

## REPORT ON MACHINERY.

No. 2893  
SAT. 16 NOV 1907

Port of

Appledore

Received at London Office

No. in Survey held at

Appledore

Date, first Survey

Sep 16

Last Survey

Nov 7

1907

Reg. Book.

H. Supt on the

Iron Screw Steamer New Zealand

(Number of Visits 2)

Gross

Tons

Net

Master J. Murphy

Built at Beverley

By whom built Cochrane, Cooper &amp; Schofield

When built

1886

Engines made at

Hull

By whom made

C. D. Holmes &amp; Co.

when made

1886

Boilers made at

Hull

By whom made

Amos &amp; Smith

when made

1900

Registered Horse Power 45

Owners Osborn &amp; Wallis

Port belonging to London

Nom. Horse Power as per Section 28 64

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

## ENGINES, &amp;c.—Description of Engines

No. of Cylinders

No. of Cranks

Dia. of Cylinders

Length of Stroke

Revs. per minute

Dia. of Screw shaft

as per rule

as fitted

Material of

screw shaft

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

Is the after end of the liner made water tight

in the propeller boss

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

If two

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

Length of stern bush

Dia. of Tunnel shaft

Dia. of Crank shaft journals

as per rule

as fitted

Dia. of Crank pin

Size of Crank webs

Dia. of thrust shaft under

collars

Dia. of screw

Pitch of Screw

No. of Blades

State whether moveable

Total surface

No. of Feed pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Bilge pumps

Diameter of ditto

Stroke

Can one be overhauled while the other is at work

No. of Donkey Engines

Sizes of Pumps

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

In Engine Room

In Holds, &amp;c.

No. of Bilge Injections

sizes

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room &amp; size

Are all the bilge suction pipes fitted with roses

Are the roses in Engine room always accessible

Are the sluices on Engine room bulkheads always accessible

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

Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

Are the Discharge Pipes above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers

How are they protected

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Dates of examination of completion of fitting of Sea Connections

of Stern Tube

Screw shaft and Propeller

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

## BOILERS, &amp;c.—(Letter for record S.)

Manufacturers of Steel

Total Heating Surface of Boilers 1200 sq ft

Forced Draft fitted

No. and Description of Boilers

One cylindrical multibulbar

Working Pressure 150 lbs

Tested by hydraulic pressure to

Date of test

No. of Certificate

Can each boiler be worked separately

Area of fire grate in each boiler 40 sq ft

No. and Description of Safety Valves to

each boiler Two direct spring

Area of each valve 4.068 sq

Pressure to which they are adjusted 150 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

6"

Mean dia. of boilers 11' 3"

Length 9' 9"

Material of shell plates Steel

Range of tensile strength

Are the shell plates welded or flanged

Descrip. of riveting: cir. seams Riv. lap

Diameter of rivet holes in long. seams 1 3/8"

Pitch of rivets 8.03

Leap of plates or

width of butt straps 1 1/2"

Percentages of strength of longitudinal joint

rivets 85.83%

Working pressure of shell by rules 236 lbs

Size of manhole in shell 12 x 16

Compensating ring 1 3/8"

No. and Description of Furnaces in each boiler

Three Morrison's

Material Steel Outside diameter 33"

Thick. of plain part

top

Thick. of plates

crown

bottom

Description of longitudinal joint

welded

No. of strengthening rings

Working pressure of furnace by the rules 209 lbs

Combustion chamber plates: Material Steel Thickness: Sides 9/16"

Back 9/16"

Top 9/16"

Bottom 3/4"

of stays to ditto: Sides 7/8 x 7/8"

Back 7/8 x 7/8"

Top 7/8 x 8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules 182 lbs

Material of stays Steel

Diameter at smallest part 1 3/8"

Area supported by each stay 60 sq

Working pressure by rules 162 lbs

End plates in steam space:

Material Steel

Thickness 3/32"

Pitch of stays 15 x 15"

How are stays secured

Washers

Working pressure by rules 194 lbs

Material of stays Steel

Diameter at smallest part 2 3/8"

Area supported by each stay 225 sq

Working pressure by rules 233 lbs

Material of Front plates at bottom Steel

Thickness 15/16"

Material of Lower back plate Steel

Thickness 15/16"

Greatest pitch of stays 13 x 4 3/4"

Working pressure of plate by rules 301 lbs

Diameter of tubes 3"

Pitch of tubes 4 x 4"

Material of tube plates Steel

Thickness: Front 15/16"

Back 1/2"

Mean pitch of stays 12 x 12"

Girders to Chamber tops: Material Steel

Depth and

of girder at centre 6 x 8"

Length as per rule 34"

Distance apart 4 1/2"

Number and pitch of stays in each

two 8"

Working pressure by rules 204 lbs

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

finned with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Yes



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	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:—

*Survey for Re-Classification  
Screw shaft & machinery exam'd*

*To be completed  
at Bristol.*

*It is submitted that this  
vessel WILL BE eligible for  
the record. L.M.C. 11.07*

*N.B. (in haste) 00 Man the main steam  
150 lbs. before annealed &  
tested. J.H.*

The foregoing is a correct description.

Manufacturer.

*8.11.07.*

*25.11.07.*

*2.1.08.*

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

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders	Slides	Covers	Pistons	Rods
Connecting rods	Crank shaft	Thrust shaft	Tunnel shafts	Screw shaft
Stern tube	Steam pipes tested	Engine and boiler seatings	Engines holding down bolts	
Completion of pumping arrangements	Boilers fixed	Engines tried under steam		
Main boiler safety valves adjusted	Thickness of adjusting washers			
Material of Crank shaft	Identification Mark on Do.	Material of Thrust shaft	Identification Mark on Do.	
Material of Tunnel shafts	Identification Marks on Do.	Material of Screw shafts	Identification Marks on Do.	
Material of Steam Pipes	Test pressure			

General Remarks (State quality of workmanship, opinions as to class, &c. *This vessel having been submitted for Reclassification, she has been placed in dry dock, and the propeller, sternbush, sea valves, cocks, and fastenings, cylinders, pistons, slide valves, condenser, pumps, propeller shaft, thrust, and crankshaft examined and found in good condition.*

*Main boiler examined and found in good order. This boiler was fitted in 1900 for a working pressure of 180 lbs, but new safety valve springs have been fitted and the safety valves adjusted to 150 lbs.*

*To complete the survey A bilge injection 3 1/4" dia to be fitted, and the main steam pipes to be annealed, and tested by hydraulic pressure of 300 lbs per sq inch. As there are no means for doing this at Appledore, it is proposed to do this at Bristol.*

*The engines and boiler of this vessel are now in good working condition and eligible in my opinion to receive the notification of L.M.C. 11-07 N.B.00. when the survey is complete.*

The amount of Entry Fee..	£	When applied for.
Special .. ..	£ 10. 10	19..
Donkey Boiler Fee .. ..	£	When received.
Travelling Expenses (if any) £ 8 : 2		19..

Committee's Minute

*FRI. 29 NOV 1907*

*TUES. 7 JAN 1908*

Assigned

*See minute on Bm Rm*

*5021*

*George Lisle Hindmarsh*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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Foundation