

REPORT ON MACHINERY.

No. 27544

Received at London Office

Date of writing Report

19

When handed in at Local Office

20 JUN 1918

Port of

SUNDERLAND.

JUN 21 1918

No. in Survey held at *Sunderland*

Date, First Survey

30 Oct 18

Last Survey

19 June 1919

Reg. Book.

Steel on the 4s "ORTERIC"

(Number of Visits)

29

Gross

6696

Tons

Net

4077

When built

1919

Master

*Newton*Built at *Sunderland*By whom built *Messrs Wm Doxford & Sons Ltd*

when made

1919

Engines made at *Sunderland*By whom made *Messrs Wm Doxford & Sons Ltd (535)*

when made

1919

Boilers made at *Sunderland*By whom made *Messrs Wm Doxford & Sons Ltd (535)*

when made

1919

Registered Horse Power

Owners

Bank of India Ltd

Port belonging to

Glasgow

Nom. Horse Power as per Section 28

620 bhp

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

*yes*ENGINES, &c.—Description of Engines *Triple*

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

27.45.75

Length of Stroke

54

Revs. per minute

79

Dia. of Screw shaft

15.26

Material of screw shaft

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

no

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

no

If two

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

yes

Length of stern bush

5.6

Dia. of Tunnel shaft

13.92

Dia. of Crank shaft journals

14.64

Dia. of Crank pin

14.2

Size of Crank webs

30.2 x 9.5

Collars

14.2

Dia. of screw

18.0

Pitch of Screw

16.6

No. of Blades

4

State whether moveable

no

Total surface

96.5

No. of Feed pumps

2

Diameter of ditto

12 x 9 x 21

Stroke

30

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

4.5

Stroke

30

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

9.5 x 7 x 16, 10.5 x 14 x 24

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

2

In Holds, &c.

Two in each hold 3.5, two for dry tank

In Engine Room

Size 3.5

No. of Bilge Injections

2

Connected to condenser, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

4.5 3.5

No. of Bilge Injections

2

Connected to condenser, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

4.5 3.5

Are all the bilge suction pipes fitted with roses

yes

Are all connections with the sea direct on the skin of the ship

yes

Are the roses in Engine room always accessible

yes

Are the sluices on Engine room bulkheads always accessible

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

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

upper stokehold

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

yes

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Spencer & Sons

Total Heating Surface of Boilers

9525

Is Forced Draft fitted

yes

No. and Description of Boilers

Three, Single End

Date of test

4.4.19, 8.4.19, 15.4.19

Working Pressure

180 lb

Tested by hydraulic pressure to

360 lb

No. of Certificate

3553, 3554, 3556

Can each boiler be worked separately

yes

Area of fire grate in each boiler

73.5

No. and Description of Safety Valves

yes

Are they fitted with easing gear

yes

each boiler

Two Spring valves

Area of each valve

12.5

Pressure to which they are adjusted

185 lb

Smallest distance between boilers or uptakes and bunkers or woodwork

16-2.5

Thickens

1.76

Range of tensile strength

28.4 to 33

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

Exp. riv.

long. seams

2.16 to 2.14

Diameter of rivet holes in long. seams

1.8

Pitch of rivets

9.5

Lap of plates or width of butt straps

20.5

Per centages of strength of longitudinal joint

88.6

Working pressure of shell by rules

191

Size of manhole in shell

16 x 12

No. and Description of Furnaces in each boiler

4 Diphtheria

Size of compensating ring

Hanger

No. of strengthening rings

yes

Length of plain part

top 1.76

Thickness of plates

bottom 1.76

Working pressure of furnace by the rules

190

Combustion chamber plates: Material

S

Thickness: Sides

2.3

Back

3.4

Pitch of stays to ditto: Sides

10.5 x 8.5

Back

9.5 x 9.5

Top

8.5 x 10.5

If stays are fitted with nuts or riveted heads

yes

Material of stays

S

Area at smallest part

2.03

Area supported by each stay

88.75

Working pressure by rules

205

Material

S

Thickness

1.76

Pitch of stays

23.5 x 22.5

How are stays secured

by nuts

Area at smallest part

9.66

Area supported by each stay

528

Working pressure by rules

89

Material of Front plates at bottom

S

Thickness

3.1

Material of Lower back plate

S

Thickness

7.8

Greatest pitch of stays

13.5

Diameter of tubes

2.2

Pitch of tubes

3.3 x 3.5

Material of tube plates

S

Thickness: Front

3.1

Pitch across wide water spaces

13.5

Working pressures by rules

150

Girders to Chamber

yes

Material

S

thickness of girder at centre

10.5 x 1.76

Length as per rule

36.5

Distance apart

10.5

Number and pitch of stays in each

3, 8.5

Working pressure by rules

200

Steam dome: description of joint to shell

yes

Diam. of rivet holes

2.2 x 3.3

Diameter

yes

Thickness of shell plates

yes

Material

yes

Description of longitudinal joint

yes

Pitch of rivets

yes

Working pressure of shell by rules

yes

Crown plates

yes

Thickness

yes

SUPERHEATER. Type

yes

Date of Approval of Plan

yes

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

yes

Is Easing Gear fitted

yes

Date of Test

yes

Pressure to which each is adjusted

yes

Diameter of Safety Valve

yes

IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— Two top end and two bottom end connecting rods
bolts and nuts, two main bearing bolts, one set coupling bolts, one set foot and knee
pump valves, assorted bolts and nuts, Iron of various sizes, one propeller

The foregoing is a correct description,

WILLIAM DOXFORD & SONS, Limited.

A. Maxwell

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1918. Oct 30 Nov 11 21 22 Dec 13 Jan 9 16 29 Feb 11 17 24 Mar 11 19
During erection on board vessel -- Apr 1 2 8 15 17 May 1 2 15 20 27 28 29 30 June 4 5 11 19
Total No. of visits (29)

Is the approved plan of main boiler forwarded herewith 410

" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 9.1.19 Slides 29.1.19 Covers 9.1.19 Pistons 9.1.19 Rods 11.2.19
Connecting rods 9.1.19 Crank shaft 11.3.19 Thrust shaft 11.3.19 Tunnel shafts 11.3.19 Screw shaft 19.3.19 Propeller 11.2.19
Stern tube 11.3.19 Steam pipes tested 17.4. & 15.5.19 Engine and boiler seatings 19.3.19 Engines holding down bolts 20.5.19
Completion of pumping arrangements 30.5.19 Boilers fixed 2.5.19 Engines tried under steam 30.5.19
Completion of fitting sea connections 19.3.19 Stern tube 19.3.19 Screw shaft and propeller 20.5.19
Main boiler safety valves adjusted 30.5.19 Thickness of adjusting washers Pist 13.4. H.A. 5 7/16 Cyl 13.4. P 4 5 7/16 Stud 13.4. P 4 5 7/16

Material of Crank shaft Steel Identification Mark on Do. 535 GAH Material of Thrust shaft Steel Identification Mark on Do. 535 GAH

Material of Tunnel shafts Steel Identification Marks on Do. 535 GAH Material of Screw shafts Steel Identification Marks on Do. 535 GAH

Material of Steam Pipes Copper Test pressure 360 lbs

Is an installation fitted for burning oil fuel 410 Is the flash point of the oil to be used over 150°F. 410

Have the requirements of Section 49 of the Rules been complied with 410 as per app'd plans

Is this machinery duplicate of a previous case If so, state name of vessel F Type.

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

The Machinery of this vessel has been built under special survey. The materials and workmanship are sound and good. The vessel has been fitted with an installation for burning oil fuel in accordance with the approved plans and with Section 49 of the Rules. The vessel is eligible in my opinion to have record of 1-LMC 6.19. Fitted for oil fuel 6.19 F.P. above 150°F.

It is submitted that
this vessel is eligible for
THE RECORD + LMC 6.19. F.D.

Fitted for oil fuel 6.19. F.P. above 150°F.

The amount of Entry Fee ... £ : :
Special ... £ 148 : 16 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 11.6.1919
When received, 12.7.1919

Committee's Minute

Assigned

Engineer Surveyor to Lloyd's Register of Shipping.



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Lloyd's Register
Foundation