

REPORT ON MACHINERY.

TUE. 5 AUG 1919

Received at London Office

Date of writing Report

19

When handed in at Local Office

1.8.19 Port of

Sunderland

No. in Survey held at

Sunderland

Date, First Survey

19 Mar

Last Survey

11 July 1919

Reg. Book.

Supp 85 on the new steel S/S "KAIWARRA".

(Number of Visits)

25

Gross 30581

Net 1860-1847

Master Watchman

Built at

Sunderland

By whom built

Blumer & Co S/S No 251

When built

1919

Engines made at

Sunderland

By whom made

J. Dickinson & Sons Ltd (No 843)

when made

1919

Boilers made at

Sunderland

By whom made

J. Dickinson & Sons Ltd (No 843)

when made

1919

Registered Horse Power

Owners

Union SSB of New Zealand Ltd.

Port belonging to

London

Nom. Horse Power as per Section 28

358

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" 4" 68"

Length of Stroke

45"

Revs. per minute

76

Dia. of Screw shaft

as per rule 13.58"

Material of

Screw shaft

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

-

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"

as fitted 12'-2"

Dia. of Crank shaft journals

as per rule 13'-03"

as fitted 13'-2"

Dia. of Crank pin

13'-2"

Size of Crank webs

8'-2" x 2'-1"

Dia. of thrust shaft under

collars 13'-2"

Dia. of screw

16'-0"

Pitch of Screw

16'-3"

No. of Blades

4

State whether moveable

no

Total surface

750 sq ft

No. of Feed pumps

2

Diameter of ditto

3'-2"

Stroke

24"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3'-2"

Stroke

24"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

4

Sizes of Pumps

20" x 17" x 18" 10" x 14" x 21" 10" x 17" x 21"

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

In Engine Room

503". (The additional suction being at forward end of main well)

In Holds, &c. No 1 hold - 203". No 2 hold - 203". 6 pos bunker -

203". No 3 hold - 203". No 4 hold - 203" x 103". Tunnel well - 103".

No. of Bilge Injections

2

sizes

8"

Connected to condenser, or to circulating pump

B.P.

Is a separate Donkey Suction fitted in Engine room & size

yes 13'-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

main below, all 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

OILERS, &c.—(Letter for record

S)

Manufacturers of Steel

John Spence & Sons Ltd.

Total Heating Surface of Boilers

58170 sq ft

Is Forced Draft fitted

no

No. and Description of Boilers

three single ended marine.

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

18-6-19

No. of Certificate

3575

Can each boiler be worked separately

yes

Area of fire grate in each boiler

510 sq ft

No. and Description of Safety Valves to

each boiler

two, direct spring

Area of each valve

5.950"

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

1'-10"

Mean dia. of boilers

14'-0"

Length

11'-8 5/16"

Material of shell plates

steel

Thickness

1 1/8"

Range of tensile strength

28 3/4 - 33

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR

Long. seams

DRS. TR

Diameter of rivet holes in long. seams

1 3/16"

Pitch of rivets

8 1/2"

Lap of plates or width of butt straps

1'-6"

Per centages of strength of longitudinal joint

rivets 86.1

plate 86

Working pressure of shell by rules

187

Size of manhole in shell

16" x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

3 corrugated

Material

steel

Outside diameter

3'-4"

Length of plain part

top

bottom

Thickness of plates

crown 1 1/8"

bottom 1 3/16"

Description of longitudinal joint

welded

No. of strengthening rings

-

Working pressure of furnace by the rules

190

Combustion chamber plates: Material

steel

Thickness: Sides

13/16"

Back

3/4"

Top

13/16"

Bottom

13/16"

Pitch of stays to ditto: Sides

9 3/8" x 12 3/8"

Back

9" x 10 1/2"

Top

9 3/8" x 12 3/8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

194

Material of stays

steel

Area at smallest part

2.350"

Area supported by each stay

1040"

Working pressure by rules

203

End plates in steam space:

Material

steel

Thickness

1 1/2"

Pitch of stays

23 3/4" x 19 1/2"

How are stays secured

DN & W

Working pressure by rules

181

Material of stays

steel

Area at smallest part

8290"

Area supported by each stay

4640"

Working pressure by rules

186

Material of Front plates at bottom

steel

Thickness

3 1/2"

Material of Lower back plate

steel

Thickness

3 1/2"

Greatest pitch of stays

13 1/2" x 9"

Working pressure of plate by rules

185

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4" x 4 3/4"

Material of tube plates

steel

Thickness: Front

3 1/2"

Back

3"

Mean pitch of stays

9 1/2"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

220

Girders to Chamber tops: Material

steel

Thickness of girder at centre

10 1/2" x 3 1/4"

Length as per rule

2'-11 1/2"

Distance apart

9 3/8"

Number and pitch of stays in each

2 @ 12 3/8"

Working pressure by rules

216

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

