

REPORT ON MACHINERY.

No. 27525

Received at London Office

Date of writing Report

19

When handed in at Local Office

27 MAY 1919

Port of

Sunderland

No. in Survey held at

Sunderland

Reg. Book.

on the Engines of the new steel

S.S. WAR HARBOUR

Date, First Survey

20 July 1918

Last Survey

11 June 1919

Number of Visits

49

Gross

3054

Net

1848

Master

W. A. Metcalf

Built at

Blyth

By whom built

Blyth S. B. & S. D. & Co. Ltd.

When built

1919

Engines made at

Sunderland

By whom made

Richardsons, Westgarth & Co. Ltd. (C. 2145)

when made

1919

Boilers made at

Sunderland

By whom made

do.

(C. 2146)

when made

1919

Registered Horse Power

Owners

Port belonging to

Nom. Horse Power as per Section 28

368

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

25 - 41 - 68

Length of Stroke

45

Revs. per minute

70

Dia. of Screw shaft

as per rule 13.58

as fitted 14.5

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

Yes

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

If two

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

Length of stern bush

5-0

Dia. of Tunnel shaft

as per rule 12.4

Dia. of Crank shaft journals

as per rule 13.02

Dia. of Crank pin

13.25

Size of Crank webs

8 3/8 x 24 1/2

Dia. of thrust shaft under

collars

13.25

Dia. of screw

16-0

Pitch of Screw

16-3

No. of Blades

4

State whether moveable

No

Total surface

75 sq ft

No. of Feed pumps

2

Diameter of ditto

3 1/2

Stroke

24

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2

Stroke

24

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

9 1/2 x 7 x 18

10 1/2 x 12 1/2 x 21

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

In Engine Room

4 @ 3"

In Holds, &c.

No. 1 - 2 @ 3"

No. 2 - 2 @ 3"

No. 3 - 2 @ 3"

No. 4 - 2 @ 3"

No. 5 - 2 @ 2 1/2"

No. 6 - 2 @ 2 1/2"

No. of Bilge Injections

1 size 11"

Connected to condenser, or to circulating pump

C.P.

Is a separate Donkey Suction fitted in Engine room & size

Yes 3 1/2"

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

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

Main below others 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

Forward hold suction

How are they protected

under timber boards

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

top platform

BOILERS, &c.—(Letter for record)

Manufacturers of Steel

Boilers built under B.C. Survey

Total Heating Surface of Boilers

6100

Is Forced Draft fitted

No

No. and Description of Boilers

Three single ended Marine

Working Pressure

180

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler

51.7 sq ft

No. and Description of Safety Valves to

each boiler

3 M.J. & 1

Area of each valve

Pressure to which they are adjusted

185

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

Three Brighton

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

Material of stays

Area at smallest part

Area supported by each stay

Working pressure by rules

End plates in steam space:

Material

Thickness

Pitch of stays

How are stays secured

Working pressure by rules

Material of stays

Area at smallest part

Area supported by each stay

Working pressure by rules

Material of Front plates at bottom

Thickness

Material of Lower back plate

Thickness

Greatest pitch of stays

Working pressure of plate by rules

Diameter of tubes

Pitch of tubes

Material of tube plates

Thickness: Front

Back

Mean pitch of stays

Pitch across wide water spaces

Working pressures by rules

Girders to Chamber tops: Material

Depth and

thickness of girder at centre

Length as per rule

Distance apart

Number and pitch of stays in each

Working pressure by rules

Steam dome: description of joint to shell

% of strength of joint

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown plates

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test

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

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:—*Two connecting rod top and bottom end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set each of feed and bilge pump valves; bolts, nuts, and iron of various sizes; one propeller.*

The foregoing is a correct description,
FOR RICHARDSONS, WESTGARTH & CO., LTD.

Richard Russell

Manufacturer.

ASSISTANT MANAGER

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

1918. July 25 Aug 7 Sept 14 Oct 17 25 28 Nov 5 18 23 25 Dec 11 14 20 21 Jan 15 18 25 Feb 22
March 20 April 7 9 11 14 15 23 25 28 May 1 6 12 27 June 11
4-11-51
40

Is the approved plan of main boiler forwarded herewith

No

Dates of Examination of principal parts—Cylinders *8-10-18* Slides *24-9-18* Covers *1-10-18* Pistons *1-10-18* Rods *8-10-18*

Connecting rods *24-9-18* Crank shaft *3-2-19* Thrust shaft *9-4-19* Tunnel shafts *9-4-19* Screw shaft *25-1-19* Propeller *31-12-18*

Stern tube *7-4-19* Steam pipes tested *25-4-19* Engine and boiler seatings *9-4-19* Engines holding down bolts *1-5-19*

Completion of pumping arrangements *13th June 1919* Boilers fixed *28-4-19* Engines tried under steam *6-5-19*

Completion of fitting sea connections *31st March 1919* Stern tube *14-4-19* Screw shaft and propeller *15-4-19*

Main boiler safety valves adjusted *6-5-19* Thickness of adjusting washers *Plater P 5 S 1 3/32, C boiler P 7, S 1 3/32, S boiler P 9, S 5/16*

Material of Crank shaft *Steel* Identification Mark on Do. *2145 EWR* Material of Thrust shaft *Steel* Identification Mark on Do. *2145 EWR*

Material of Tunnel shafts *Steel* Identification Marks on Do. *2145 EWR* Material of Screw shafts *Steel* Identification Marks on Do. *2145 EWR*

Material of Steam Pipes *Steel - lap welded* Test pressure *540 lbs*

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 *"C" Type*

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

The workmanship and materials are good.

The Engines have been constructed under Special Survey, and the Machinery is eligible, in my opinion for classification, and the record of L.M.C 6, 19

The Boilers fitted in this vessel have been built under B.C survey and their certificate for same is attached hereto

It is submitted that
this vessel is eligible for
THE RECORD. LMC 6. 19.

JWD
21/6/19
ARK

The amount of Entry Fee ... £
Special ... £
Donkey Boiler Fee ... £
Travelling Expenses (if any) £

When applied for, 18 June 1919
When received, 21 June 1919
Thomas Miller *Ed W. Butler*
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

FRI. 27 JUN. 1919

Assigned

L.M.C. 6. 19.

MACHINERY CERTIFICATE
WRITTEN.



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Foundation