set top & bottom end bolts & nuts. two main bearing bolts & nuts. set of feed & bilge pump valves. set air & circulating pumps. two donkey feed & ballast pump valves. assorted iron nuts & bolts.

The foregoing is a correct description,

John Dickinson & Sons, Limited.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - }
{ During erection on board vessel - - }
Total No. of visits

1912 Mar. 19 27 Apr. 1 17 May 8 14 22 24 June 12 19 24 26
Aug 2 Sep 14 Oct 2 9 10 16 17 18 21 22 24 29 30 Nov 4 6 8 11 13 14 15 19 20 27
(35) Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 2. 10. 12 Slides 2. 10. 12 Covers 28. 10. 12 Pistons 28. 10. 12 Rods 2. 8. 12
Connecting rods 2. 8. 12 Crank shaft 24. 10. 12 Thrust shaft 24. 10. 12 Tunnel shafts 24. 10. 12 Screw shaft 24. 10. 12 Propeller 2. 10. 12
Stern tube 2. 10. 12 Steam pipes tested 15. 11. 12 Engine and boiler seatings 6. 11. 12 Engines holding down bolts 8. 11. 12
Completion of pumping arrangements 20. 11. 12 Boilers fixed 15. 11. 12 Engines tried under steam 20/11/1912.
Main boiler safety valves adjusted 20/11/1912 Thickness of adjusting washers P.B. f. $\frac{3}{8}$ 2. $\frac{3}{8}$ A. $\frac{3}{8}$ C. $\frac{3}{8}$ D. $\frac{3}{8}$ E. $\frac{3}{8}$ F. $\frac{3}{8}$ G. $\frac{3}{8}$ H. $\frac{3}{8}$
Material of Crank shaft S Identification Mark on Do. K.H. 5. 12 Material of Thrust shaft S Identification Mark on Do. 7448 H
Material of Tunnel shafts S Identification Marks on Do. H.S. 12 B. 12 Material of Screw shafts W. J. Identification Marks on Do. 4831
Material of Steam Pipes Copper 4 3 6 H. 9 Test pressure 400

General Remarks (State quality of workmanship, opinions as to class, &c. Machinery and boilers built under Special Survey Materials and workmanship good. Engines examined under Steam & found satisfactory. It is submitted that this vessel is eligible for the record of L.M.C. 11-1912.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 11.12

Σ. J. S.
6.12.12.

9896

The amount of Entry Fee	£ 3	:	:	When applied for,
Special	£ 40	:	1	5 12 19 19
Donkey Boiler Fee	£	:	:	When received,
Travelling Expenses (if any)	£	:	:	7 12 19 19

J. Y. Findlay
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Assigned

June 11. 12

ALBERT GENTILE
WILLIAM

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Lloyd's Register
Foundation