

Messrs Hawthorn Leslie & Co S.S. No 382
 Engine 2495

No. 44,089

REPORT ON MACHINERY.

Port of Newcastle on Tyne

Received at London Office 6 SEP 1902

No. in Survey held at Newcastle
 Reg. Book.

Date, first Survey Apr. 18. 1901 Last Survey 29 Aug. 1902

(Number of Visits 2)

93 on the Steel Twin S.S. TURAKINA

Gross 802 1/2 20
 Net 516 1/2 29

Master Forbes Built at Newcastle

By whom built Hawthorn Leslie & Co

When built 1902

Engines made at Newcastle

By whom made Hawthorn Leslie & Co

when made 1902

Boilers made at Newcastle

By whom made Hawthorn Leslie & Co

when made 1902

Registered Horse Power

Owners New Zealand S.S. Co. Ltd.

Port belonging to Plymouth

Indicated Horse Power as per Section 28 846

Is Refrigerating Machinery fitted Yes

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Twin Screw Triple Exp. No. of Cylinders 6 No. of Cranks 6

Dia. of Cylinders 25.42.71 Length of Stroke 48 Revs. per minute 70 Dia. of Screw shaft 14.4 as per rule 14.4 as fitted 15 Lgth. of stern bush 66

Dia. of Tunnel shaft 13.5 as fitted 13.5 Dia. of Crank shaft journals 13.9 as per rule 13.9 as fitted 14 Dia. of Crank pin 14.4 Size of Crank webs 8 3/4 x 2 1/2 Dia. of thrust shaft under

lars 14 Dia. of screw 18.6 Pitch of screw 20.0 No. of blades 4 State whether moveable Yes Total surface 78 1/2

No. of Feed pumps 4 Diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 4 Diameter of ditto 5 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 12 1/2 7 x 12 1/2 12 x 12 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Three 3 1/2 In Holds, &c. In all holds - Two 3 1/2

No. of bilge injections 2 sizes 9 Connected to condenser Yes Is a separate donkey suction fitted in Engine room & size Yes 4"

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 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 bilge pipes How are they protected Slung wood casing

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock While building Is the screw shaft tunnel watertight Yes

Is it fitted with a watertight door Yes Is it worked from Deck platform

BOILERS, &c.—(Letter for record S) Total Heating Surface of Boilers 10893 Is forced draft fitted Yes

No. and Description of Boilers 5 Cyl. Mult. Working Pressure 200 Tested by hydraulic pressure to 400

Date of test 24.3.02 Can each boiler be worked separately Yes Area of fire grate in each boiler 584 No. and Description of safety valves to

each boiler 2 Spring Area of each valve 8.3 Pressure to which they are adjusted 200 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 12 Mean dia. of boilers 14.6 Length 11.6 Material of shell plates S

Thickness 7/16 Range of tensile strength 29/32 Are they welded or flanged No Descrip. of riveting: cir. seams 7 1/2 long. seams 2 1/2

Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 10 Lap of plates or width of butt straps 22 2 1/4

Percentages of strength of longitudinal joint 91 Working pressure of shell by rules 232 Size of manhole in shell 16 x 12

Is there a compensating ring 24 x 20 x 1 1/2 No. and Description of Furnaces in each boiler Brown Can Material S Outside diameter 40 1/2

Length of plain part top 5/8 bottom 5/8 Thickness of plates 5/8 Description of longitudinal joint Welded No. of strengthening rings 1

Working pressure of furnace by the rules 217 Combustion chamber plates: Material S Thickness: Sides 5/8 Back 2 1/2 Top 5/8 Bottom 1 1/2

Each of stays to ditto: Sides 8 x 8 1/4 Back 8 x 9 Top 8 x 8 1/2 If stays are fitted with nuts or riveted heads Yes Working pressure by rules 198

Material of stays S Diameter at smallest part 1.787 Area supported by each stay 72 Working pressure by rules 224 End plates in steam space:

Material S Thickness 1 9/32 Pitch of stays 18 1/2 x 1 1/2 How are stays secured With nuts Working pressure by rules 269 Material of stays S

Area at smallest part 7.33 Area supported by each stay 285 Working pressure by rules 250 Material of Front plates at bottom S

Thickness 1 Material of Lower back plate S Thickness 1 Greatest pitch of stays as per plan Working pressure of plate by rules 200

Diameter of tubes 2 1/2 Pitch of tubes 3 5/8 x 3 3/8 Material of tube plates S Thickness: Front 1 Back 1 3/16 Mean pitch of stays 10 7/8 x 10 1/2

Each across wide water spaces 12 5/8 Working pressures by rules 209 Girders to Chamber tops: Material S Depth and

Thickness of girder at centre 11 1/2 x 1 1/4 Length as per rule 3 1/2 Distance apart 8 1/2 Number and pitch of Stays in each 3-8

Working pressure by rules 220 Superheater or Steam chest; how connected to boiler Yes Can the superheater be shut off and the boiler worked

separately Yes Diameter 1 Length 1 Thickness of shell plates 1 Material S Description of longitudinal joint Welded Diam. of rivet

1 Pitch of rivets 1 Working pressure of shell by rules 232 Diameter of flue 1 Material of flue plates S Thickness 1

Stiffened with rings Yes Distance between rings 1 Working pressure by rules 232 End plates: Thickness 1 How stayed Yes

Working pressure of end plates 232 Area of safety valves to superheater Yes Are they fitted with easing gear Yes

DONKEY BOILER— No. 1 Description *Mine? Cyl.*
Made at *Newcastle* By whom made *Hawthorn Leslie & Co.* When made *1902* Where fixed *Shorehole.*
Working pressure *200* Tested by hydraulic pressure to *400* No. of Certificate *6304* Fire grate area *454* Description of safety valves *spring.*
No. of safety valves *2* Area of each *3.97* Pressure to which they are adjusted *200* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *13-0* Length *10-6* Material of shell plates *S.* Thickness *1 9/32* Range of tensile strength *29* Descrip. of riveting long. seams *a shop* Dia. of rivet holes *1 7/16* Whether punched or drilled *d* Pitch of rivets *8 3/4*
Lap of plating *1 9/32* Percentage of strength of joint *89* Rivets *89* Thickness of shell crown plates *1 3/8* Radius of do. *Pitch* No. of Stays to do. *17 1/2 x 19*
Dia. of stays. *8-47* Diameter of furnace Top *40 1/2* Bottom *✓* Length of furnace *✓* Thickness of furnace plates *1/2 + 1/2* Description of joint *Welded* Thickness of furnace crown plates *11/16* Stayed by *iron stay 7-89 x 1-8* Working pressure of shell by rules *200*
Working pressure of furnace by rules *203* Diameter of uptake *✓* Thickness of uptake plates *13/16 F1* Thickness of water tubes *✓*

SPARE GEAR. State the articles supplied:— *Tail shaft, crank shaft, propeller shaft, two top end, two bottom end, two main bearings & one set coupling bolts, feed & filler valve, pinion, springs, anchor bolts & nuts a few bars of iron & other gear.* For R. & W. HAWTHORN, LESLIE & Co. Ltd.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building
During progress of work in shops
During erection on board vessel
Total No. of visits
1901
Apr. 18. 22. 26. May. 3. 4. 20. 22. 23. 25. 31. June. 12. 14. July. 8. 23. 25. Aug. 2. 4. 21. Sep. 11. 20. 24. Oct. 16. 24. 31.
1902
Jan. 5. 12. Dec. 3. 6. 9. 14. 20. 1902
Jan. 16. 20. 24. 29. Feb. 3. 5. 14. 25. 28. Mar. 5. 7. 19. 24. Apr. 3. 5. 10. 17. 24. 25. 28. 29.
May. 2. 5. 9. 15. 16. 21. 24. 28. 30. July. 2. 4. 9. 10. 11. 14. 16. 18. 31. 33. 34. 28. 31. Aug. 5. 7. 11. 13. 20. 29.
Is the approved plan of main boiler forwarded herewith *Yes*

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

The workmanship is good.

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 *✓*
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 *✓*

The Machinery has been built under special Survey & is eligible in my opinion for classification & the record + LMC 9.02.

It is submitted that this vessel is eligible for THE RECORD. + LMC 8.02. FD. Elec. light Ref. Mchry.

C.M.
9.9.02

John H. Heck

Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

The amount of Entry Fee... £ 3 : : When applied for, 9.9.02
Special... £ 62.6 : :
Donkey Boiler Fee... £ : : : When received, 10/9/02
Travelling Expenses (if any) £ : : :

Committee's Minute

TUES. 9 SEP 1902

Assigned

+ LMC 8.02

Elect. light
Ref. Mchry



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