

## REPORT ON MACHINERY.

No. 820

TUE. 25 JUL. 1922

Date of writing Report *June 4 1922* When handed in at Local Office *June 4 1922* Port of *Adelaide S. Australia*  
 No. in Survey held at *Osborne Port Adelaide* Date, First Survey *Oct 16 1920* Last Survey *June 3 1922*  
 Reg. Book. on the *Steel Single Screw Steamer "EUWARA"* (Number of Visits *YARD N°2*)  
 Master *✓* Built at *Port Adelaide* By whom built *POOLE & STEEL* Tons { Gross *3345.92*  
 Engines made at *Port Adelaide* By whom made *POOLE & STEEL* when made *1922*  
 Boilers made at *Hunter & Sydney* By whom made *Babcock & Wilcox Ltd* when made *1922*  
 Registered Horse Power *576* Owners *Commonwealth Govt. Line of Steamers* Port belonging to *Melbourne*  
 Nom. Horse Power as per Section 28 *576* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *TRI-COMPOUND STEAM CONDENSING* No. of Cylinders *3* No. of Cranks *3*  
 Dia. of Cylinders *25.41-68* Length of Stroke *45* Revs. per minute *65* Dia. of Screw shaft *as per rule 3.82* Material of *as fitted 14.5 screw shaft*  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *in two parts* 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 *forced with lead* If two liners are fitted, is the shaft lapped or protected between the liners *yes* Length of stern bush *54-3.4*  
 Dia. of Tunnel shaft *as per rule 2.5* Dia. of Crank shaft journals *as per rule 13.13* Dia. of Crank pin *13.25* Size of Crank webs *8 1/2 x 25* Dia. of thrust shaft under collar *13.25* Dia. of screw *16.6* Pitch of Screw *16.9* No. of Blades *4* State whether moveable *No* Total surface *85 sq ft*  
 No. of Feed pumps *2* Diameter of ditto *7* 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 *4* Sizes of Pumps *10 1/2 x 4 x 2 1/2 10 1/2 x 2 1/2 x 2 1/2* No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room *Three 3 1/2" Storkhold Two 3 1/2"* In Holds, &c. *Forepeak one 3 1/2" No 1 Hold two 3 1/2" No 2 Hold two 3 1/2" No 3 Hold two 3 1/2" No 4 Hold two 3 1/2" Tunnel well one 2 1/2"*  
 No. of Bilge Injections *One size 8"* Connected *to condenser or to circulating pump* *yes* 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 Main Injection* Are they Valves or Cocks *Valves except Exhauster, No 1 & 3 in down*  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *Not all* Are the Discharge Pipes above or below the deep water line *Discharge below Main*  
 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 *No 1 & 2 Holds & the peak Bilge* How are they protected *Under Lumber 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 *Engine Room Middle*

BOILERS, &c.—(Letter for record *(S)* Manufacturers of Steel *D. Colville & Sons Glasgow*  
 Total Heating Surface of Boilers *8289 sq ft* Is Forced Draft fitted *yes* No. and Description of Boilers *3 Babcock & Wilcox Water Tube*  
 Working Pressure *185 lbs* Tested by hydraulic pressure to *360 lbs* Date of test *10.3.22* No. of Certificate *4124*  
 Can each boiler be worked separately *yes* Area of fire grate in each boiler *84.5 sq ft* No. and Description of Safety Valves to each boiler *2 Spring Loaded* Area of each valve *9.62* Pressure to which they are adjusted *185 lbs* Are they fitted with easing gear *yes*  
 Smallest distance between boilers or uptakes and bunkers or woodwork *24"* Mean dia. of *Drums* *4-0* Length *13-3 1/2* Material of shell plates *Steel*  
 Thickness *1 1/2 & 1"* Range of tensile strength *2816-32 Tons* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *D. Riv. Lap*  
 long. seams *T. Riv. Butt Straps* Diameter of rivet holes in long. seams *3 1/2"* Pitch of rivets *3 3/4"* Lap of plates or width of butt straps *7"*  
 Per centages of strength of longitudinal joint *75-5* Working pressure of shell by rules *210* Size of manhole in shell *11 x 15"*  
 Size of compensating ring *28 1/2 x 22 x 3"* No. and Description of Furnaces in each boiler *1* Material *Steel* Outside diameter *48"*  
 Length of plain part *top 10' 6" bottom 10' 6"* Thickness of plates *crown 1 1/2" bottom 1 1/2"* Description of longitudinal joint *Butt* No. of strengthening rings *1*  
 Working pressure of furnace by the rules *210* Combustion chamber plates: Material *Steel* Thickness: Sides *1 1/2"* Back *1 1/2"* Top *1 1/2"* Bottom *1 1/2"*  
 Pitch of stays to ditto: Sides *12"* Back *12"* Top *12"* If stays are fitted with nuts or riveted heads *yes* Working pressure by rules *210*  
 Material of stays *Steel* Area at smallest part *12"* Area supported by each stay *12"* Working pressure by rules *210* End plates in *Drum* space: *12"*  
 Material *Steel* Thickness *1 1/2"* Pitch of stays *None* How are stays secured *by nuts* Working pressure by rules *210* Material of stays *Steel*  
 Area at smallest part *12"* Area supported by each stay *12"* Working pressure by rules *210* Material of Front plates at bottom *Steel*  
 Thickness *1 1/2"* Material of *HEADERS* *1 1/2"* Thickness *1 1/2"* Greatest pitch of stays *12"* Working pressure of plate by rules *210*  
 Diameter of tubes *12 1/2"* Pitch of tubes *2 1/2"* Material of tube plates *Steel* Thickness: Front *1 1/2"* Back *1 1/2"* Mean pitch of stays *12"*  
 Pitch across wide water spaces *12"* Working pressures by rules *210* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *12"* Length as per rule *12"* Distance apart *12"* Number and pitch of stays in each *12"*  
 Working pressure by rules *210* Steam dome: description of joint to shell *Welded* % of strength of joint *100*  
 Diameter *12"* Thickness of *HEADERS* *1 1/2"* Material *Steel* Description of longitudinal joint *Welded* Diam. of rivet holes *3 1/2"*  
 Pitch of rivets *3 3/4"* Working pressure of shell by rules *210* Crown plates *1 1/2"* Thickness *1 1/2"* How stayed *by stays*

SUPERHEATER. Type *None* Date of Approval of Plan *10.3.22* Tested by Hydraulic Pressure to *360 lbs*  
 Date of Test *10.3.22* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *yes*  
 Diameter of Safety Valve *12"* Pressure to which each is adjusted *185 lbs* Is Easing Gear fitted *yes*

002222-002228-0235



IS A DONKEY BOILER FITTED? *NO*

If so, is a report now forwarded? *✓*

SPARE GEAR. State the articles supplied:—*2 Connecting Rod Top and Bolt & nuts, 2 Con<sup>2</sup> Bottom and do. Bolts*  
*2 Main Bearing Bolts & nuts, 3 Crank Shaft Coupling Bolts & nuts, 3 Tunnel Shaft Bolts & nuts, 1 Bilge Pump*  
*Suction & Discharge Valve, 3 Main Chuck Valves, 1 St. Suction & Delivery Valves, Piston Rings & 1 Piston for main*  
*feed, 1 General Service, Donkey feed and Ballast Pumps, 24 Bolt & nuts assorted, One loose spring for*  
*L.P. Piston, 2 Piston Springs for H.P. & I.P. Pistons, 6 Cylinder Cover & 6 Steam Chest Cover Studs & nuts*  
*12 Junk Ring Studs & nuts, 5 Bars Round Iron  $\frac{3}{4}$ "  $\frac{5}{8}$ "  $\frac{3}{4}$ "  $\frac{1}{2}$ " about 16' long each, 1 C. 2 Propeller 1 H.P. Piston*  
*Valve, 1 St. Air Pump Valves, 3-3  $\frac{1}{2}$  Boiler Tubes straight, 3-3  $\frac{1}{2}$  Tubes bent, 12-3  $\frac{1}{2}$  inclined, 24-1  $\frac{1}{2}$  inclined,*  
*12 Hand hole fittings for headers, 4 Do. for Mud Drums, 2 Safety Valve springs, 1 Set ports for feed water Regulator*  
The foregoing is a correct description, *36 Gauge glasses & brushes, 36 Gaskets for Manhole doors, 2000 Do.*  
for hand hole fittings

For and on behalf of

POOLE & STEEL LTD.

*Arthur H. Poole*

Manufacturer.

1920 to 1921  
Dates of Survey while building { During progress of work in shops -- *Dec. 12, Jan. 7, 26, Feb. 7, 25, May 11, 24, April 8, 28, May 7, 20, 31, June 10, 22, 30, July 5, 18, 28, Aug. 4, 16, 26, Sep. 5, 8, 30*  
During erection on board vessel -- *Oct. 6, 14, 28, Nov. 4, 15, 28, Dec. 6, 16, 22, Jan. 1922, 10, 17, 26,*  
Total No. of visits *67.* Is the approved plan of main boiler forwarded herewith *NO.*

Dates of Examination of principal parts—Cylinders *7.2.22* Slides *6.12.21* Covers *6.12.21* Pistons *15.10.21* Rods *14.10.21*  
Connecting rods *7.2.22* Crank shaft *9.12.20* Thrust shaft *9.12.20* Tunnel shafts *2.9.20* Screw shaft *8.9.21* Propeller *14.10.21*  
Stern tube *9.10.21* Steam pipes tested *17.3.22* Engine and boiler seatings *10.1.22* Engines holding down bolts  
Completion of pumping arrangements *31.5.22* Boilers fixed *10.3.22* Engines tried under steam *30 May 1<sup>st</sup> June 1922*  
Completion of fitting sea connections *6.12.21* Stern tube *9.12.21* Screw shaft and propeller *9.12.21*  
Main boiler safety valves adjusted *May 30<sup>th</sup> 1922* Thickness of adjusting washers *Port B. 1 $\frac{1}{2}$ "-1 $\frac{3}{4}$ " C.B. 1 $\frac{1}{2}$ "-1 $\frac{3}{4}$ " S.B.  $\frac{3}{4}$ "-1 $\frac{1}{2}$ "*  
Material of Crank shaft *STEEL* Identification Mark on Do. *L.R. 44* Material of Thrust shaft *STEEL* Identification Mark on Do. *L.R. 44*  
Material of Tunnel shafts *STEEL* Identification Marks on Do. *L.R. 44* Material of Screw shafts *STEEL* Identification Marks on Do. *L.R. 44*  
Material of Steam Pipes *Solid drawn Copper* Test pressure *275  $\frac{1}{2}$  Hydraulic*  
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 *"EURIMBLA" & others*

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

*The machinery of this vessel has been built under Special Survey of good material and workmanship, and in accordance with the Rules and approved plans. The machinery and Boilers has been fixed on board in an efficient manner, tried under steam, and are now eligible for the record of L.M.C 6.22. (Subject to the Water Tube Boilers being surveyed annually.)*

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 6.22. FD. CL.

Subject to the Water Tube Boilers  
being surveyed annually, & to the joint of

the screw shaft liner being examined  
before the end of June 1924.

The amount of Entry Fee ... £ 6 : 0 : When applied for,

Special *£ 27.6.0* £ 98 : 11 : 6 June 7 1922

Donkey Boiler Fee ... £ : : When received,

Travelling Expenses (if any) £ 3 : 14 : 6 31/7/22

Committee's Minute FRI. JUL 28 1922

Assigned

MACHINERY DEPT.  
WELLINGTON

+ L.M.C 6.22  
F.D. C.L. Subject



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Foundation