

REPORT ON MACHINERY.

No. 44399
-4 MAR 1925

Received at London Office

Date of writing Report

When handed in at Local Office

28.2.25 Port of

Glasgow

No. in Survey held at
Reg. Book.

Glasgow

Date, First Survey

30.11.20

Last Survey

19

on the

S.S. "TONGARIRO"

(Number of Visits 121)

Gross 8729
Net 5501

Master

Built at

Port-Glasgow

By whom built

Wm Hamilton & Co. Ltd. (N=323) When built 1925

Engines made at

Glasgow

By whom made

D. Rowan & Co. Ltd. (N=671)

when made

1925

Boilers made at

Glasgow

By whom made

D. Rowan & Co. Ltd. (N=671)

when made

1925

Registered Horse Power

1195

Owners The New Zealand Shipping Co. Ltd.

Port belonging to Plymouth

Shaft Horse Power at Full Power

5500

Is Refrigerating Machinery fitted for cargo purposes

Yes

Is Electric Light fitted

Yes.

URBINE ENGINES, &c.

Description of Engines

Rateau Impulse Single Red. Geared Turbines

No. of Turbines

2

Diameter of Rotor Shaft Journals, H.P.

7"

L.P.

7"

Diameter of Pinion Shaft

7 1/2"

Diameter of Journals

7 1/2"

Distance between Centres of Bearings

3'-3"

Diameter of Pitch Circle

10.26"

Diameter of Wheel Shaft

18"

Distance between Centres of Bearings

7'-1 1/2"

Diameter of Pitch Circle of Wheel

145.62"

Width of Face

202-1 1/2"

Diameter of Thrust Shaft under Collars

17 3/4"

Diameter of Tunnel Shaft

as per rule 15.47"

as fitted 17"

No. of Screw Shafts

One

Diameter of same

as per rule 16.55"

as fitted 18 1/2"

Diameter of Propeller

18'-6"

Pitch of Propeller

16'-0"

No. of Blades

4

State whether Moveable

Yes

Total Surface

118 sq

Diameter of Rotor Drum, H.P. 2'-6" L.P. 4'-10" Astern 3'-6"

Thickness at Bottom of Groove, H.P. Solid L.P. Wheels

Wheels

Astern

Wheels

Revs. per Minute at Full Power, Turbine

1348

Propeller

95

PARTICULARS OF BLADING.

H.P.

L.P.

ASTERN.

	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION									
2ND									
3RD									
4TH									
5TH									
6TH									
7TH									
8TH									

See Manchester Report

No. and size of Feed pumps

2 Main 14" x 10 1/2" x 26" 1 Aux. 9 1/2" x 7" x 18"

No. and size of Bilge pumps

1 C 6 1/2" x 12", 1 C 10 1/2" x 7" x 10", 1 C 6" x 6" x 6", Ballast Donkey 12" x 12" x 12", Oil Drain Pump 13 1/2" x 8" x 12"

No. and size of Bilge suction in Engine Room

2 C 3 1/2" and 4 C 3 1/2" in Stokehold; 2 C 3 1/2" to each Copperdam

In Holds, &c. 2 C 3 1/2" to each of the 5 Holds; 1 C 3" to Tunnel Well

No. of Bilge Injections

One

sizes 12"

Connected to condenser, or to circulating pump

Pump

Is a separate Donkey Suction fitted in Engine Room & size 1 C 3 1/2"

Are all the bilge suction pipes fitted with roses

Yes

Are the roses in Engine room 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

Below

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

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from Upper Deck

BOILERS, &c.

(Letter for record

S

Manufacturers of Steel

Wm Beardmore & Co. Ltd.; Partington & Co. Ltd.; Motherwell & Co. Ltd.

Total Heating Surface of Boilers

16940 sq

Is Forced Draft fitted

Yes

No. and Description of Boilers

Five Single-Ended

Working Pressure

180 lbs/sq

Tested by hydraulic pressure to

320 lbs/sq

Date of test

13.8.24 (2)

No. of Certificate

16575

16582

Are all boilers worked separately

Yes

Area of fire grate in each boiler

77 sq

No. and Description of Safety Valves to

boiler

Two Spring loaded

Area of each valve

12.56 sq

Pressure to which they are adjusted

185

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

30"

Mean dia. of boilers

17'-6"

Length

12'-0"

Material of shell plates

Steel

Thickness

1 1/8" x 1 1/4"

Range of tensile strength

30/34 tons/sq

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

D.R. Lap.

long. seams

T.R.D.B.S.

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

9-3/25"

Lap of plates or width of butt straps

20 1/2"

Per centages of strength of longitudinal joint

plates

85.23

Working pressure of shell by rules

180 lbs/sq

Size of manhole in shell

19 1/2" x 15 1/2"

Size of compensating ring

35" x 31" x 1 1/8"

No. and Description of Furnaces in each Boiler

4 Doughton

Material

Steel

Outside diameter

3'-10 3/32"

Length of plain part

top

Thickness of plates

crown

39"

Description of longitudinal joint

weld

No. of strengthening rings

None

Working pressure of furnace by the rules

211 lbs/sq

Combustion chamber plates: Material

Steel

Thickness: Sides

21"

Back

5"

Top

32"

Pitch of stays to ditto: Sides

9 3/8" x 8 3/4"

Back

8 3/8" x 8 3/4"

Top

9 3/8" x 8 3/4"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

180 lbs/sq

Material of stays

Steel

Diameter at smallest part

2.07"

Area supported by each stay

82 sq

Working pressure by rules

227 lbs/sq

End plates in steam space

Material

Steel

Thickness

1 1/2"

Pitch of stays

21 1/2" x 18 3/4"

How are stays secured

D. Nuts

Working pressure by rules

181 lbs/sq

Material of stays

Steel

Diameter at smallest part

7.06" x 6.74"

Area supported by each stay

408 sq

Working pressure by rules

180 lbs/sq

Material of Front plates at bottom

Steel

